Volume I

HEALING CANCER

A Homoeopathic Approach

A Guide to Prevention,
Management and Treatment of Cancer
with Integrated Approach from
Dr Master's 40 Years Experience

Dr Farokh J Master (Ph.D, MD)

Volume II

HEALING CANCER

A Homoeopathic Approach

A Guide to Prevention,
Management and Treatment of Cancer
with Integrated Approach from
Dr Master's 40 Years Experience

Dr Farokh J Master (Ph.D, MD)

Healing Cancer: A Homoeopathic Approach

A Guide to Prevention, Management and Treatment of Cancer with Integrated Approach from Dr Master's, 40 years experience

Volume I

By

Dr Farokh Master MD, Ph.D (Hom)

Consultant:
Homoeopathic Health Centre
Bombay Hospital and Medical Research Centre
King Edward Memorial Hospital
Kamalnayan Bajaj Cancer Hospital
Ruby Hall Department of Cancer
Bai Jerbai Wadia Children's Hospital
Nowrosjee Wadia Woman's Hospital
Bomanjee Petit Parsi General Hospital
Motiwala Homoeopathic Medical College & Hospital Department of Cancer

Associate editors:
Dr Daisy Katarmal, BHMS, PGDHP
Dr Isha Gupta, BHMS, PGDHM, PGDMLS, Dip Dietetics

B. Jain Publishers (P) Ltd.
USA — Europe — India

HEALING CANCER: A HOMOEOPATHIC APPROACH (VOLUME I)

1st Edition: 2019
1st Impression: 2019

Published by Kuldeep Jain for
B. JAIN PUBLISHERS (P) LTD.
D-157, Sector-63, NOIDA-201307, U.P. (INDIA)
Tel.: +91-120-4933333 • *Email:* info@bjain.com
Website: **www.bjainbooks.com**
Registered office: 1921/10, Chuna Mandi, Paharganj,
New Delhi-110 055 (India)

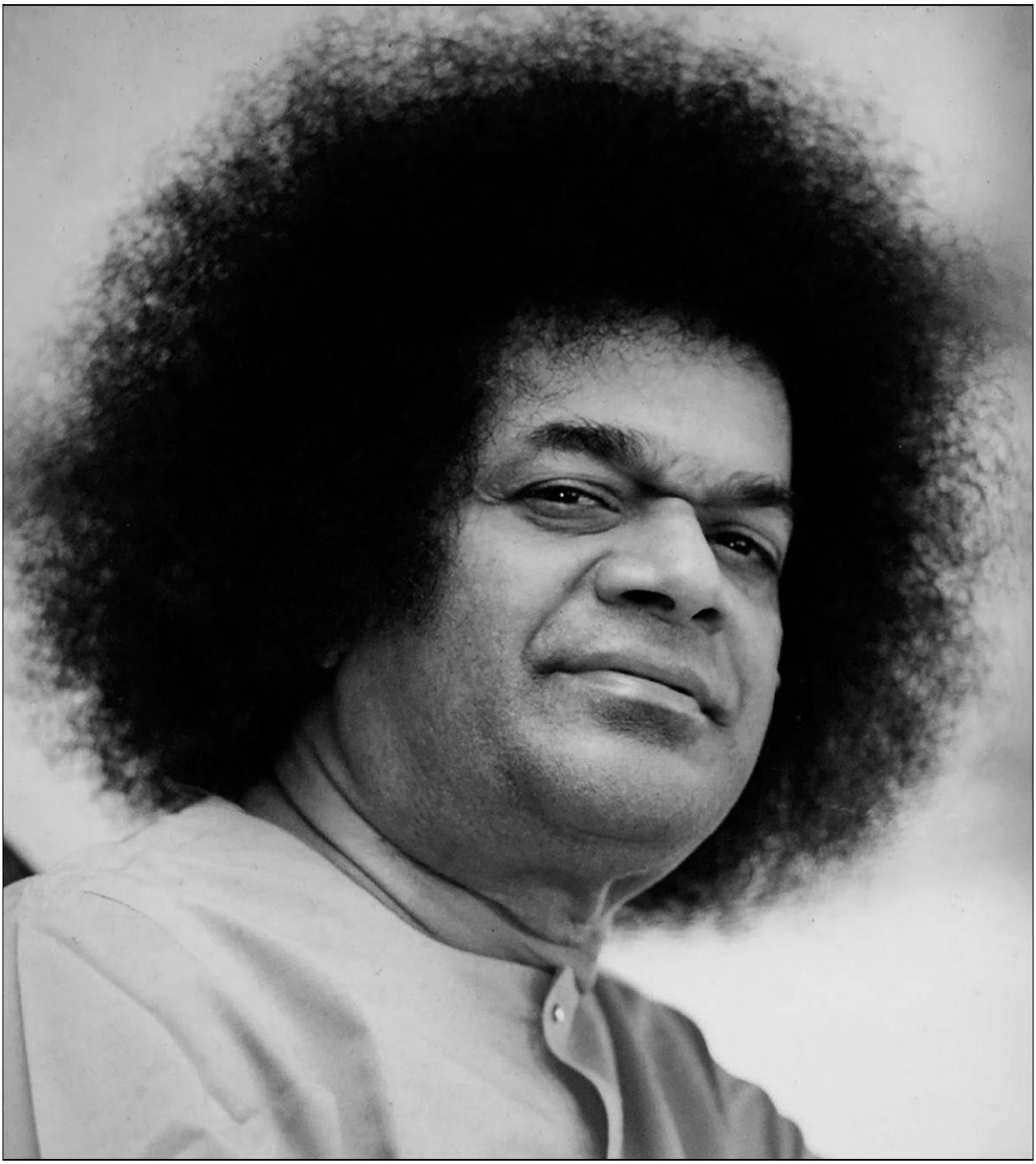
ISBN: 978-81-319-6122-3

Dedication

This book is dedicated to the

lotus feet of

Shri Satya Sai Baba.



Recommendation

for

‘Healing Cancer: A Homoeopathic Approach’ by Dr Farokh J Master

“A multidimensional rendering of the varied etiologies of cancer and the various treatment modalities available – conventional, integrative, homeopathic. This tome is a fount of information, encyclopedic in its scope, providing guidance in the homeopathic management of cancer cases, cancer-related materia medica, treatment approaches from a miasmatic perspective, and numerous references to small remedies Dr. Master has found effective. ***‘Healing Cancer: A Homoeopathic Approach’*** *– a two volume tome – is a homeopathic gem and should prove invaluable to homeopathic physicians.”*

George Guess, MD, DHt
Vice President, American Board of Homeotherapeutics Associate Editor, American Journal of Homeopathic Medicine

“This is a text to treasure and learn from. There is virtually no aspect of cancer that is not covered in Dr. Master’s encyclopedic work, including theory, research, and the allopathic model, with the whole of Volume 2 devoted to homeopathic treatment, encompassing materia medica and therapeutics of different cancer types. His long experience makes it a must-read for every practitioner.”

Richard Moskowitz, MD, Fellowship in Philosophy,
Private Practice, Family Medicine,
Specialized in Homoeopathic medicine,
Herbs, Japanese acupuncture, Natural medicine.
Author of several articles and 4 books including *‘Vaccines: A Reappraisal’*

“Dr. Farokh Master’s new book, ***‘Healing Cancer: A Homoeopathic Approach’*** *is an encyclopedic masterpiece of holistic, natural, integrative medicine. Having practiced homeopathy and nutritional therapy in my integrative medicine practice and provided comprehensive cancer care to*

thousands of patients over the past thirty plus years, I can definitively state that this is the best book on cancer therapy that I have ever read. It is an excellent resource for doctors of homeopathy, naturopathy, and all other health care providers involved in the care of patients with cancer. It is also a perfect introduction to the holistic, natural, integrative medical therapy of cancer patients for conventional, allopathic doctors. The extensive, detailed materia medica of homeopathic medicines useful in all aspects of cancer, and the comprehensive information regarding nutritional supplementation, dietary interventions, and other relevant therapeutic modalities will prove invaluable to all serious practitioners. I admire and salute Dr. Master for this enormous contribution to the safe, natural and effective treatment of patients with cancer, and strongly recommend it as an essential, resource text in the library of all health care providers."

Dr Mitchell A. Fleisher, M.D., D.Ht., D.A.B.F.M., Dc.A.B.C.T.
Physician, CEO, President at Fleisher Health Care Corporation, Medical Director, Virginia Center for Anti-Aging & Regenerative Medicine Author of *Alternative DrMCare Natural Medical Self-Care Protocols©,* and *Rapid Reference to the Fundamentals of Vitamin Therapy: Oral, Topical, and Intravenous Clinical Applications.*

"Dr. Farokh Master, a well-recognized expert homeopathic physician, has here given us the benefit of his extensive experience in treating patients with cancer. ***'Healing Cancer: A Homoeopathic Approach'*** *will be an invaluable guide for homeopathic clinicians in their efforts to help suffering patients."*

William Shevin MD, DHt.
Licensed Physician, Surgeon, and Homeopathic physician Director, Homeopathic Pharmacopoeia Convention of the United States Faculty, National Center for Instruction in Homeopathy and Homeotherapeutics

"Dr. Farokh Master's epic two volume edition ***'Healing Cancer: A Homoeopathic Approach'*** *is an encyclopedic compendium of information pertaining to all aspects of cancer garnered through more than 40 years of practice.*

Volume I casts a wide net summarizing conventional, state-of-the-art knowledge about cancer pathophysiology, detection and management. Volume II focuses almost exclusively on homeopathic, integrative and dietary approaches to prevention and treatment of cancer and the complications that arise from it. Master draws from many sources and it was a pleasure to find the wise words of wisdom of many homeopathic giants, who were authorities

in their time, gathered together in the same place.

This two-volume set is a thorough, fair and comprehensive analysis of cancer "from soup to nuts". I would strongly recommend it to practicing homeopaths, integrative medicine specialists and conventional practitioners alike. As a reference text, it is unsurpassed."

Ronald D. Whitmont, MD
Clinical Assistant Professor, Family and Community Medicine, New York Medical College Past President, American Institute of Homeopathy

"I have had the privilege to be introduced to a prepublication copy of Dr Farokh Master's ***'Healing Cancer: A Homoeopathic Approach,'*** *Vol. 1 & 2. Upon reviewing the text, it is clear this is masterful work, a tour-de-force. The first volume discusses cancer from a broad perspective, its pathophysiology, presentations, diagnosis, classification and treatment, with conventional and integrative approaches with traditional and complementary therapies, including diet, lifestyle and sociological aspects in cancer incidence and treatment. This is presented in an incredibly comprehensive and yet very approachable manner. The second volume is an even greater treasure, since there are only very few texts on the use of homeopathic medicine in the treatment of cancer. This resource is a treasure, primarily because Professor Master generously shares his experience of about four decades in the treatment of cancer with homeopathy. In this volume he shares perspectives from well known homeopaths as well as his own, including many homeopathic medicines prepared from Indian substances. The volume also includes a homeopathic repertory developed from his clinical experience and confirmed effects. The volume ends with various integrative, holistic, approaches that include various naturopathic interventions for the management of complications in cancer treatment, both iatrogenic and as part of the evolution of the cancer. This magnum opus should be part of the library of any practitioner treating patients with cancer; it will certainly provide welcomed direction and guidance."*

Bernardo A Merizalde, MD, DHt, ABIHM
Assistant Clinical Professor, Myrna Brind Center for Integrative Medicine Thomas Jefferson University Hospital Philadelphia, PA, USA

In ***'Healing Cancer: A Homoeopathic Approach'****, volumes I & II, in nearly 1000 pages, Farokh Master has created a first of it's kind compendium on*

the homeopathic treatment of cancer, which is a much needed addition to the homeopathic literature. In volume I he covers the causes, types, pathophysiology, prevention, and conventional treatment of cancer. He further ventures into Iscador (mistletoe) treatment and integrative approaches to cancer as well as to prognostication. In Volume II he digs deeper into the homeopathic approach to cancer and describes the familiar polychrests useful in cancer treatment as well as some smaller remedies and Indian drugs noted for their effects in cancer cases. He rounds this volume out with experiences that some of the past great masters of homeopathy like Cooper, Grimmer, Gilchrist and Clarke have had with cancer. He then discusses the homeopathic treatment of specific cancers and shares his own experiences with cancer treatment and palliative care and hygienic measures useful in cancer treatment. He finishes with a very necessary repertory of cancer from head to toe. This is a book every homeopath should have on their shelf or on their computer. It will provide many hours of insightful reading for those seasoned homeopaths who treat cancer patients regularly and also those new to homeopathy who need a guide as to what the possibilities are with homeopathic cancer treatment.

Timothy Fior, M.D., D.Ht.
President and founding member, Illinois Homeopathic Medical Association Secretary, American Board of Homeotherapeutics Lecturer, National University of Health Sciences Founding partner, Center for Integral Health

Author’s Preface

This book is the result of more than forty years of practicing classical homoeopathy and integrating it every single day with conventional medicine in the different hospitals with which I am associated. Through homoeopathy, iscador therapy, nutrition and herbs, I have been directed towards improving the results of conventional cancer therapy. I became interested in cancer treatment while in medical school, during which time I explored one of the newer methods of treatment using the body’s own immune system. It was during this study, I discovered the critical importance of classical homoeopathy and other anthroposophical drugs, including nutritional therapy in immune function.

I wish cancer was not so much prevalent and challenging medical problem of today's time, there would have been no need for this book. But with alarming number of cancer cases encountered by practitioners, a trustworthy source of accurate information becomes pertinent. Since every doctor ultimately wants to cure the patients and enhance their quality of life.

Homoeopathic medicine in its classical form is a vast subject that a lifetime of study would fail to exhaust. When understood and practiced in accordance with the works of Hahnemann, Hering and Kent, it becomes limitless in its possibilities for development and in its power to treat millions of sick people in the world.

Dr Stuart Close made the statement “that the treatment and cure of cancer is definitely within the scope of possibilities of Homoeopathy, has long been known and proved. The first thing to do after one has made and substantiated a pathological diagnosis of cancer is to forget it. Thenceforth, if one expects to succeed, he will treat not cancer, but a cancer patient.”

Cancer takes the life of one of every six people in India, second only to heart disease overall, but surpassing it in some age categories. More than 2,500

people die of cancer every single day. The future doesn't look any brighter. The next two decades will most likely witness a 45 percent increase in the number of cancer diagnoses from 2.6 million in 2010 to 4.3 million by 2030. Cancer is among the leading causes of disease-related death, and it is certainly the most feared one. In addition to its physical and emotional toll, cancer has a devastating economic impact. Cancer is a very expensive illness.

Receiving a diagnosis of cancer is a startling life event that often makes a person feel as if they have totally lost all sense of control. Suddenly, they are at the mercy of their surgeon, radiation medicine and chemotherapy oncologist; and life as they knew it is, at best, put on hold.

The emerging field of integrative oncology strives to return to the person living with or beyond cancer, a sense that they can also participate actively in their journey back towards health. To date, however, there are few oncology professionals who are well versed with the modalities, which the patients seek to incorporate into their conventional cancer care. Focus on targeting the tumour and ridding the body of malignant cells is certainly a noble venture. However, in doing so, the person living with cancer is often over looked. While cancer is the weed, integrative cancer care deals with the garden as well, making the soil as inhospitable as possible for the growth and spread of the weed. Nutrition, supplements, physical activity, stress reduction, homoeopathy, mind body interventions, spirituality - these are all incorporated with the conventional cancer care regimen to optimise the patient's outcome, decrease symptoms associated with the cancer or its treatment and maximise quality of life.

For the newly diagnosed individuals, trying to sort through the vast amount of potential complementary interventions recommended by family or friends or encountered on the internet can be a daunting experience. Regarding homoeopathy there are so many homoeopaths!!! How do you know whom to trust? As most of them have engaged themselves as self-proclaimed prophets of cancer!!!

Research in the field of malignant tumours has not yielded satisfactory results even though this project has the benefit of enormous manpower and economic support. Most of the research is performed to find a chemotherapeutic substance that is cytotoxic to cancer cells. However, experience has shown that drugs are toxic to the normal cells as well. Thus, a

philosophical change of approach to cancer research is needed so that the concept of holism is accepted, directing research toward treatment of the host who produced the tumour, not to the discovery of new ways merely to destroy the growth. Homoeopathy provides the philosophy and science necessary to deal with curable and incurable cancer cases. Homoeopathic and preventive medicine together can do much to alleviate the suffering caused by the rampant cancer problem.

The potential for helping many cancer patients via good Homoeopathic prescribing and proper case management is enormous. Thousands of successful treatments of this malady are recorded in Homoeopathic literature of the past.

I have many reasons to write this book. Over the past four decades, an increasing number of people are using methods to maintain or improve their health and well-being. People in India and all across the world are spending billions of rupees on these methods and the current estimate is that this has become a multi-billion rupees' industry. Mostly, the methods where money is spent is focused on the cancer field, for reducing one's risk of developing cancer, improving the quality of life while undergoing treatment of cancer or hoping that a different approach may treat or cure cancer. Major cancer centres throughout the United States, Europe and India have begun 'integrated cancer programs'. These programs are aimed at education, research and clinical investigation of complementary and alternative therapies used alongside conventional therapies.

It is extremely important for patients and general public, to share with their doctor, what their specialist and oncologist are doing in addition to the prescribed medications. What nutritional supplements are being taken or what form of relaxation or physical activity is making them feel better? A decade ago, there was very little sharing of this information with the treating physicians. Despite the fact that more than half of cancer patients participated in complementary therapies, the information was not shared with the oncologist for fear of negative response. Recent physician surveys have shown that with the development of integrated cancer centres and positive outcome studies using complementary therapies, there is currently a greater acceptance by the medical community. In addition, numerous medical schools have incorporated the study of complementary and alternative

medicine (CAM) into the curriculum.

The Government of India, and especially the Ministry of AYUSH (Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy), recognises the enormous public interest in the growing area of complementary and alternative methods and is committed to providing the public with a reliable guide in selecting and using these treatment methods wisely. AYUSH is committed towards the study of the effects of complementary and alternative medicine among those living with cancer. Since 2003, AYUSH has addressed the safety and effectiveness of cancer treatment. Even CCRH (Central Council of Research in Homoeopathy) has expressed concern over the claims of cancer cures and began gathering information on these therapies. CCRH has also begun publishing information regularly in the form of workshop or conferences about specific claims and criteria for assessing the merits of cancer treatment.

CCRH believes that all cancer interventions must withstand the scrutiny of scientific evaluation before they can be recommended for the prevention, diagnosis, or treatment of cancer. AYUSH urges individuals with cancer to remain in the care of physicians who use standard, conventional therapies for cancer and approved clinical trials of promising new treatments. CCRH also encourages patients to talk openly with their health care providers about any other therapy they are considering and to seek information from unbiased and reliable sources. In this way, patients can make informed decisions about complementary and alternative methods.

Cancer, being the greatest human malady, is a challenging subject. With the long experience in treating cancer patients, it was felt that students need a concise book to understand the basis of oncology, and practitioners need a brush-up of their knowledge in this growing discipline, which I have tried to offer in the first volume of this book under the general topics like understanding of cancer: what it is, what causes it and how to help prevent it, inflammation, immunity, endocrine system, digestion, etc. Whereas in the second volume, I have discussed the homoeopathic part like: understanding cancer from homoeopathic point of view, therapeutics of individual cancers, nutrition, social and psychological problem, general management, etc. I have simplified difficult chapters like Cancer and miasms, and Homoeopathic approach to cancer in the second volume of this book, so that it becomes an

enjoyable reading. Important and recent references have been added to help the interested students to search for literature in specific subjects. My only goal is to present information on homoeopathic management in a practical, useful manner so that readers will be able to understand the scope of homoeopathy in this field.

I have looked closely at how we define cancer treatment success. My focus is on healing from cancer, which refers to an internal process of becoming whole and feeling harmonious with yourself and your environment. Healing pertains to all levels of being, bringing a person’s true character into focus and healthy expression. Here’s how I define cancer treatment success:

1. Accepting and embracing positive and negative emotions with love and in a non-judgmental way so one can enjoy the journey no matter where we are on the path.
2. Enhancing the quality of life - physically, mentally and spiritually by connecting the mind, body, and spirit in order to grow and gain peace.

Success relies on internal awareness just as much as external factors. You cannot force success; you just need to make room for it. Those who have transited from this life of cancer should not be judged unsuccessful. Perhaps cancer was meant to be a vehicle for them - a stepping stone.

Fighting cancer is not just about hoping to discover a `Magic Bullet' to annihilate it. It is a much broader problem, involving effective prevention, early detection, curative measures, rehabilitation of the patient, and psychological problems faced by a patient and his relatives. All of this needs to be addressed. Remarkable strides have been made in fighting cancer during the last two decades. I feel that spreading knowledge about Homoeopathy and natural, integrative medicine is itself a step towards fighting and curing cancer, and, thereby improving the quality and quantity of life for people all over the world.

It has been said that the true measure of life is not reflected in the number of years lived, but in how one lived those years on this earth. This is particularly true for people with cancer. The measure of a life is calculated by how we spend our days and how we treat others. These are the outcomes not dictated by chemotherapy, radiation, surgery or supplements. Cancer success comes in the form of realization, personalization, connection, contentment and

grace, which can’t be measured in a test tube, diagnostic lab or Homoeopath’s office. Regardless of the physical outcome, these measures of success are embedded in one’s heart and soul. Not even cancer can steal the true measure of a life well lived.

Dr Farokh J Master

Acknowledgement

The successful completion of such a comprehensive book depends upon the support, assistance and help of great number of people. A very special word of gratitude goes first and foremost to my family starting with my beautiful wife, Dilnavaz and my daughters Dr Rukshin and Dr Mahaziver for all their support and also for bearing my anxiety, temper and insecurities for umpteen number of years. My family over a period of years have understood and accepted the many demands created by my professional relationships; they have given me the support, the time and the inspiration to continue. Now I understand why authors thank their spouses and siblings for their acceptance and tolerance of the many hours, days, weeks, and months of time devoted to the book, which is an all-important ingredient in any manuscript's completion.

While I was still studying medicine and growing to become a cancer therapist; three or four doctors from Tata Memorial Hospital, Parel, Mumbai showed me the path to learn oncology in a scientific manner, their contribution is the first and foremost. They are Dr Rajendra Badwe, Dr Parmanand Jain, Dr Pankaj Chaturvedi and Dr Boman Dhabhar from Fortis Hospital. I wish to express my gratitude for their generous support. Honestly, I could not present any scientific paper if they had not guided me at every stage of writing the paper. Dr Manisha Shigwan selflessly helped in research methodology for all my research projects so far.

I also want to thank Dr Chaturbhuja Nayak for giving me basic knowledge of how to write my thesis on cancer and conduct the research; Dr Prashant Tamboli and Dr Devangini Broker from Dr ML Dhawale Memorial Homoeopathic Institute, Palghar for helping in all my medical statistics; Dr Ramjee Singh, Chairman CCH and Dr Arun Bhasme, Vice Chairman CCH for helping me secure admission to PhD course.

I also thank my assistants Ajay, Rajal, Darshan, Abhishek, Khyati, Aditi,

Aanchal, Kerfegar, Sneha, Zilika, Kajal, Divya, Kanika, Ketki, Priyanka, Neelam, Arshiya, Khyati Patel, Radhika, music of Richard Clayderman, Andre Rieu, Vanessa Mae, Paul Muriat, James Last, Andrew Webber Lloyd, Mozart, Strauss and songs of Madan Mohan, Gulzar, O.P. Nayyar, Mukesh and Mohammed Rafi for keeping me entertained during the long hours of research and writing. Khushi, Dina and Kiran my compounders who pampered me with excellent snacks, masala tea and Italian Cappuccino while writing the book.

Special thanks to Dr Farhad and Dr Jayesh who are associated with me since more than a decade giving me valuable intellectual inputs in all the work I do. Dr Michael Lorenz and all the doctors working in Lukas Klinik who have understood the concerns of cancer patients and have always guided me how to treat difficult cancer cases.

I would like to thank Sunita Shah for her immense hard work and contribution in editing during this book's initial raw stages. I want to acknowledge Dr Daisy Katarmal and Dr Isha Gupta for the tireless hard work, dedication and enormous effort put into making highly complex medical information comprehensible to readers and great help in correcting the proofs diligently; thereby making this book possible. I also thank Dr Munmun Koley, for making a structure of this book from my PhD thesis. Without their support, careful reading of the text and suggestions for important changes, it would not have been possible. I would also like to thank Dr Geeta Rani Arora and Mr Manish Jain from B Jain Publishing House, and Dr Ashish Jha, for their valuable assistance in preparing the manuscript for this book.

For Iscador therapy, I would like to thank Dr Navneet Rastogi and Sunita Shah, who have taken utmost care with great diligence in monitoring my patients to the hilt.

Dr Pooja Gori and Dr Surabhi Chitre helped me to correct the manuscript and rearrange my notes. Dr Yatrik Kheradia took the most difficult painstaking task of constructing the repertory and rearranging chapters thereby reducing a big burden from my cerebral cortex.

I owe a tremendous personal debt of gratitude to my teacher Dr Farokh Udwadia and to Dr Zarir Udwadia who cared about me and my family. One

of the most relevant thing I learned from Dr Farokh Udwadia was art of human medicine.

I thank Mr Nusli Wadia for sponsoring my trip abroad to present research papers in World Congress of Cancer.

I am indebted to my friend Dr Mitchell A. Fleisher for providing his insightful thoughts and inputs regarding this book. He has diligently gone through the entire text of two volumes, and with his expertise in Homeopathic Family Medicine and Nutritional Therapy, including IV Chelation Therapy, IV Bio-oxidative Therapy, Natural, Bio-identical, Bio-mimetic Hormone Replacement Therapy, Naturopathic Medicine, etc., he has provided valuable points to enhance the content of this book. I am also thankful to him for helping me in getting the valued recommendations for this book.

I am grateful to Dr George Guess, Dr Timothy Fior, Dr Richard Moskowitz, Dr Bernardo A Merizalde, Dr Ronald D. Whitmont, Dr William Shevin, and of course Dr Mitchell A. Fleisher for writing gracious endorsements for this book.

Special thanks to all my old friends who always believed in me. The list is very long, but it is incumbent mention names of Ameet and Renu Judge, Fali Nariman, Prakash Nandu, Meher Dubash, Farida Nicolson, Rashna and Noshir Talati, Nina Pillai, Kiran Rao Khan, Lara Dutta, Norman Suhu, Piyush Parikh, Ramesh Bhutada, Arup Bhattacharya, Tomy Njarthadam, Frederick Schroyens, Wanlop Tanakeiti, Yezdi Karanjia, Burjor Patell, Kershasp Kasad, Jane Crains, Alastair Gray, Roberto Petrucci, Rene Otter, Kim Elia, Edouard Broussalian, Cathy Meyers, Dario Spinedi, Alok Parikh, S.M.Singh, Tarkeshwar Jain, Will Taylor, Carlo Rezzani, Dale Emerson, R. K. Manchanda, Sunny Bakshi, Sunny Gupta, Nishant Jain, Olivia Barkoff, Deborah Vidal, Didier Grandgeorge, Erick Von Woensal, Frederick Recolle, George Vithoulkas, Pankaj Bhatnagar, Guiseppe Spinelli, Peter Hassman, Zsuzsanna Czovek, Bona Lazlo, TusciManori, Jimmy Sharb, Jeremy Sherr, Misha Norland, Michael Frass, Patty Palhemus, Rin Colabucci, Spero Latchis, Rob Williamse, Robert Gramlich, Paul Albers, Shivin Gupta, Noshir Dadrewala, Sam Calagopi, Nirag Shah. Thanks for being the shoulder I can always depend on.

Finally, I am grateful to my patients who shared with me some of the most difficult times and grave struggles they underwent. They allowed me to play a part in their struggles and in many cases they made me feel like a family member.

I have learnt a lot from them over the years, not only about cancer and its treatment, but also about hope courage and the indomitable human spirit.

I and the society in general, owe all cancer patients a great debt.

Dr Farokh J Master

Publisher's Note

This project by Dr Farokh Master had been taken up by BJain Publishers as it is a complete work on cancer therapy. It is also a perfect introduction to the holistic, natural, integrative medical therapy of cancer patients for conventional, allopathic doctors. The extensive, detailed materia medica of homeopathic medicines will be useful in all aspects of cancer, and the comprehensive information regarding nutritional supplementation, dietary interventions, and other relevant therapeutic modalities will prove invaluable to all serious practitioners.

The book has been divided into two volumes: Volume I casts a wide net summarising conventional and contemporary knowledge about cancer pathophysiology, detection and management. Volume II focuses upon homeopathic, integrative and dietary approaches to prevention and treatment of cancer and the complications that arise from it.

It is an excellent resource for doctors of homoeopathy, naturopathy, and all other health care providers involved in the care of patients with cancer. We are sure that this work by Dr Master will make a great resource for the physicians of alternative therapy.

Kuldeep Jain
CEO, B. Jain Publishers (P) Ltd.

Contents

- Retinoblastoma
- Head and Neck Cancer
- Breast Cancer
- Thyroid Cancer
- Lung Cancer
- Oesophageal Cancer
- Gastric Cancer
- Colo-rectal Cancer
- Liver Cancer
- Pancreatic Cancer
- Prostate Cancer
- Renal Cancer
- Bladder Cancer
- Testicular Cancer
- Uterine Cancer
- Cervical Cancer
- Ovarian Cancer
- Melanoma
- Bone Cancer
- Lymphoma
- Soft Tissue Sarcoma
- Mesothelioma
- Trophoblastic Disease
- Metastatic Cancer

5. Conventional Treatment of Cancer

- Surgery
- Radiation Therapy
- Chemotherapy
- Targeted Therapy
- Hormonal Therapy
- Immunotherapy
- Oxygen Therapy
- Advancements in Conventional Cancer Treatments
- New Pharmacological Substances for Cancer Treatment

6. Iscador Therapy (Mistletoe)

- Botany of *Viscum album*

- Types of Iscador
- Mode of Action of Iscador
- Compatibility with other Medicaments
- Posology for Injectable Preparations of Iscador

7. Integrative Medicine

- Choice of CAM Therapies
- Integrative Therapies for Cancer
- Role of Integrative Medicine
- Pre and Post-operative Support
- Resuming Life after Treatment
- Some useful Herbs, Biological Response Modifiers, and Non-toxic Pharmacological agents
- Nutrient and Herb Interactions with Conventional Cancer Treatments

8. Prevention of Cancer

- Live Healthy
- The Significance of Food
- Nutritional Supplements
- Mind versus Body
- Keep Active
- Controlling a Situation
- Choosing Safe Skin Care Products and Cosmetics
- Melatonin and Cancer
- Trace Elements
- Carcinogens

9. Social Problems in the Treatment of Cancer Patients

- Sharing the Diagnosis
- Coping within the Family
- Selves and Self-images
- The World Outside
- Living Each Day
- Reducing Stress is Must

10. Prognostication of Cancer Care

- Role of Integrative Cancer Care

- The New View

11. Cancer Research

- Efficacy of Alternative Medicine (Homoeopathy) for Acute Radiation Dermatitis Grade IV using Homeopathic Radioactive Pharmaceuticals in Relief of Pain and Quality of Life *Dr Farokh J. Master, Dr Rukshin F. Master*
- Evaluation of Analgesic Effect of Homoeopathic Pharmacotherapy in Refractory Bone Metastasis Pain and Reducing Bone Complications *Dr Farokh J. Master, Dr Rukshin F. Master*
- Efficacy of Alternative Medicine (Homoeopathy) for the Relief of Cancer Pain – A Prospective Study *Dr Farokh Master, Dr PN Jain*
- Efficacy of Alternative Medicine in Advanced Metastatic Cancer Pain with Tramadol Hydrochloride as Control *Dr Farokh Master*
- Other Studies

12. Common Conventional Medications Used by the Cancer Patients

- Diphenhydramine (Benadryl)
- Prednisone
- GM-CSF, Sargramostim (Leukine)
- Pegfilgrastim (Neulasta)
- Metronidazole (Flagyl)
- Zoledronic Acid (Zometa)
- Granisetron (Kytril)
- Lorazepam (Ativan)
- Metoclopramide (Reglan)
- Oxycodone Sustained-Release (OxyCotin)
- Acetaminophen; Hydrocodone (Vicodin)
- Ondansetron (Zofran)
- Aloxi (Palonosetron)
- Etoposide (VP - 16)
- Vincristine (Oncovin)
- Capecitabine (Xeloda)
- Mechlorethamine, Nitrogen Mustard (Mustargen)
- Paclitaxel (Taxol)
- Vinblastine (Velban)
- Topotecan (Hycamtin)
- Vinorelbine (Navelbine)

- Thalidomide (Thalomid)
- Oxaliplatin (Eloxatin)
- Irinotecan (Camptosar)
- Tamoxifen (Nolvadex)
- Interferon Alfa
- Ifosfamide (Ifex)

Bibliography

Introduction to Cancer and Tumour

Introduction to Cancer

Cancer is a general term for abnormal growth or new growth of cells. The term is derived from the Latin word for Crab - as it adheres to any part that it seizes, in an obstinate manner, like a crab. The process of developing cancer is known as carcinogenesis, which literally means “the birth of cancer.”

Cells, as we know, are the building blocks of our body, each of them containing twenty-three pairs of chromosomes. These chromosomes are made up of the double helix spiral of the deoxyribonucleic acid (DNA) molecule, which controls and transmits the genetic characteristics which are inherited from the parents and passed on further to the offspring. The chromosomes contain millions of different genes that control the growth, function and behaviour of the body.

Carcinogens
↓
Target cell
↓
Reactive electrophiles
↓
Permanent DNA damage
↓
Clone formation by altered cells
↓
Neoplastic cell

At the cellular level, the cancer pathology begins with damage to the cell in the form of a genetic mutation, i.e., one or more genes in cellular DNA become damaged. The fact that genetic mutations activate the process of carcinogenesis has been proved scientifically. This becomes important when considering the approaches to prevent cellular damage to ward off cancer. Once this critical information carrying DNA is repeatedly damaged, the ability of the cell to repair the damage is lost, and the cell begins to behave abnormally, undergoing uncontrollable cell divisions. As these damaged or malignant cells divide, more mutations occur subsequently, which is known as promotion. Due to the changes in genetic codes, the malignant cells do not stop growing, they become quite significant in number, they either coalesce together giving rise to a solid lump, called ‘tumour’ or ‘neoplasm’, or they simply circulate, spread and damage other healthy cellular systems of the body.

Cancer Classification

Cancer is typically designated based on the organ or tissue of origin. (Table 1.1)

Table 1.1: Classification of Cancer

S. No.	Type	Location	Examples
1.	Carcinomas • most common type of solid tumours • may affect almost any organ or part of the body • developed in the surface covering tissues or lines of internal organs or passageways	Skin, mouth, nose, throat, lungs, genitourinary and gastrointestinal tracts and glands, such as the breasts or thyroid	Adenocarcinoma of colon, squamous cell carcinoma of bronchus

S. No.	Type	Location	Examples
	• spread via lymphatic or circulatory system		
2.	Sarcomas • rarest type • bone or soft tissue tumours that develop in any supporting or connective tissues	Muscles, bones, nerves, tendons and blood vessels or surrounding connective tissues of major organs, including the bladder, kidneys, liver, lungs and spleen.	Osteosarcoma, Fibrosarcoma
3.	Lymphomas • solid tumours usually made up of abnormal white blood cells	Glands and nodes of the lymphatic system	Hodgkin's and non-Hodgkin's lymphoma
4.	Leukaemias • not solid tumours • abnormal white blood cells associated with leukaemias replace healthy white blood cells and circulate throughout the blood stream • named after the type of white blood cells affected	Blood and bone marrow	Acute myeloid leukaemia (AML), Chronic myeloid leukaemia (CML), Acute lymphocytic leukaemia (ALL), Chronic lymphocytic leukaemia (CLL)

S. No.	Type	Location	Examples
5.	Myelomas • formerly considered rare, but their incidence is increasing • originate in bone marrow, plasma cells, and the antibody producing white blood cells	Blood	Multiple myeloma

Introduction to Tumour

The term ‘Tumour’ is derived from the Latin word ‘tumere’ which means ‘to swell’. ‘A mass of tissue, formed as a result of abnormal, excessive, uncoordinated, autonomous and purposeless proliferation of cells’ is called ‘neoplasm’ or ‘tumour’.

It is also defined as ‘a circumscribed non-inflammatory growth arising from existing tissue, but growing independently at the normal rate or structural development of such tissues, and serving no physiological function’ or ‘an abnormal mass of tissue, the growth of which exceeds and is uncoordinated with that of the normal tissues and persists in the same excessive manner after the cessation of the stimuli which evoked the change’. Thus, we understand that the fundamental to the origin of all neoplasms is loss of responsiveness to normal growth controls. All tumours have two basic components:

1. **Parenchyma:** Comprised by proliferative tumour cells. It determines the nature and evolution of tumour.
2. **Supportive stroma:** Composed of fibrous connective tissue and blood vessels. It provides framework on which the parenchymal cells grow.

With destructive precision, a cancerous tumour redirects blood flow to itself as it leaches off its healthy cellular neighbours. Cancer cells can invade other tissues within the body and produce additional tumours. The frenzied development of a cancerous tumour can overwhelm the organ or tissue where it is located. If left unchecked, many cancers can eventually destroy enough tissue and that can lead to the loss of body's ability to sustain life.

This annihilation extends beyond the physical body and engulfs the emotional plane as well. Along with the physical symptoms, comes the emotional turmoil due to anger, anxiety, or fear, which weakens the patient mentally in the fight against the disease. However calm disposition a person may have, this dreadful diagnosis can create a internal panic that may or may not be expressed at first. Not only the patient, the diagnosis of cancer affects the patient's family and loved ones as well. Sometimes it can be even more difficult being a homoeopath or caregiver or support person to watch a loved one struggle. After seeing hundreds of patients suffering from cancer I learnt that ignoring fear of cancer can prevent us from healing the disease. Many cancer patients invite fear in a very constricting way, fear is the will to live. What's under the fear is a desire for life, and we need to somehow get to that. That means "going through the fear, not denying it." Discovering our inner strength enables us to face the unknowns associated with cancer diagnosis. However, cancer is not a death sentence even though the fear of dying is experienced by every patient. Even among those who do die from cancer-related causes, some of them experience tremendous wellness and healing in the process especially if homoeopathy is taken as one of the modality of their cancer treatment.

Most anti-cancer therapies attempt to halt the growth of cancerous cells. Radiation therapy and some chemotherapy agents damage DNA so much that the malignant cells can no longer divide; instead, they undergo a process either of cellular rupture and destruction or apoptosis, which may be thought of as cellular suicide. Other chemotherapy agents interrupt the process of cell division, effectively halting cellular replication and eventually sending the cell down the path of apoptosis.

Tumour Classification

According to clinical and gross features, and invasion pattern, tumour can be

classified as:

Benign Tumour

The term is derived from the Latin word ‘Benignus’; bene = well + genus = born. These are encapsulated or well-circumscribed, localised, slow-growing tumours, resembling their normal cells of origin, with normal nucleo-cytoplasmic ratio, infrequent chromosomal abnormality, sometimes with giant cells, but without nuclear atypia. It could be treated or left alone if there is no local complication. The suffix ‘-oma’ is added to denote it. Freckles, moles, fatty lumps in the skin are few examples of benign tumours.

Malignant Tumour

Malignant is derived from the Latin word ‘Malignus’ which means ‘evil’. Malignant tumours are collectively referred to as cancers. These are well differentiated from the tissue of origin. They are pleomorphic, anisonucleosic, poorly circumscribed and irregular, rapidly proliferating, and spread throughout the body (‘Metastasis’), with increased nucleo-cytoplasmic ratio, abnormal chromosomal activity and has presence of tumour giant cell with nuclear atypia. The function of these cells may have been retained, lost or abnormal and may cause death of host by local or metastatic complications. Malignant tumour of epithelial origin is firm in nature and is known as carcinomas, and tumour of mesenchymal origin is called sarcoma and is generally fleshy. A malignant tumour is best defined by the following four characteristics:

1. **Clonality:** In most cases, cancer originates from a single stem cell, which proliferates to form a clone of malignant cells.
2. **Autonomy:** Malignant cells steadily increase in size regardless of the normal bio-chemical and physical influences in the local environment and the nutritional status of the host. (Their autonomy, however, is by no means complete. Some neoplasms require endocrine support and such a dependency can sometimes be exploited to the disadvantage of the neoplasm. Moreover, all are critically dependent on the host for their nutrition and blood supply.)
3. **Anaplasia:** There is lack of normal co-ordinate cell differentiation. Though anaplasia is a marker of cancer, all cancers are not necessarily anaplastic.

4. **Metastasis:** Cancer cells develop the capacity for discontinuous growth and dissemination to other parts of the body.

Properties similar to each of these characteristics can be expressed by normal, non-malignant cells at certain appropriate times — for example, during embryogenesis and wound repair — but in cancer cells the characteristic is inappropriate or excessive.

Technically, cancer is not one disease. It is a complex illness with more than 150 variations. A cancer malignancy is characterised as a locally invasive and destructive growth pattern caused by the development of genetically altered cells, but according to my experience cancer can never be a local illness, I will be talking about this later in this book.

Table 1.2: Nomenclature of Tumours according to Tissue of its Origin

A.	Tissue of Origin (Types of Parenchyma)	Benign Tumour	Malignant Tumour
1	Connective tissue and derivatives		
		Fibroma	Fibrosarcoma
		Myxoma	Myxosarcoma
		Lipoma	Liposarcoma
		Chondroma	Chondrosarcoma
		Osteoma	Osteogenic sarcoma
2.	Endothelial and related tissues		
	Blood vessels	Hemangioma	Angiosarcoma
		a. Capillary	
		b. Cavernous	
	Lymph vessels	Lymphangioma	Lymphangiosarcoma
	Synovia	-	Synovioma (Synoviosarcoma)

A.	Tissue of Origin (Types of Parenchyma)	Benign Tumour	Malignant Tumour
	Mesothelium (lining cells of body cavities)	-	Mesothelioma
	Brain coverings	Meningioma	Invasive meningioma
	Glomus	Glomus tumour	-
3.	Blood cells and related cells		
	Hematopoietic cells	-	Myelogenous leukaemia
		-	Monocytic leukaemia
	Lymphoid tissue	-	Malignant lymphomas
		-	Lymphocytic leukaemia
		-	Plasmacytoma (multiple myeloma)
	Langerhan's cells	-	Histiocytosis X
	Monocyte macrophage	-	Histiocytic lymphoma
			Hodgkin's disease
4.	Muscle	Leiomyoma	Leiomyosarcoma
	Smooth muscle	Rhabdomyoma	Rhabdomyosarcoma
B.	**Tissue of Origin (Epithelial origin)**	**Benign Tumour**	**Malignant Tumour**
1.	Stratified squamous	Papilloma	Squamous cell carcinomas
		-	Squamous cell or epidermoid carcinoma
2.	Basal cells of skin or adnexa	-	Basal cell carcinoma
3.	Skin adnexal glands		
	Sweat glands	Sweat gland adenoma	Sweat gland carcinoma

B.	Tissue of Origin (Epithelial origin)	Benign Tumour	Malignant Tumour
	Sebaceous glands	Sebaceous gland adenoma	Sebaceous gland carcinoma
4.	Epithelial lining glands or ducts		
	Well-differentiated group	Papilloma	Adenocarcinoma
		Papillary adenoma	Papillary carcinoma
		Cystadenoma	Papillary cyst-adenocarcinoma
	Poorly differentiated group	-	Medullary carcinoma Undifferentiated carcinoma (simplex)
5.	Respiratory passages	-	Bronchogenic carcinoma
			Bronchial 'adenoma'
6.	Neuroectoderm	Naevus	Melanoma (Melanocarcinoma)
7.	Renal epithelium	Renal tubular adenoma	Renal cell carcinoma (hypernephroma)
8.	Liver cells	Liver cell adenoma	Hepatoma (hepatocellular carcinoma)
9.	Bile duct	Bile duct adenoma	Bile duct carcinoma (cholangiocarcinoma)
10.	Urinary tract epithelium (transitional)	Transitional cell papilloma	Papillary carcinoma Transitional cell carcinoma Squamous cell carcinoma
11.	Placental epithelium	Hydatidiform mole	Choriocarcinoma

B.	Tissue of Origin (Epithelial origin)	Benign Tumour	Malignant Tumour
12.	Testicular epithelium (germ cells)	-	Seminoma embryonal carcinoma
13.	More than one neoplastic cell type - mixed tumours- usually derived from one germ layer		
	Salivary glands	Pleomorphic adenoma (mixed tumour of salivary gland origin)	Malignant mixed tumour of salivary gland origin
	Renal anlage	-	Wilms' tumour
14.	More than one plastic cell type derived from more than one germ layer - teratogenous		
	Totipotential cells in gonads or in embryonic rests	Mature teratoma, dermoid cyst	Immature teratoma

Cancer Aetiology

Introduction

Most of the cancers have unknown aetiology, it is said to be caused by many contributing factors collaborating over a long period of time. The causes of cancer are difficult to identify because it takes years for these interdependent precipitating elements to culminate into a cancer diagnosis. Every (more than 200 different types) cancer starts in the same way: after a cell mutates, instead of destroying itself it multiplies uncontrollably.

But why do some people get cancer while others don't? The American Cancer Society's book 'Informed Decisions' offers this perspective: "The very fact that only some of the people exposed to most cancer causing agents develop the disease proves its multistep nature. If there were a single or simple cause, then everyone or nearly everyone would fall ill."

The exact aetiology of cancer is still not known to the medical fraternity and so, a lot of research is being done in this field to have answers to such questions. However, a few carcinogens have been observed to initiate carcinogenesis and participate in metastasis, and also there are cancer promoting activities that are known to have a distinct role in the process.

Carcinogens

Chemicals or foreign bodies that cause cancer are called carcinogens. These may initiate the cancer process or promote the acceleration of growth of abnormal cells. The risk of developing cancer depends upon the genetic make-up, environmental and occupational exposure to carcinogens and lifestyle. The body has natural mechanisms to detoxify, repair, and rejuvenate, and it continually goes through a process of detoxification and repair in response to exposure to these substances. However, increasing external toxins can overwhelm these systems. The toxic carcinogens then damage cellular DNA and cause mutations. Carcinogens are of two types, direct acting carcinogens, and indirect acting carcinogens.

Direct-acting Carcinogens

1. Alkylating agents: Include Anti-cancer drugs, β-propiolactone, Epoxides.
2. Acylating agents: Include Acetyl imidazole, Dimethyl carbamyl chloride.

Indirect-acting Carcinogens

1. **Polycyclic aromatic hydrocarbons:** in tobacco, smoke, fossil fuel, soot, tar, mineral oil, smoked animal food, industrial and atmospheric pollutants, Anthracenes, Benzapyrene, Methylcholanthrene.
2. **Aromatic amines and azo-dyes:** β-napthylamine, Benzidine, Azo-dyes (e.g. butter yellow, scarlet red, etc.).
3. **Naturally occurring products:** Aflatoxin B, Actinomycin D, Mitomycin C, Safrole, Betel nuts.
4. **Nitrosamines and nitrosamides:** These compounds reach the colon and contribute to the induction of colon tumours.
5. **Vinyl chloride monomer:** It is a multipotential carcinogen, affecting a variety of organs and tissues.
6. **Arsenical compounds:** It is carcinogenic on excessive exposure by inhalation and ingestion. Inhalation of the particulates is the primary route of occupational exposure.
7. **Chemicals, industrial agents:** such as coal-tar products, benzene,

cadmium, uranium, nickel, lead, cobalt, chromium, asbestos etc.

The most troubling aspect of increasing environmental toxins is the negative health impact these foreign compounds are having on our children. A recent study featured in the journal, *Occupational and Environmental Medicine* confirmed a link between childhood leukaemia and exposure to toxic pesticides in common household products.

Perhaps, the most pervasive and offensive environmental carcinogen is second hand smoke, which is especially harmful to children. Active smoking produces a number of different known carcinogens.

Second-hand smoke is known to cause cancer. It has more than 7,000 chemicals, including at least 70 that are carcinogens. The Indian Cancer Society estimates that second-hand smoke is responsible for about 3,000 lung cancer deaths among non-smokers. Also, numerous studies have documented increased risk of lung cancer among non-smokers exposed to second-hand smoke at work and at home.

Third hand smoke is the tobacco smoke contamination that remains after the cigarette has been extinguished and clings on hair, clothing, and furniture. This residue contains heavy metals, lead, carcinogens, etc. The developing brain of children especially, is uniquely susceptible even to extremely low levels of toxins, and children are more likely to touch the contaminated surfaces and ingest these chemicals.

Lead, is another environmental pollutant that has carcinogenic activity. It is present in drinking water, paints, etc. It is only weakly mutagenic, but it has been shown to inhibit DNA repair and acts synergistically with other carcinogens. Lead has been associated with lung cancer, stomach cancer, and gliomas.

Drinking water also contains chlorine, which is used for disinfection, however, chlorine reacts with the organic matter in the water to produce trihalomethanes (like chloroform) that have been shown to be carcinogenic and also have adverse reproductive outcomes.

Other pollutants in drinking water are toxic metals, radioactive minerals, medications and other chemicals. Tap water isn't the only beverage to watch out for. According to a recent survey conducted in metropolis like Delhi and

Chennai, there were numerous pharmaceutical components including oestrogen, antibiotics, and mood stabilisers found in the drinking water of millions of homes.

The Food and Drug investigation team from New Delhi recently warned the population about the ways by which we can protect ourselves from environmental pollutants, they issued a report warning that popular children's juices (Tropicana, Minute Maid, Real, Maza etc.) and sodas (Colas, Thums Up) sold at all grocery stores, contain two ingredients that can form the toxic carcinogen benzene which has been linked to leukaemia and other cancers. "Benzene is a potent carcinogen that has no place in foods and drinks targeted to children." It has also been revealed that some soft drinks contain benzene at levels up to 10 to 20 parts per billion, which is four times the acceptable limit in drinking water.

According to a recent report in Journal of Midwifery and Women's Health, the harmful contaminants (such as persistent organic pollutants like DDT, polychlorinated biphenyls, etc.) have been detected even in breast milk apart from the beverages, drinking water, meat, etc. Therefore, there should be standards in India regulated by the Department of Agriculture regarding organic food production. The organic foods are devoid of pesticides, synthetic fertilizers, antibiotics, supplemental hormones or genetic modification. In addition, organic farming utilises renewable resources as well as conserves the land and water resources.

Cancer Promoters

Some chemical carcinogens are direct-reacting and require no chemical transformation to induce carcinogenicity. Other carcinogens are indirect-reacting (pro-carcinogens) and become active (ultimate carcinogens) after metabolic conversion. Certain agents have hardly any carcinogenicity of their own, but they augment the activity of other carcinogens - these are called promoters. Some of the examples are:

- Insecticides, fungicides: Include aldrin, dieldrin, chlordane etc.
- Saccharin and cyclamates
- Ultraviolet ray and ionising radiation (x-ray, α, β and γ rays) *(explained below)*

- Some parasites (e.g. *Schistosoma haematobium*), fungus (e.g. *Aspergillus flavus*), bacteria (e.g. *Helicobacter pylori*), DNA virus (e.g. Human papillomavirus, Epstein-Barr virus, Hepatitis B virus etc.), RNA virus (e.g. Hepatitis C virus, Human T-cell lymphotropic virus, etc.)
- Some immunosuppressive drugs
- Stress which may weaken the immunity system and heredity factors.
- High fat and low fibre diet, such as oestrogen, in the food supply
- Certain hormones and drugs
- Alcohol
- Obesity
- Genetically modified crops
- Home exposures, such as polybrominated diphenyl ethers (PBDEs), which are flame retardants used to treat upholstered chairs, sofas, foam mattresses, and cushions
- Cleaning products that contain chlorinated hydrocarbons, chloroform, and trihalomethanes
- Paraphenylenediamine, parabens, phthalates, talc, and propylene glycol, found in hair products, cosmetics, deodorants, powders, skin creams and nail polish
- Gardening pesticides and herbicides

Ultraviolet ray and Ionising Radiation (x-ray, α-, β- and γ-rays)

Less than 3% of cancers are radiation induced. Nearly all tissues are susceptible to the development of cancers following radiations, but their sensitivity varies. The most sensitive tissues are that of bone marrow, breast, and thyroid. For example:

1. Chronic exposure to deep X-rays leads to increase in incidence of leukaemia among radiologists.
2. Atomic bomb blasts in Hiroshima and Nagasaki has led to an increase in incidence of leukaemia in those regions.
3. Use of radioactive substances like radium in the dials of watches leads to the development of osteogenic sarcoma of bones through radium deposition in the bones after 15-25 years of exposure.

4. Use of radioactive iodine-131 in the treatment of goitre leads to the development of thyroid cancer in later life.
5. Miners of radioactive elements like radium show a ten-fold increase in incidence of lung cancer.
6. Exposure to UV light (sunlight) especially in fair skin individual leads to increase in incidence of most skin cancers.
7. Therapeutic radiation of:
   a. Benign giant cell tumours leads to osteogenic sarcoma,
   b. Ankylosing spondylitis leads to leukaemia, and
   c. Thymic enlargement in children leads to thyroid cancer.

   Two points are worthy of note:
   a. Radiation induced malignancies appear only after a long latent period of some years.
   b. At low dosage levels, the radiation induced injury is amenable to repair. Thus, tumours may or may not appear when fractional doses as in radiotherapy are received by the cell. This depends upon the dosage, the length of the intervals, the capacity of the cells to repair in the interval and what is most important is the individual's susceptibility. Since susceptibility varies widely, it is very difficult to establish 'safe' tolerable levels of radiation exposure so that the radiotherapy given for the treatment of cancer is 'safe'. Therefore, the decision whether to give radiotherapy, and if so, then in what regime, is a crucial one, as it can change the course of the disease in either direction.

Predisposing Factors

Cancer causes are varied and individualised as cancer itself; it can be controllable, uncontrollable, external or internal. Although the potential causes of cancer are numerous, they can be placed into these basic categories:

Genetics (5 to 10 percent)

Genetic predisposition (heredity) and environment can be viewed as the two ends of a spectrum of predisposing influence. At the extremes are those neoplasms which develop because of a strong hereditary component and those related to heavy exposure to environmental carcinogens, but in between

is the great majority resulting from varying proportions of heredity and environment.

The same process of cell division which results in creation of an organism from a single cell state to an adult is the one that happens in malignant tumours as well. However, during intrauterine life only, the production of enzyme that leads to cell division - telomerase gets halted. Researchers from the Swiss Cancer Research Institute have speculated that the shutting down of this enzyme is a mechanism designed to protect us from cancer. They describe normal cells as tightly packaged coils and go on to explain that cancer cells unravel the coil and flip the telomerase enzyme switch back on. This enables the cancer cells to divide infinitely and spread. In the centre of each cell (the nucleus) there are DNA molecules that contain our genetic information, which is passed down from our parents. DNA directs the transmission of these genetic characteristics to the child. We know that damage to DNA can cause cancer. Genetically influenced cancers develop when a specific mutation is passed on from one generation to the next. Although the mutation is transferred, the inevitability of cancer is not. In some cases, the chance of developing cancer due to a genetic mutation is very high. But in most cases, genetics determine a propensity towards the development of cancer but don't predict it conclusively. If that were the case, there would be no individuality or uniqueness. And while a specific genetic code is inherited, the surroundings, diet, lifestyle, and emotions are also the influencing factors.

Cancers due to inherited genes are much less common than cancers due to gene mutations caused by other factors. Most cancers develop because of a combination of factors rather than a specific cancer gene. Genetics specialists estimate that only about 5 percent are linked to an inherited gene. With breast and ovarian cancer, the chances of genetic inheritance is 10 percent. Therefore, 90 to 95 percent of all cancers are not related with inherited oncogene. It has been seen in research studies that even in identical twins having the same DNA , often only one develops cancer. In case of breast cancer, the inherited the BRCA1 or BRCA2 gene results in 40 to 80 percent lifetime risk of developing breast or ovarian cancer before the age of 70. Considering that an average woman has 12.7 percent risk of developing cancer in her lifetime, the contribution of the BRCA gene is significant and women with BRCA mutations need to be especially diligent regarding cancer

prevention and early diagnosis. Preventing cancer does not mean that cancer will be averted - it just decreases the likelihood of developing cancer.

Genetic Hypothesis

The understanding of this hypothesis begins with retroviruses which are RNA viruses, which possess Reverse Transcriptase that allows reverse transcription of viral RNA into virus-specific DNA. This DNA transcript may then be incorporated into a malignant cell. But the entire viral RNA is not necessary for this transformation, only a single gene will suffice. This gene is called an oncogene or V-onc (viral oncogene). It was then found that within the genome of normal cells of almost all species (including humans) there were genes which were closely homologous to V-oncs (The homology between V-oncs and c-oncs and other evidence strongly suggests that c-oncs were captured and perhaps modified during evolution by actively transforming retroviruses.). These genes were termed as Proto-oncogenes or c-oncs (cellular oncogenes). These c-oncs under certain circumstances can be induced to evoke cancers. Tumour suppressor genes usually stop the normal cells from being transformed. If suppressor genes fail to do their job properly or if they are missing, the cancer producing action of the oncogenes take their action. It is thought that we all carry oncogenes in the chromosomes of normal cells but they are never activated as they lie dormant throughout life. A mutation may occur due to some assault on the cell structure by some stimulus or chemical agent which turns on the ‘switch’, and thus several oncogenes are activated and transform a normal cell into a cancer cell. First the DNA will go through an initial change that makes the cell receptive. Then a subsequent change or a set of changes in the DNA transforms the receptive cell into a tumour cell. Some of these oncogenes are commonly associated with many tumours, like p53 gene for CA lung, head, neck, colon and breast; on other hand, some are specific for particular tumours, like APC gene for CA colon.

The potential mechanisms by which this occurs are:

1. Direct over-expression of the c-onc,
2. Inhibition of cellular regulatory genes, thereby promoting over-expression of the c-oncs,
3. Alteration (mutation) in the c-onc.

The genetic mutations are usually point mutations. They may be:

1. Random accidents, or
2. Induced by environmental carcinogens.

However, it is unlikely that oncogenesis is related to a single mutational event. It probably involves two or more genetic changes-one of which is necessary for replication and escape from growth controls; the other confers the cancerous phenotypic characteristics.

This probably explains why cells already bearing a hereditary mutation as in Down syndrome are particularly susceptible to oncogenesis. It is also not clear how the activated oncogenes bring about the phenotypic alterations characteristic of cancer cells.

Epigenetic Aberrant Differentiation Hypothesis

Normally all cells in an individual possess the identical genome but the phenotype differs depending upon the turning on and off of genes. Thus nerve cells differ from liver cells which differ from adrenal cells - each having their own function though the genome is the same. It is believed that aberrant differentiation leading to carcinogenesis involves depression of genes, so that the cancer cells show embryonic characteristics and is capable of active replication. This probably accounts for the production of embryonic antigens by certain tumours.

Unifying Theory of Carcinogenesis

There still rages a controversy between the genetic and epigenetic hypothesis. But it is possible to formulate a unifying hypothesis for the mode of action of all known carcinogenic influences by relating them to their ability to induce mutations in cells and in the absence of environmental influences, spontaneous mutations may activate cellular oncogenes or create new oncogenes.

Family History (5 to 10 percent)

Patients with a family history of cancer usually have a first degree relative (parents, sibling or grandparents) with a diagnosis of cancer. All the cancers

are not associated with a positive family history; usually cancers of the breast, ovaries, prostate and colon are observed to run in families.

It is to be noted that a positive family history and genetic predisposition are not the same. The genetic predisposition is due to the inherited mutated genes, while the familial tendency for developing cancers may be contributed by the shared lifestyle and environmental factors as well, such as tobacco smoking. However, those with a positive family history of malignancies should be more careful in leading a healthy lifestyle keeping in view the other risk factors and exposure to carcinogens.

Certain cancerous and pre-cancerous conditions have a distinct hereditary pattern. However, in most cases, well-defined familial influences can be identified in only a few instances. The incidence of cancer is increased in various hereditary DNA repair deficiency syndromes/chromosomal instability syndromes, e.g., in Xeroderma pigmentosa, the individual sustains cumulative radiation induced mutations in the epidermal cells, on exposure to sunlight. The enzymes needed to repair these mutations are missing due to hereditary factors. These mutations then predispose the individual to skin cancer.

Table 2.1: Hereditary cancerous and pre-cancerous disorders

Disorder	**Predominant Tumours**
Autosomal dominant inheritance:	
Retinoblastoma	Retinoblastoma, sarcomas - orbital (following radiation) and at remote sites
Neurofibromatosis	Neurogenic sarcoma, acoustic neuroma, pheochromocytoma
Familial polyposis coli	Colonic cancer, adenomatous polyps
Gardner’s syndrome	Colonic cancer, adenomatous polyps
Peutz-Jegher’s syndrome	Controversial whether predisposes to colonic cancer

Hereditary multiple endocrine Neoplasia syndrome Type I (MEN I)	Tumours of the pituitary gland. Parathyroid gland and pancreatic islet cells.
Multiple endocrine neoplasia syndrome Type II (MEN II)	Variant MEN II
Cutaneous malignant melanoma	Cutaneous malignant melanoma, other cancers
Von Hippel-Lindau disease	Hemangioblastoma of cerebellum, hypernephroma and pheochromocytoma
Wilms' tumour	Wilms' tumour
Cancer-family syndromes	Adenocarcinomas (primarily of the colon and endometrium)
Breast cancer in association with other malignant neoplasia	Breast cancer, ovarian carcinoma, leukaemia and brain tumour
Autosomal recessive inheritance:	
Chromosome instability syndromes -	
Xeroderma pigmentosum	Basal and squamous cell carcinoma of skin, malignant melanoma
Fanconi's anaemia	Leukaemia and lymphoma
Bloom's syndrome	Acute leukaemia
Ataxia telangiectasia	Acute leukaemia, lymphoma and possibly gastric cancer.
Turcot's syndrome	Colonic polyps, cancer and brain tumours

Other pre-cancerous states are: Tuberous sclerosis, Cowden's multiple hamartoma syndromes, Albinism, Epidermodysplasia verruciformis, Polydysplastic epidermolysis bullosa, Dyskeratosis congenita, Late onset immunologic deficiency, and X-linked agamma-globulinemia.

Lifestyle Factors (30 percent)

As we have discussed above that only five to ten percent of malignancies can be attributed to genetic defects, in most of the remaining cases, environment and lifestyle have a definite role to play. The lifestyle factors include cigarette smoking, diet (fried foods, red meat), alcohol, sun exposure, environmental pollutants, infections, stress, obesity, and physical inactivity. The evidence indicates that of all cancer-related deaths, almost 25-30% are due to tobacco, as many as 30-35% are linked to diet, about 15-20% are due to infections.

Alcohol

A number of studies have revealed that chronic alcohol consumption is a risk factor for cancers of the upper aerodigestive tract, including cancers of the oral cavity, pharynx, hypopharynx, larynx, and oesophagus, as well as for cancers of the liver, pancreas, mouth, and breast. In addition to it being a risk factor for breast cancer, heavy intake of alcohol (more than 50-70 g/day) is a well-established risk factor for liver and colorectal cancers. In the upper aerodigestive tract, 25-68% of cancers are attributable to alcohol, and up to 80% of these tumours can be prevented by abstaining from alcohol and smoking. Globally, the attributable fraction of cancer deaths due to alcohol drinking is reported to be 3.5%.

Obesity and Dietary Habits (35 percent)

Obesity has been associated with increased mortality from cancers of the colon, breast (in postmenopausal women), endometrium, kidneys (renal cell), oesophagus (adenocarcinoma), gastric cardia, pancreas, prostate, gallbladder, and liver. In fact, recent studies have confirmed that being overweight or obese is responsible for one in six cancer deaths in India and other developed countries of the world; second only to smoking. Overall, excess weight accounts for about 17 percent of cancer deaths. In males, being overweight increases the chances of death due to prostate cancer by 34 percent. In women, being heavy, and those with increased intake of fat causes more than double the risk of death due to breast cancer. The typical European and American diet promotes obesity and thereby contributes to the development of cancer. In addition to weight gain, a poor diet is also devoid of essential

nutrients that participate in fighting the cancer cells. Even though a healthy body is capable of instituting an effective defence mechanism against carcinogenesis, but it needs to be supplemented by the essential nutrients from diet. Indian and European diet has a lot of refined sugar, excess carbohydrates, fat, and meat that promote cancer, weaken immunity, promote an inflammatory response, disrupt sugar metabolism and stimulate the release of cancer promoting hormones; while there are very few cancer fighting nutrients in this diet. Recent research directly links excess weight to increased risk of death from cancer. This should provide good motivation to maintain a healthy, normal weight. Avoiding excess pounds, eating a healthful diet, and exercising are a direct and controllable ways to prevent cancer and it's something you can start doing today. Certain suggested dietary guidelines are:

1. Decrease in intake of fat,
2. Increase in intake of fruits (especially citrus fruits), vegetables (especially carotene rich vegetables), and whole cereal grains. These provide vitamin A, vitamin C, and fibre,
3. Decrease in consumption of salt/curd/smoked food,
4. Decrease in consumption of alcohol.

Sufficient exercise has a positive impact on metabolism, immunity, and elimination, thereby reducing the risk of cancer.

It has been shown in animals that administration of high doses of vitamin A inhibits carcinogenesis. However, the validity of this in humans remains debatable.

Environmental Influences (25 percent)

Environmental factors like radiation (mobile phones, microwaves, electronics, X-rays etc.), stress, environmental pollutants in food, water, air etc. lead to cellular damage affecting the nuclear DNA, and ultimately carcinogenesis. These environmental agents are listed in table 2.2 and table 2.3.

Table 2.2: Chemical agents causing malignancy

Chemical Agent	Malignancy

Arsenic (used in farming and horticulture)	Lung, skin, liver
Asbestos	Mesothelioma of lung, bronchogenic lung, bronchogenic carcinoma
Benzene	Leukaemia
Benzidine	Bladder
Chromium compounds	Lung
Mustard gas	Lung
Polycyclic hydrocarbons	Lung, skin
Vinylchloride (used in plastics)	Angiosarcoma of liver
Beta-naphthylamine	Urinary bladder
Aflatoxin B1 (contamination of farm products, grains, peanuts)	Liver
Carbon tetra-chloride	Liver
Cadmium oxide	Lung, prostrate
Chromates	Lung
Betel nut (areca nut)	Oral cavity
Thorium dioxide	Liver
Tobacco smoke	Larynx, lung, bronchus
Iron ore (haematite)	Lung
Wood dust	Adenocarcinoma of nasal cavity and sinuses
Isopropyl oils (inhaled)	Larynx, nasal cavity
Alcohol	Oral cavity, oesophagus, stomach, liver, larynx
Alkylating agents	Cancer of bladder in young children

cyclophosphamide, melphalan	treated earlier for acute leukaemia

Table 2.3: Different cancers with their risk factors

Cancer Type	Substances that Increase Risk	People at Special Risk
Brain	• Radiation and electromagnetic fields • Chemicals such as polymers, iron, chromium compounds, lead, cadmium, aromatic hydrocarbon compounds, arsenic, mercury, and petroleum products	• Oil refinery and petroleum workers • Chemical, pulp, and paper workers • Cell phone users • Radiologists, medical workers, fire fighters, butchers, computer workers, electricians and electrical equipment operators, farmers, janitors, painters and those who work in food processing

Cancer Type	Substances that Increase Risk	People at Special Risk
Breast	• Hormonal factors (hormone replacement therapy, oral contraceptives) • Toxic chemicals, especially pesticides, heavy metals, organochlorines (DDT, hexachlorobenzene, dioxins), and air pollution • Alcohol use and poor diet • Smoking and second hand smoke	• Individuals experiencing increased lifetime exposure to oestrogen- those with earlier or longer duration menses, later menopause or later age pregnancy • Agricultural communities and others exposed to pesticides; those exposed to by-products of plastic production or plastic incineration • Those with a family history of breast cancer
Lung	• Chemicals such as dioxins, benzene, and DDT • Air pollution: carbon monoxide, hydrocarbons, particulate matter, sulphur dioxide, asbestos, cigarette smoke, radon	• Those exposed to motor vehicle exhaust and petroleum products • Smokers and those exposed to second-hand smoke • Industrial workers exposed to asbestos, such as miners, mill workers, mariners
Kidney	• Organic solvents such as trichloroethylene; pesticides and herbicides	• Agricultural communities and others exposed to pesticides • People working in the following industries:

Cancer Type	Substances that Increase Risk	People at Special Risk
	• Chemicals such as copper sulphates, benzene, benzidine, creosol (present in asphalt), coal tar, soot and pitch • Mustard gas, vinyl chloride, and DNT (dinitrotoluene) • Cutting or lubricating oil	dry cleaning, railway, mining, and metallurgy
Bladder	• Cigarette smoke • Artificial sweeteners • Alcohol • Arylamines • Chlorinated drinking water • Arsenic • Coffee	• Smokers • Age 65+ • Men > women • White people
Prostate	• Synthetic oestrogens, oestrogen-like compounds • Alkyl phenols, pesticides, insecticides, and herbicides PCBs, electromagnetic fields • Lead and cadmium Bisphenol-A (BPA) Bisphenol-S (BPS)	• Those consuming food from cans lined with varnish • Users of plastic products (food wrap, test tubes, drinking water bottles) • Workers employed in agriculture, electrical utilities, coal burning power plants, or exposed to hazardous waste incinerators or exposed to cement kilns • Those who work at or live near coal-burning power plants

Cancer Type	Substances that Increase Risk	People at Special Risk
Testicular	• Hormone-disrupting chemicals present in paints, pesticides, detergents, hair spray, perfume, car seats, vinyl flooring, wallpaper, and elsewhere • Xenestrogen chemicals: organochlorines, PCBs, phthalates	• Men whose water supply is contaminated with oestrogen from birth control pill residues • Agricultural workers and those exposed to pesticides and herbicides • Plastic industry workers
Myeloma (blood cancer)	• Ionising radiation • Dark-coloured hair dye • Agricultural and industrial chemicals: paints, petroleum • Industrial solvents, pesticides • POPs	• Those with repeated infections or lowered immune functioning • Those exposed to cigarette smoke • Agricultural workers, as well as those exposed to benzene and other pesticides • Workers with higher exposure to chemicals
Leukaemias	• Chemicals such as dioxins, benzene, and DDT • Diagnostic radiation, such as x-rays • Air pollution: carbon monoxide, hydrocarbons, particulate matter, sulphur dioxide, asbestos	• Workers in industrial facilities - chemical manufacturing, gasoline storage, petroleum refineries, and coke ovens - as well as the automobile, dry cleaning, and colour printing industries • Dental and radiological technicians and radiation therapists

Cancer Type	Substances that Increase Risk	People at Special Risk
	• Nitrous oxide gas (and other anaesthetic gases used in surgery), industrial solvents, aromatic hydrocarbons, benzene, and trichloroethylene, cigarette smoke, radon	• Agricultural workers
Lymphomas	• POPs • Phenoxy herbicides (such as Agent Orange) • Chlorophenols dioxins, organic solvents, chlordane, PCBs	• Those experiencing breakdown of the immune system • Those exposed to environmental toxins, agricultural pesticides, and herbicides, emissions from solid waste incinerators, dry cleaning chemicals, household maintenance supplies
Melanoma	• Sun exposure (harmful UV rays) CFCs (chlorofluoro-carbons) and PAHs (polycyclic aromat-ic hydrocarbons) • Solvents and other hazardous organic compounds such as benzene	• Users of tanning equipment • People using pressure-treated wood • Agricultural workers and those exposed to weed killers, insecticides, and fertilizers • Those who work at or live near coal-burning power

Cancer Type	Substances that Increase Risk	People at Special Risk
	• Electromagnetic fields Phenoxy herbicides (such as agent orange)	plants and those working with or exposed to high-voltage power lines or capacitor manufacturing companies. • Workers in the electronics industry

Host Factors in Carcinogenesis

1. **Age:** The frequency of cancer increases as age increases. However, certain cancers are common in the paediatric age-group like leukaemia, lymphomas, and tumours of the central nervous system, soft tissue, and bone sarcomas. Certain tumours like prostatic carcinoma are seen almost exclusively in old age. The exact reason why cancer increases with increased age is not known but the probable reasons are:
   a. As age increases, competence of immune system decreases.
   b. As age increases, the tendency to mutations also increases.
   c. As age increases, mechanisms capable of repairing DNA mutations may slow down.
2. **Immunocompetence:** There is evidence to show that tumour-specific antigens are present in malignancy and in some instances they elicit an immune response. Hence, patients with a competent immune system carry a better prognosis.
3. **Clinical disorders:** Certain clinical disorders are potentially malignant (See table 2.4). For example, in general, benign neoplasms do not become malignant. Those that do, like the adenoma of the colon, are the exceptions and not the rule.

Table 2.4: Clinical disorders and malignancy

Clinical disorders	Malignancy

Chronic atrophic gastritis (Pernicious anaemia)	Gastric carcinoma
Chronic ulcerative colitis, adenoma of colon	Colorectal carcinoma
Leukoplakia buccal cavity, genitals	Squamous cell carcinoma
Chronic skin fistula	Squamous cell carcinoma
Cirrhosis of liver	Hepatocellular carcinoma

Table 2.5: Nervous system and cancerous outcome

	Syndrome	Site of Tumour
I	**Cerebral**	
a.*	Sub-acute cerebellar degeneration	Lung, prostate, colorectal, ovary, cervix
b.	Dementia (fairly common)	Lung
c.	Limbic encephalitis	Lung, Hodgkin's lymphoma
d.	Progressive multi-focal leukoencephalopathy	Leukaemia, lymphoma, sarcoma
II	**Spinal**	
a.	Amyotropic lateral sclerosis	Nerve cells (neurons) responsible for controlling voluntary muscle movement
b.	Sub-acute necrotic myelopathy	Lung, kidney
c.*	Sub-acute motor neuropathy	Lymphoma
III	**Peripheral nerves**	
a.*	Sensory neuropathy	Lung
b.	Sensory-motor peripheral neuropathy	Lung, gastrointestinal tract, breast
c.	Guillain-Barre syndrome	Lymphoma
IV	**Muscular and neuromuscular**	
a.*	Dermatomyositis and polymyositis	Lung, stomach, ovary
b.*	Eaton-Lambert syndrome	Lung, stomach, ovary

*[All marked * are very strongly associated with malignancy. Therefore, when they develop in a patient who is not known to have malignancy, a thorough investigation for malignancy should be made.]*

4. **Race:** Though certain cancers are predominantly seen in certain races, the causes may be 'environmental influences' rather than a 'racial predisposition'. For example:

a. Gastric carcinoma is much more common in Japan than in the U.S.A. while CA breast is much more common in the U.S.A. than in Japan.
b. White races are more susceptible to skin cancer.

5. **Sex:** The role of 'environmental influences' again is important, rather than a sexual predisposition. For example:
   a. The incidence of CA lung is much higher in males than in females. But now, the incidence of lung cancer in females is on the rise due to increased number of women taking up smoking.
   b. Cancer of breast is very rare in males.
   c. Cancer of bladder is rare in females.

Viruses

The relation between viral and cellular oncogenes has been discussed earlier. Viruses may act on proto-oncogenes to initiate carcinogenesis. Though viruses have been proved to be the causative agents of malignancy in animals, their role in carcinogenesis in humans is probable and not yet proved beyond doubt. (See table 2.6)

Table 2.6: Viruses associated with cancers

Agent	Type of Neoplasia	Strength of Evidence
RNA viruses		
Human T-cell leukaemia virus (HTLV-1)	T-cell leukaemia	Almost certain
	Lymphoma	-
Mammary tumour virus	Breast carcinoma	Weak
DNA viruses		
Human papillomavirus (HPV)	Squamous cell cancer in hereditary epidermo-dysplasia verruciformis	Almost certain
Herpes viruses		
Herpes simplex virus-2 (HSV-2)	Vulvar and cervical carcinoma	Uncertain
Epstein-Barr virus	African Burkitt's lymphoma	Probable
	Naso-pharyngeal carcinoma	-
Cytomegalo virus (CMV)	Kaposi's sarcoma	Weak
Hepatitis B virus	Hepato-cellular carcinoma	Probable

Table 2.7: Physical causes and cancers

Physical causes	Cancers
Chronic irritation of sharp tooth or	Cancer of buccal cavity

ill-fitting denture	
Chronic inflammation	Epidermoid carcinoma in the skin near a chronically draining sinus of osteomyelitis
Trauma	History of trauma to breast is positive in many cases of cancer of breast. May enhance metastatic spread.

Biological Influences (Hormones)

They probably serve as promoters. For example, oestrogen given to pregnant women may lead to uterine or vaginal carcinoma in the offspring; in pre-menopausal women it may lead to liver adenoma and in menopausal and post-menopausal women, it may lead to endometrial carcinoma.

Psychological Influences

Studies have revealed that certain psychological patterns are present in individuals who develop cancer. There is usually a major emotional trauma, a marked tendency to hold resentment and a tendency to repression. It is also known that prolonged mental stress is one of the factors that contribute to the development of cancer.

Cancer Pathophysiology

As compared to healthy cells, the malignant cells have a voracious appetite for nutrients, oxygen and blood. It is pertinent for the malignant cells to have access to the body's blood in order to survive in the human body. These blood thirsty cells have been compared with ‘biochemical vampire’, whose choice of nectar is the blood. These cells ensure a continuous access to blood by interfering in the process of angiogenesis by producing vascular endothelial growth factor (VEGF); and the existing blood vessels' growth is thus redirected and new networks of blood vessels grow towards the tumour creating their own blood supply. Therefore, anti-angiogenesis, or shutting down the blood supply to a cancerous tumour by any way is critical for stopping its growth. Drugs and natural substances that block the action of VEGF prevent the formation of new blood vessels and thus depriving the tumour of the nutrients it needs to grow, thrive and spread.

However, the malignant cell can also survive under a variety of internal conditions. According to a recent issue of Cancer Research, Japanese researchers discovered that, despite their voracious needs, cancer cells also have an amazing ability to tolerate extreme conditions, including a low supply of nutrients and oxygen. They discovered that cancer cells have the ability to modify their energy metabolism to sustain growth while simultaneously minimising their need for nutrients and energy. In addition to this, the cancer cells are also capable of developing resistance to specific chemotherapy drugs; that makes treating cancer a complicated task, due to

this adaptability and resilience.

The cancer cells are not governed by the rules of internal cellular control as are the normal cells. Self-preserving cancer cells have abnormally long life due to the telomerase enzyme produced by them that allows them to override the process that normally limits the life span of the cell. Also, another critical internal control mechanism of repairing cellular damage is impaired in the cancer cells. The tumour suppressor genes of the healthy cells suppress cell division by allowing a damaged cancer cell to repair itself, or undergo apoptosis, i.e. self destruction, in case of a significant damage. These tumour suppressor genes are often underactive in cancer cells. Unfortunately, the most recognised tumour suppressor gene - p53 is one of the genes which are most susceptible to damage. In fact, p53 is damaged in over 50 percent of all cancers. This is due to the different toxic and inflammatory insults that cause oxidative damage to the gene. Some patients also inherit a susceptibility to sustain damage to this tumour suppressor gene. When the p53 tumour suppressor gene is not active or damaged, this results in uncontrolled division and multiplication of the damaged cancer cells. Therefore, it is critical for an integrative cancer treatment approach to find effective ways to stimulate apoptosis in cancer cells before they become too resistant and overpowering. At present, a great deal of cancer research is focused on compounds that can activate tumour suppressor genes or can stimulate apoptosis. Even homoeopathic medicines have been explored for this effect (See chapter: ‘Clinical Research’ - Saha S, Hossain DM, Mukherjee S, Mohanty S, Mazumdar M, Mukherjee S, Ghosh UK, Nayak C, Raveendar C, Khurana A, Chakrabarty R, Sa G, Das T. *Calcarea carbonica induces apoptosis in cancer cells in p53-dependent manner via an immuno-modulatory circuit*. BMC Complement Altern Med. 2013;13:230.)

Unfortunately, cancer does everything it can to survive and grow; cancer is adaptable and those cancer cells that are best adapted will survive, with their survival characteristics becoming stronger with each new generation of cells. Unlike healthy cells, cancer cells that metastasise exhibit little or no cell-to-cell adhesion. Most cells in the body other than circulating blood cells bond with one another to form well-defined tissues. Cancer cells, on the other hand, are free agents thoroughly adapted to foster their own growth and movement. Once metastasis has occurred, cancer becomes more powerful and much more difficult to treat. This is when cancer can be most life

threatening. Cancer is thus a complicated disease process, in which the simple biological procedure of cell division and growth, quickly turns into a chaotic and complex illness. A simple mutation what it seems at first, multiplies exponentially; the aggressive intruder then procures blood, oxygen, and nutrients from healthy cells and survives; its growth is additionally contributed by the growth factors, circulating hormones etc. resulting in cancer.

Immunity of Body Against Cancer

The immune system is the body's first line of defence against the invading microorganisms like bacteria, viruses, toxins, fungi, and parasites, and also against the cancer; and its potential cannot be underestimated. It is a highly developed network of cells focused on communicating with one another that work against the cancer cells circulating in the body. The immune system protects the body from foreign and morbid substances with the help of various white blood cells, including 1 trillion lymphocytes and 100 million trillion antibodies produced and secreted by the lymphocytes. "Coated with protein and sugar, the human body is a feast to microscopic life and the only thing standing between 'us' and 'them' is the immune system," explains Robert Rountree, MD and Carol Colman in their book '*Immunotics*'. "It allows us personal space on a planet teeming with hungry micro Cancer organisms." Foreign antigens are microorganisms tagged by the immune system as "non-self."

Cancer is indeed difficult to cure but it is not undefeatable. The body has an innate cellular system of checks and balances that works to keep the body healthy. This normally prevents the cells from undergoing cell division repeatedly. When a normal cell divides, it loses a part of itself. Eventually, it cannot undergo further cell divisions, and finally it dies, sometimes to be replaced. In the process of aging more cells die than are replaced. The human body's potential for self-healing is often underestimated by conventional oncology. The cornerstone of integrative cancer prevention and treatment supports the body's natural ability to protect and heal itself. Almost every one of us has circulating cancer cells in the body; however, since the normal immune system is competent enough to destroy and eliminate the cancer cells, therefore not everybody is diagnosed with a cancer. When the body systems' functioning and immunity are intact, they help to prevent and defeat

cancer. Diet, lifestyle, external environment, and genetic makeup, all influence this innate ability to fight cancer. Therefore, these critical aspects are often highlighted and worked upon during any cancer prevention and treatment plan.

The malignant process needs to be studied in the light of the specific adaptive immunity, which is common in all vertebrates. The lymphoid tissue plays the key role in the specific adaptive immunity which is of two types. First is the **Cell-mediated immunity** which involves the T lymphocytes (i.e. thymus dependent) including Helper T cells, Suppressor T cells, Natural killer cells, Effector T cells. The second is **Humoral immunity** which involves the B lymphocytes (thymus-independent). This involves antibody (immunoglobulin) formation – IgG, IgM, IgA, IgE, IgD.

The immune tolerance to one's own tissue or 'self-recognition' occurs during foetal life and early neonatal life. Subsequently, contact with any other antigen usually provokes a specific immune response by the combined action of various components of the entire immune system. The identification of a foreign antigen activates the immune system. The immune cells, the macrophages, and dendritic cells identify the antigens and an organised defence mechanism is enacted by rest of the immune system to identify, kill, and clean up the foreign invaders.

Two major lymphocytes - B cells, and T cells carry out the bulk of the activity during second phase. The body contains a legion of immune system cells - one trillion white blood cells alone which join forces with trillions of antibodies, lymphocytes, T cells, natural killer cells, macrophages, and others to create a formidable anti-cancer team. Once foreign cells and organisms are marked for destruction, cells known as phagocytes specifically, neutrophils and macrophages—are sent out to engulf and digest the antigens. B and T cells circulate within the lymphatic system. Lymph fluid bathes the body cells, transferring nutrients to cells, removing waste products and transporting vital white blood cells to specific battlegrounds. Immune system cells congregate in various lymph nodes strategically positioned throughout the body. The spleen manufactures lymphocytes and traps foreign antigens in order to initiate the B cell response. It also filters the blood and lymphatic system, cell debris, micro-organisms and old or damaged cells.

In order to understand the basic functioning of immune system of the body, it

is pertinent here to brush up our knowledge of its key components.

The *lymphatic system* encompasses capillaries and blood vessels, lymph nodes, the spleen, and the thymus. The lymph is collectively absorbed and circulated toward the major veins in the torso of the body. As the lymph moves through the lymphatic system, bacteria and other pathogens in the fluid are destroyed and then the fluid returns to the blood. The *lymph fluid* accounts for 1.5 to 3 percent of body weight, it flows throughout the body and aids in maintenance of the fluid level of cells, delivery of nutrients to cells and elimination of waste products through the bloodstream. *Lymph nodes* filter substances that travel through the lymphatic fluid, and they contain lymphocytes. There are hundreds of lymph nodes found throughout the body are connected to one another by lymph vessels, they are mostly clustered in the neck, armpits, chest, groin, and abdomen. *Spleen* is a large, spongy organ located on the left side of the abdomen that makes lymphocytes, filters the blood, stores blood cells, and destroys old blood cells and eliminates them. *Thymus* is a lymphoid organ located behind the sternum, which secretes thymosin hormone that strengthens the immune response. Thymus is also the site where T cells grow and multiply. The mature T cells migrate to other lymphoid tissue such as the spleen and lymph nodes, where they control immune responses. The thymus gland grows until puberty till it has produced the majority of T cells needed for a fully functional immune system, and begins to shrink during adulthood.

Leukocytes or the white blood cells (WBCs) are of two types - granulocytes (neutrophils, basophils, eosinophils) and agranulocytes (monocytes and lymphocytes) based on the presence or absence of granules within the cells and further, the shape of their nucleus. Leukocytes are formed in the bone marrow, spleen, and thymus, they destroy pathogens, eliminate the damaged cells, and begin the cellular repair process. The damaged tissues send chemical signals which stimulate these leucocytes to penetrate into the tissues and carry out their functions. *Neutrophils* comprise 54 to 65 percent of the total WBCs and are formed in the bone marrow and released into the blood. They ingest the foreign particles, especially virulent bacteria and fungi. *Lymphocytes* normally constitute 25 to 33 percent of the total count, but increase further during infection. They are produced in the bone marrow and found in lymph nodes. Lymphocytes occur in two forms - T cells and B cells.

1. *T cells* are matured in the thymus gland. Based on the clusters of proteins on their surfaces, they are differentiated for specialised immune function. *Helper T cells* facilitate the production of antibodies by the B cells. *Suppressor T cells* suppress B cell activity. One large group is CD4 T cells, which secrete cytokines. CD8 T cells, also known as cytotoxic T cells, are another important group of T cells. These cells directly kill viruses and cancer cells and secrete gamma interferon, which stimulates activity of macrophages and other immune cells. The immune system has the capacity to continually create and train new T cells. *Memory T cells* store information about antigens and this cellular memory allows for a faster response the next time the immune system encounters that antigen (as in allergic responses). *Natural killer (NK) cells* are a type of non-specific, free ranging immune cells produced in the bone marrow and matured in the thymus gland. NK cells can recognise and quickly destroy virus and cancer cells on first contact, without having encountered them previously. They have around 100 different biochemical toxins for destroying foreign proteins. Their role is surveillance, to rid the body of foreign or aberrant cells. NK cells can destroy cancerous cells before they multiply and cause disease. Decreased numbers of NK cells have been linked to the development and progression of cancer, as well as chronic and acute viral infections and other deficiencies of the immune system.
2. *B cells* produce antibodies to neutralise the specific antigens on the surfaces of damaged cells or bacteria. B cells grow and mature in bone marrow, also respond to T cell signals.

Antibodies (immunoglobulins) are the protein molecules made from amino acids by B lymphocyte cells in the lymph tissue. They are activated by the immune system against a specific antigen. They occur in the blood, lymph, colostrum, saliva and in the gastrointestinal and urinary tracts, usually within three days after the first encounter with an antigen. The antibody binds tightly with the antigen as a first step in removing the cell or organism from the system or destroying it. Each lymphocyte produces a specific antibody, or immunoglobulin. There are five main types of immunoglobulins, grouped according to their concentration in the blood: IgG, IgA, IgM. IgD, and IgE.

White blood cells that ingest and destroy pathogens, cell debris, and other particulate are the *Phagocytes*. *Macrophages* are the mature form of the

monocytes produced in the bone marrow which circulate in the bloodstream for a few days before entering tissues, where they develop into macrophages. They ‘swallow’ everything that is not normal, healthy tissue - old body cells, cancer cells, pathogens and foreign proteins, then release an enzyme that chemically destroys or neutralises whatever is ingested.

Cytokines are produced primarily by WBCs. They are a group of distinct proteins that signal other immune cells to regulate inflammation or other immune responses. Cytokines include monokines, lymphokines, interleukins, interferons, tumour necrosis factor, erythropoietin and colony-stimulating factors. *Interferon* is a natural protein produced by WBCs in response to a virus or other foreign substance. Interferon enables virally infected cells to be recognised and killed by T lymphocytes, and also stimulates macrophages. *Interleukins* are a type of cytokine that enables communication among leukocytes and other cells active in an inflammatory or immune response.

Immuno Surveillance

It refers to the recognition and destruction of the ‘non-self tumour cells’ on their appearance. It is obvious that in cancer, immune surveillance is imperfect, but the fact that some cancers escape detection does not preclude the possibility that others may have been aborted. Immuno surveillance includes both - humoral as well as cellular immune mechanisms, as illustrated. The fact that cancer occurs inspite of the immuno surveillance indicates that mechanisms for tumour escape may exist:

1. Genetic vulnerability: Specific genetic immune deficiencies may induce a predisposition to cancer in certain individuals.
2. Sneaking through: Emerging cancers may present too small and antigenic challenge to evoke an effective immune response. Later, the mass becomes too large for immunologic destruction.
3. Shedding or modulation of tumour antigens: Sufficient antigen shedding may inhibit recognition of the tumour cells or, with tumour progression, new clones and new antigens may appear.
4. Immuno suppression: Several mechanisms may block the immune response:
    a. Immune complexes may inhibit the functions of macrophages.
    b. Neoplasms themselves may release factors that depress macrophage

migratory function.

c. Suppressor T cells may inhibit the host response to antigens of neoplastic cells. Tumour antigens can actually enhance the tumour growth in vivo by interaction with host suppressor cells.
d. An embryonic antigen, Alpha-fetoprotein is also immunosuppressive, affecting both the cell-mediated and the humoral response.

5. A number of neoplasms produce embryonic antigens which are characteristic of the embryonic tissue of the adult organ from which the neoplasm arose. Thus, the host may mobilise none or only partial immune reactivity against a tumour endowed with foetal antigens, for tolerance once handled as 'self' is prohibitory to a full immune reaction.
6. Immune tolerance: Tumours may induce tolerance to their tumour-specific antigens, so that:
   a. the host fails to recognise them as foreign tissues.
   b. these antigens are recognised as foreign to the host and elicit an immune response. Studies do not clearly indicate whether human tumour antigens are virally or chemically induced. However, the existence of carcino-embryonic antigens is well established.

Signs and Symptoms

The American Cancer Society's list of seven early warning signals:

- Change in bowel or bladder habits
- A sore that does not heal
- Unusual bleeding or discharge
- Thickening or lump in the breast or elsewhere
- Indigestion or difficulty in swallowing
- Obvious change in wart or mole
- Nagging cough or hoarseness

Note: Unfortunately, many people don't pay any attention to these warning signals.

The general clinical presentations of malignancy are:

1. Asymptomatic - where the malignancy is accidentally detected.
2. Presence of mass, e.g., lump in breast, abdomen, oral cavity, enlarged lymph nodes.

3. Sudden ominous change in pre-existing wart or mole.
4. Ulceration through the surface with consequent bleeding, leading to effects of acute/chronic blood loss. A case of anaemia not responding to treatment with iron, etc. needs to be investigated for occult blood loss either through the gastro-intestinal or the urinary tract.
5. Acute medical emergencies: They are produced due to torsion, infarction or rupture of the tumour.
6. Production of hormones by the malignancy of an endocrine organ. (See Table 3.1)
7. Mass effects depending upon the affected system of the body.
8. Replacement of marrow by leukaemia cells, results in
   a. decrease in platelet count, increase in bleeding time leading to easy haemorrhage,
   b. decrease in RBCs leading to anaemia, and
   c. decrease in WBCs causing recurrent infections.
9. Bone cancer: Weakens trabecular framework which leads to pathological fractures.

Table 3.1: Hormone production indigenous to the origin of the tumour and their effects

Cancer type	Hormone	Clinical Manifestations
Carcinoma beta cells of Islets of Langerhans	Hyperinsulinism	Hypoglycaemia
Ca adrenal cortex (rare)	Hyperaldosteronism	Sodium retention, hypokalemia, hypertension.
	Hypercortisolism	Cushing's syndrome
	Androgens	In women - Hirsutism, acne, amenorrhoea, infertility, increased muscle mass, deep voice, temporal balding
	Hyperoestrogenism	In men – Gynaecomastia, decreased sex drive, infertility, impotence In women - Dysfunctional uterine bleeding, post-menopausal bleeding per vagina
Ca parathyroids (rare)	Primary hyperparathyroidism	Severe hypercalcemia
Malignant phaeochromocytoma	Increased catecholamines	Episodic/sustained hypertension
Malignant gastrinoma	Increased gastric acid hypergastrinemia	Zollinger-Ellison syndrome which includes abdominal pain, diarrhoea, pyrosis

Tumours within the Skull

The nature and severity of symptoms depends upon the location of the tumour and the rate of its growth. The symptoms are caused by tumour expansion within a fixed bony vault into the space normally occupied by brain, blood, and cerebro spinal fluid (C.S.F.) pathways. The peri-tumoural oedema (vasogenic cerebral oedema) adds to the compression effect, causing:

1. Headache — the initial symptom in half of the patients with brain tumours. It may be due to traction on dura, blood vessels, and cranial nerves or due to increased intra-cranial tension.
2. Vomiting without nausea or hiccups — due to increased intracranial tension.
3. Seizures — the initial symptom in 20% of patients with brain tumours especially adult-onset seizures.
4. Impairment of higher functions.
5. Cranial nerve palsies.
6. Focal motor and sensory symptoms.
7. Disorders of gait.
8. Incontinence of urine.
9. Cerebellar masses may cause herniation of cerebellar tonsils through foramen magnum - leading to cardiovascular abnormalities like bradycardia and hypertension as well as respiratory abnormalities. Compression of pituitary gland leading to hypopituitarism.

Tumours of the Gastro-intestinal Tract

The signs and symptoms are:

1. Anorexia.
2. Vomiting.
3. Altered bowel habits—either constipation or diarrhoea or constipation alternating with diarrhoea.
4. Obstructive jaundice due to compression of the biliary system.
5. Progressive dysphagia—initially to solids, then to semi-solids, then to liquids.
6. Abdominal pain.

Tumours of the Respiratory System

The signs and symptoms are:

1. Cough, persistent.
2. Dyspnoea.
3. Stridor / Wheeze.
4. Fever and productive cough due to pneumonitis from secondary infection caused by obstruction.
5. Pain in chest - when there is pleural chest wall involvement.
6. Persistent hoarseness.
7. Effects of localised spread of respiratory tumours - Pancoast syndrome, Horner's syndrome, Superior vena cava syndrome.

Tumours of the Cardio-vascular System

They are rare and can present with signs and symptoms common to any cardiac condition.

Tumours of the Genito-urinary tract

1. Flank pain/Back pain/Abdominal pain.
2. Hypertension.
3. Signs and symptoms of chronic renal failure due to obstructive nephropathy.
4. Increased frequency of micturition.
5. Difficulty in voiding urine.
6. Complete retention of urine.
7. Left-sided varicocele of acute onset - due to invasion of left renal vein.
8. Oedema of lower limbs - due to inferior vena cava obstruction.
9. Effusions in serous cavities like ascites, pleural effusion.

Paraneoplastic syndromes

Symptom complexes that cannot be readily explained appear in patients with cancer and are caused either by the local or distant spread of the tumour or by the secretion of hormones indigenous to the tissue of origin of the tumour is referred to as paraneoplastic syndrome.

Causes of the Paraneoplastic Syndrome

1. Tumour produced by biologically active proteins like carcinoembryonic antigen, alpha fetoprotein, etc.
2. Auto-immunity, immune-complex production or immune suppression.
3. Ectopic receptor production - a competitive blockade of normal hormone action by tumour-produced biologically inactive hormones.
4. 'Forbidden contact' - there is a release of enzymes that are normally not circulated but that takes place because of abnormal tumour vasculature, etc.
5. Unknown causes.

Differential Diagnosis of Paraneoplastic Syndromes

1. Direct invasion of primary tumour/metastasis
2. Obstruction by tumour/metastasis
3. Vascular abnormalities
4. Infections
5. Fluid and electrolyte imbalance
6. Toxicity of cancer therapy

Importance of Paraneoplastic Syndromes

1. Their appearance may be the first sign of malignancy.
2. They can be used as tumour markers to detect early recurrence as well as response to therapy.
3. The hormones released by tumours may be required for tumour growth, their identification may allow a new therapeutic approach.

Effects of Paraneoplastic Syndrome

1. **Endocrine and Metabolic Effects**
   a. Systemic nodular panniculitis
   b. Porphyria cutanea tarda

Table 3.2: Endocrinal effect on cancerous outcome

Syndrome	Hormone	Tumour
Cushing's syndrome	ACTH (Adrenocortico-trophic hormone)	Lung cancer Small cell lung cancer
SIADH (Syndrome of inappropriate ADH secretion)	AVP (Arginine vasopressin) ANP (Atrial natriuretic peptide)	Small cell lung cancer
Non-metastatic hypercalcemia	PTH (Parathyroid hormone)	Lung cancer, breast cancer Sq. cell cancer - lung, head, neck, oesophagus Adult T cell leukaemia
Hypocalcemia	Calcitonin	Medullary cancer of thyroid
Acromegaly	GHRH (Gonadotropin hormone releasing hormone)	Small cell lung cancer Breast cancer Carcinoids Pancreatic cancer
Gynaecomastia	Gonadotropins	Phaeochromocytoma (rare) Hepatoblastoma Child - Lung cancer

2. Haematologic Effects

a. Erythrocytosis
b. Anaemia
c. Granulocytosis
d. Eosinophilia
e. Thrombocytosis
f. Thrombophlebitis
g. DIC (disseminated intra-vascular coagulation)
h. Non-bacterial thrombotic endocarditis

3. **Renal Effects**

Nephrotic syndrome

4. **Gastro-intestinal Effects**
    a. Protein losing enteropathies
    b. Malabsorption syndrome
    c. Hepatopathy
    d. Cancer cachexia - Cachexia involves progressive loss of body fat and muscle protein (i.e. wasting of tissues), associated with profound weakness, anorexia and anaemia. It is often life-limiting. There appears to be a co-relation between the size and extent of cancer and the severity of cancer cachexia, i.e., they appear to be directly proportional. The cause of this common symptom of cancer is unknown. Probable causes are:

        i. Abnormalities of taste/smell and impairment in the central control of appetite leading to poor intake.

        ii. Physiological malfunction of the gastro-intestinal tract.

        iii. Excessive energy demands made by the tumour. This cannot be the sole factor because the tumour rarely represents more than a very small fraction of the total body mass (and no tumour grows more rapidly than the foetus).

        iv. Increased metabolic rate of all nutrients.

        v. Cachectin—a polypeptide produced by macrophages can cause lysis of certain types of tumour cells and is therefore termed as TNF—tumour necrosis factor. TNF can mimic cachexia in experimental animals and is therefore also termed as cachectin. Thus, cachectin and other cytokines released by tumour cells may be responsible for cancer cachexia.

5. **Skin**
    a. Pigmented lesions - keratoses
        i. Acanthosis nigricans
        ii. Leser-Trelat sign
        iii. Basez’s disease

iv. Sweet's disease

b. Erythema
   i Erythema gyratum repens
   ii. Necrolytic migratory erythema
   iii. Flushing
   iv. Exfoliative dermatitis

6. **Miscellaneous**

Fever due to:

a. infection by endogenous bacteria, viruses, fungi, or protozoa upon depression of WBCs,
b. the neoplasm itself - especially tumours of the reticuloendothelial system like Hodgkin's and Non-Hodgkin's lymphomas and acute leukaemias; and occasionally due to solid tumours like hyper-nephroma and carcinoma of the lung, pancreas, liver, bone, and large bowel,
c. widespread metastasis with tumour necrosis, or due to obstruction and infection of drainage ducts (in case of solid tumours).

Metastasis

The initiating point of tumour growth is called the primary site. Cancer spreads usually because of small bits of cancer cells that invade, infiltrate and destruct the surrounding tissue. Benign tumour never metastasises but expands and generates pressure effect on surrounding tissue.

Malignant tumour spreads in the following manner:

1. **Direct extension:** As the tumour mass grows, it tends to form roots, going into the layers of the surrounding tissue, thus invading the organs and tissues immediately next to it.
2. **Haematogenous spread:** Commonly sarcomas spread through blood-borne metastasis, but few carcinomas also metastasise through it. Pieces of the tumour cells can grow through the walls of the vessels, supplying blood to the tumour. Cells enter the blood stream and circulate around the body until they land in various organs.
3. **Lymphatic spread:** Generally, carcinoma metastasis through lymphatic

system but rarely sarcoma can spread through it, e.g. Carcinoma breast often spreads initially via lymphatic vessels to the lymph nodes in the armpits, bronchogenic carcinoma to hilar and para-tracheal lymph nodes, carcinoma stomach, colon and gall bladder to Virchow's lymph node. The cancer cells may continue to travel via lymphatics to the other locations in the body.

4. **Transcoelomic spread:** Through coelomic fluid cells they are implanted to distant sites; e.g. carcinoma stomach seeding to both ovaries.
5. **Epithelium-lined surface spread:** Though intact epithelium and mucus coat are resistant to tumour spread, but carcinoma endometrium can spread to fallopian tube despite the coating.
6. **Cerebrospinal fluid spread:** Tumour of ependyma and leptomeninges can spread through CSF.
7. **Implantation:** Through the surgeon's scalpel tumour can spread to other sites.

The primary cancer site is the part of the body where the cancer first develops. Even if the cancer spreads to other parts of the body, it is always described in terms of the primary site. For example, if pancreatic cancer spreads to the liver, it is still referred to as pancreatic cancer; specifically its metastasis to the liver. According to the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) training module, knowing the primary site is critical in diagnosis and treatment because it may help determine how the tumour will behave. The most common primary cancer sites are the skin, lungs, breasts, prostate, and colon. Accurate diagnosis is necessary in order to successfully treat cancer with an integrative approach.

Diagnosis of Cancer

If detected at an early stage, cancer can be treated fully but this isn't always easy due to the silent period of tumour growth during which the malignant cells are quietly doubling and redoubling before the cancer is big enough to be detected. For a long period, there may be absolutely no indication that this process is going on.

The clinician has to be astute in diagnosis since the clinical presentation of malignant conditions may be similar to that of other benign causes.

Therefore, a thorough investigation plan has to be instituted with appropriate diagnostic tests to rule out malignancies or pin point the exact causation of seemingly common symptoms. For example, menstrual irregularity, a very frequently encountered presentation could be due to benign ovarian cyst, pain in abdomen is a symptom of numerous benign and malignant disease conditions. Therefore, for an accurate diagnosis and further treatment, it is essential to know the likely cause of symptoms through diagnostics.

Tumour size and aggressiveness become critical when determining treatment and prognosis. One measure of aggressiveness is **cellular differentiation**. It refers to the process whereby cells progressively acquire the individual characteristics of their fully mature cell type.

For a tumour located in a part of the body where it can be felt, imaging is still required in order to determine its accurate size and to detect tumours at an earlier stage in their growth. For example, the average size of a breast tumour when first detected by mammography is about 800 million cells or about $1/8^{th}$ of an inch in diameter. However, the average size of a breast tumour found manually is about 1 inch in diameter, which represents about 2.5 billion cells. Treatment success is dependent upon accurate information. It is important to determine exactly where the cancer exists and the type of cancer cells present.

Following are the different ways a cancer could be diagnosed: symptoms, physical examination, blood tests, tests of fluids and stools, imaging, cytological studies, biopsies, bone marrow examination, and surgery.

Symptoms

When a lump has grown to a certain size, its presence may be felt in a number of ways:

1. It gets so large that it can be seen or felt.
2. It may produce pain by pressing on a nearby tissue.
3. It may grow into nearby blood vessels and produce bleeding.
4. It may interfere with the functioning of the organ, e.g. hoarseness or change of voice may indicate a tumour in the larynx, or voice box.

The Physical Examination

A good physical examination with an aim to detect cancer involves:

1. Examination of the affected part.
2. Checking the lymph node bearing areas, such as neck, above the collarbone, under the arms, and in the groin.
3. Specific attention should be paid to the breasts in women and the prostate gland in men.
4. Check for any enlargement of the organs like liver and spleen.
5. Examination of the pelvic area in women, including a Pap smear, is essential to detect cancers of the cervix.
6. Per rectal examination with a gloved finger.

Blood Tests

Although blood tests are not used to determine definitive cancer diagnosis, they do provide valuable information regarding overall health and organ function. Two categories of blood tests are used to diagnose cancer:

Non-specific Test

These include a complete blood count and blood chemistry test. They are used to detect the presence of anaemia and immune system irregularities, and the markers of organ dysfunction. These tests are only suggestive, that do not lead to a specific diagnosis.

Table 3.3: Non-specific Cancer Tests

Non-specific Tests	Diseases
Alkaline phosphatase	Elevated in bone and liver disease.
SGOT and SGPT	Elevated if there is liver disease.
Bilirubin	Elevated in liver disease, especially with bile duct obstruction.
LDH	Elevated in many diseases, including cancer.
Uric acid	Elevated in gout, cancers of blood and

	lymph nodes, and after cancer treatment.
Creatinine and BUN	Elevated in kidney disease.
Calcium	Elevated in cancer that has spread to the bone, with tumours that produce parathyroid hormone-like protein, and in multiple myeloma, as well as in some non- malignant disease.
Electrolytes (sodium, potassium, carbon dioxide, chloride)	These levels are useful in metabolic and endocrine diseases, and for monitoring both nutritional status and the effects of treatment.
Amylase	Used to assess pancreatic diseases.

Specific Tests

Specific blood tests measure substances in the blood known as tumour markers. Tumour marker is the most important test to detect certain molecules, often a type of protein, produced by specific types of cancer. These are produced by various types of tumours e.g. if there are high levels of a specific protein called carcino - embryonic antigen (CEA) in blood then it may suggest tumours in lung, breast, and bowel unless proved otherwise. They may come directly from a tumour or may be a result of the body's response to a tumour. However, in the context of a suspicious lesion or mass, tumour markers can help to confirm the need for further diagnosis and also can be used later to monitor the success of treatment interventions. If the marker is elevated at the time of diagnosis, then successful treatment should result in the level falling or the marker disappearing altogether. The reappearance of the marker often signals a relapse. Tumour markers are not routinely used as general screening tests because some non-cancerous lesions can elevate certain tumour markers. Plus, not all cancers shed tumour markers into the blood. These tumour marker blood tests also miss cancers, and even when a low number is present cancer may still be found. Tumour markers can provide information, especially in the context of diagnosed cancer; however, this technology needs more research, before it can be a reliable diagnostic tool. The tumour marker tests are only useful once cancer

has been diagnosed and once the cancer has been determined to cause elevations in its associated tumour markers. In this instance, the tumour markers can serve as reliable indicators of increased or decreased cancer growth.

Table 3.4: Specific Tests associated with different Cancers

Specific Tests	**Cancer**
CEA	Elevated in cancers of lung, breast, colon, rectum, and pancreas
CA-125	Elevated in the cancers of the ovary and the uterus
CA19-9	Elevated in cancers of the colon, pancreas, stomach, and liver
CA 15-3/ CA 27-29	Elevated in breast cancer
Alpha-fetoprotein (AFP)	Elevated in primary liver cancer and some cancers of the testis
HCG (Human chorionic gonadotropin)	Elevated in some cancer of the testis and ovary and some lung cancers; it is also elevated in pregnancy
Prostate acid phosphatase (PAP)	Helpful in diagnosing prostate cancer, in detecting recurrent disease, and in prognosis
Calcitonin (CT)	Cancer of thyroid
Bence Jones protein	Multiple myeloma
Vanillyl mandelic acid and homovanillic acid	Neuroblastoma
Plain X-ray	Malignancy of bones, lungs, mediastinum
Barium meal, Barium enema	Malignancy of gastro-intestinal tract
Intravenous pyelography	Malignancy of genito-urinary tract
Ultrasonography	Malignancy in abdomen and pelvis

CT scan (computerised axial tomography)	Malignancy in head, thorax, abdomen. CT guided biopsies
MRI (Magnetic resonance imaging)	Malignancy in head, thorax, abdomen
Radio-isotope scan	Malignancy of bone, thorax, abdomen
Mammography, Xeromammography	Malignancy of breast
Excision biopsy or punch biopsy and Fine Needle Aspiration Cytology (FNAC)	Breast, thyroid, prostate
Cytologic smears (Papanicolaou's smear)	Cervix, endometrium, lung, bladder, prostate, stomach Identification of tumour cells in pleural fluid, ascitic fluid, synovial fluid, and cerebrospinal fluid
Endoscopy — Direct visualisation and biopsy	Direct laryngoscopy, Upper gastro-intestinoscopy, Rectosigmoidoscopy and colonoscopy, Bronchoscopy, Cystoscopy, Mediastinoscopy, Thoracoscopy and Laparoscopy
Karyotyping	Detection of Philadelphia chromosome, Chronic myeloid leukaemia
Serum protein electrophoresis	Abnormal gamma globulin (monoclonal "spike") is found in myeloma
Serum protein immune-electro phoresis (IgG, IgA, IgM)	Similar to above, but can classify the type of abnormal gamma globulin present

Table 3.5: Values of Tumour Markers

Tumour Marker	Ref. Range (Ng/ML)	Moderate (Ng/ML)	High (Ng/ ML)
CEA	< 5	5-10	> 10
AFP	< 15	15-200	> 200
PAP	< 4	4-10	> 10

Table 3.6: Tumour Markers in benign conditions

Tumour Marker	Ref. Range (Ng/ML)	Moderate (Ng/ML)	High (Ng/ ML)
FPSA/PSA ratio	< 0.25	0.25-0.10	< 0.10
CA 15-3 U/ml	< 35	35-100	> 100
CA 19-9 U/ ml	< 5	6-30	> 30
CA 125 U/ml	< 5	5-10	> 10
CA 72-4 U/ml	< 2	2-10	> 10
BHCG mUI/ml	< 15	15-40	> 40
B2M mg/l	< 3.5	3.5-5	> 5

Some of the most established tumour markers include the following:

1. **CEA:** Slight to moderate CEA elevations (rarely above 10ng/ml) occur in 15-30% of benign diseases of the intestine, the pancreas, the liver and the lungs, like – chronic hepatitis, pancreatitis, ulcerative colitis, Crohn's disease, and emphysema. It is also elevated in colorectal, gastrointestinal, kidney, stomach, breast, pancreatic, liver, and lung cancers. Smokers also have elevated CEA values.
2. **CA 15-3:** Slightly elevated CA 15-3 serum values (up to 50 U/ml) are occasionally found in patients with liver cirrhosis, hepatitis, autoimmune disorders, and benign diseases of the ovary and breast. Non-mammary malignancies in which elevated CA 15-3 assay values have been reported include lung, colon, pancreas, primary liver, ovarian, cervical and endometrial carcinoma.
3. **CA 19-9:** Even slight cholestasis can lead to elevated serum

carbohydrate antigen 19’9 (CA 19-9) levels in some cases. Elevated values are also found in a number of benign and inflammatory diseases of the gastrointestinal tract and the liver, as well as in cystic fibrosis. It is also elevated in pancreatic cancer and other cancers of the digestive tract.

4. **CA 125:** Slight to moderate elevations have been reported in individuals with non-malignant conditions such as hepatitis, endometriosis, first trimester pregnancy, ovarian cysts, and pelvic inflammatory disease. Besides ovarian cancer, it is also elevated in non-ovarian malignancies which include cervical, liver, pancreatic, lung, colon, stomach, biliary tract, uterine, fallopian tube, breast, and endometrial carcinomas. Elevations during the menstrual cycle have also been reported.
5. **CA 72-4:** Elevated serum values can be found in benign illnesses, gynaecological illness, and benign diseases of the ovaries, ovarian cysts, breast, and gastrointestinal tract.
6. **AFP:** As the AFP values rise during regeneration of the liver, moderately elevated values are found in alcohol-mediated liver cirrhosis and acute viral hepatitis, as well as in carriers of HBsAg (Hepatitis B surface antigen).
7. **PAP:** An inflammation or trauma of the prostate (e.g. in cases of urinary retention, or following rectal examination, cystoscopy, colonoscopy, transurethral biopsy, laser treatment, or ergometry) can lead to PAP elevations of varying duration and magnitude. Benign hypertrophy of the prostate is frequently involved. The free PSA dosage helps to clear the matter, with the evaluation of FPSA/ PSA quotient.
8. **Free PSA:** In patients receiving therapy, particularly hormone withdrawal therapy, the FPSA/PSA quotient cannot be utilised to differentiate prostate hyperplasia from cancer of the prostate.
9. **B2M:** Rheumatic arthritis, lupus, Crohn’s disease, myeloma, chronic lymphoid leukaemia, and renal failure can increase results.
10. **β-HCG:** Elevated HCG concentrations not associated with pregnancy are found in patients with tumours of the germ cells, ovaries, bladder, pancreas, stomach, lungs, and liver.
11. **NSE:** NSE concentrations (> 12 ng/ml) have been found in patients with benign pulmonary diseases and cerebral diseases. Moderate elevations are reported in cerebrovascular meningitis, disseminated encephalitis, spinocerebellar degeneration, cerebral ischemia and infarction,

intracerebral hematoma, head injuries, inflammatory brain diseases, organic epilepsy, schizophrenia, and Jakob - Creutzfeld disease.

12. **CYFRA:** Slightly elevated values (upto 10 ng/ml) are rarely found in marked benign liver diseases and renal failure.
13. **Other blood tests:** When cancer is in the blood cells themselves, tests of the blood and the blood forming organs may be all that is needed to make the diagnosis. Bone marrow analysis will diagnose multiple myeloma, which is basically a malignancy of plasma cells in the marrow.

Tests of Fluids and Stools

1. **Urinalysis:** The presence of protein and sugar might indicate kidney disease. An increased amount of white blood cells indicate an infection and red blood cells indicate bleeding because of tumour or from some other cause.
2. **Stool analysis:** In presence of occult blood in stools, one must rule out a benign or premalignant tumour or a hidden cancer in the colon.
3. **A physical or X-ray examination:** It may reveal the presence of fluid in the chest cavity, abdomen, or joints. A needle can be inserted into these areas and the fluid may be drawn out for examination.
4. **A lumbar puncture:** It is also known as a spinal tap can identify any infection, inflammation, or cancer.

Imaging Techniques

These imaging studies may show a tumour in a specific organ, and will help to assess its size and whether it has involved the surrounding tissues.

1. **X-ray:** X Ray is a common diagnostic procedure that utilises high energy beams of radiation to create shadows on the film. These radiations are blocked by the hard, dense tissues like bones that appear white on the film, softer tissue like muscle and fat appear in shades of gray, and the air in the lungs looks black. Contrast agents like barium or iodine aid in getting a clearer image. X-rays are widely used because the technique is easy, fairly inexpensive and painless. However, this imaging technique should be used only when necessary due to the

dangers of radiation exposure which can be a cause of cancer, it is important that all unnecessary exposure to radioactive waves should be prevented.

2. **Ultrasound**: Ultrasound, or sonography uses the echoes of high frequency sound waves to develop ultrasound images of the internal organs. It is a non-invasive, harmless, and painless imaging technique and thus the safest and effective diagnostic methods for many cancers. Ultrasound is helpful to distinguish cysts from solid breast tumours. Ultrasound is helpful to detect structural differences in examined tissue like breast, ovaries, heart, liver, bladder, testes, and to examine the neck for tumours of the thyroid and parathyroid gland, benign cyst in the ovaries, etc. Endoscopic ultrasound is used to detect the stage of rectal and oesophageal cancers. Since the sound waves cannot break through gas filled spaces, therefore, it is not effective for brain, lung, or intestinal tumours. It also cannot penetrate bone; however, can provide access to soft tissues that don't show up clearly with a conventional x-ray.
3. **Magnetic Resonance Imaging (MRI):** It is an imaging technique used to get high quality images of internal structures, but instead of X-rays, this utilises high power magnetic fields, radio waves. Like CT, this also gives two-dimensional image and is especially useful when dealing with areas that are difficult to view with a typical X-ray or CT scan, such as the brain or joints. It gives the image of structures inside the bones, so MRI images of brain and the spine by the MRI are preferred over CT scan. Also, the calcifications are not detected by MRI so some precancerous and cancerous growths may be missed. However, MRI has to be performed with caution since high power magnets are involved in this procedure that may affect implanted metallic devices like pace maker.
4. **Computerised Tomography (CT Scan):** CT scans are a critical part of most diagnostic (and staging) workups and help establish the presence, size, and location of tumour tissue. It uses a combination of X-rays and a computer to create pictures of the internal body structures and other tissues. It shows more details than a regular X-ray. A contrast agent often aids in getting a clear picture of the internal organs. The scanner circles around the body part providing a series of images from many different angles that are used to create a cross-sectional picture by the computer. CT involves a higher exposure to radiation - 110 millirems

for a CT scan of the head and body (X-ray of the chest delivers 6 mrem).

5. **Angiography:** It is sometimes used to diagnose and precisely locate tumours in the pancreas, liver, and brain, especially when surgery is considered. Angiography is also used in some chemotherapy treatments, when a small catheter is placed in an artery to deliver anti-cancer drugs to the tumour.
6. **Positron Emission Tomography (PET)**: This is a non-invasive nuclear medicine imaging technique that measures important the blood flow, oxygen utilisation, and glucose metabolism. The imaging agent, radioactive tracer F-18 fluorodeoxyglucose (FDG) is injected and the tissues with high glucose uptake (areas of growing tissues) are easily visualised in the PET scan. This is due to the difference in the metabolic activity of tumours and the normal tissue. Thus, the living cancer and the dead cancer tissue or blood clots or scar tissue are differentiated. PET is an accurate way to detect cancer invasion and help to detect stages of cancer. A more detailed and complete information about the suspicious areas is obtained through PET scans combined with CT scans.
7. **Nuclear Scan:** Radioactive isotopes that emit gamma rays can produce an image on photographic film or on a scintillation detector. Some of these isotopes, generally given by injection are organ specific, which means that they can concentrate in that part of the body which is suspected of harbouring cancer.

Endoscopy

Sometimes images are not enough; direct visualisation is necessary not only for diagnosis, but also as an aid in treatment.

1. **Flexible scope:** These scopes use bundle of glass fibres that can bend around the corners and form perfect pictures of the tissues at their far ends. Cell samples and photographs can be taken with the aid of this scope. Diagnosis of lung cancer can often be made by this method alone, without restoring to the surgical procedures. With a flexible gastroscope or colonoscope, the entire stomach or the colon can be clearly seen and pieces of the tissue can be collected.
2. **Endoscopic Retrograde Cholangio-pancreatography (ERCP):** In this

procedure, a flexible fibre-optic telescope is passed through the oesophagus, into the stomach, visualise the opening of the ducts draining the bile from the liver and insert the tube into ducts through the stomach either to provide drainage or to take pictures showing the exact location of tumours in the bile ducts and details of involvement.

Cytological Studies

It means examination of the cellular material removed from the body. The cells might be removed by natural means such as coughing up sputum. They might also be removed by washing a body cavity like abdominal cavity with a salt solution after abdominal surgery, e.g. by scraping the surface of an organ or a suspected cancer. The best known cytology test is the PAP smear in which the cervix is scraped and brushed to remove cells for analysis that can be abnormal or cancerous. In the same way the tongue, the oesophagus, the stomach, or the lung air passages can be easily scraped using a small brush. Fine needle biopsy is another type of cytology test. It is used primarily to find out if a lump (for e.g. in the breast, thyroid, lung, lymph node) is benign or malignant. Tumour tests are:

1. **Special stains:** It is a procedure of staining the cancer tissues. These stains are often of great help in determining the type of cancer when there is some uncertainty. They also provide helpful information about prognosis and treatment, e.g. hormone receptor analysis in breast cancer, HER-2/neu (c-erb-2), various cytokeratins, etc.
2. **Flow cytometery:** This technique analyzes a tumour's DNA content to find out whether the cancer cells contain the normal number of chromosomes (diploid) or an abnormal amount (aneuploid). Aneuploid tumours tend to be poorly differentiated and aggressive.
3. **S-phase testing:** This technique measures how fast the tumour cell is growing. In the S-phase of the cell's growth cycle, new DNA is synthesised to prepare for the division of one cell into two. A tumour that is growing slowly may have less than 7 percent of cells in the S-phase. A more rapidly growing tumour has 8 percent or more. Tumours with higher rates of growth have a poor prognosis and may need more aggressive treatment.

Biopsies

Ultimately the diagnosis of cancer depends on examining a small bit of tissue to see if it has characteristic patterns and cell types that define cancer. The definite way to diagnose a suspicious area may be by cytology, by core biopsy, or by performing a surgical biopsy. The 'National Cancer Institute Textbook Informed Decisions' states that "biopsy is preferred to establish, or rule out diagnosis of cancer." This confirmation provides conclusive evidence needed to avoid misdiagnosis. Testing of cancerous tissue samples can also provide valuable information regarding type, grade, and stage, which will help determine the most effective treatment plan. There are two types:

1. **An incisional biopsy:** Involves cutting and taking out a sample into the portion of the tumour, then stitching the area closed.
2. **An excisional biopsy:** Involves removing the entire tumour. The excisional biopsy is often done with small tumours that are easily accessible and relatively small, such as those involving skin, mouth, nasal cavity, lymph nodes and woman's reproductive system.

The type of biopsy performed depends on the location and size of the suspected tumour and the amount of tissue needed for an accurate diagnosis. Biopsies are often done during the surgery that may be needed to expose the tumour. Tissue samples are taken not only from the apparent site of the tumour but also from the lymph nodes or other tissues in the neighbourhood. This will help measure the tumour's potential or actual spread. This defines the stage of cancer, so the staging process may be carried out at the same time as the diagnostic process. Depending on the requirement, this procedure can be done in a physician's clinic, an outpatient surgical facility using local anaesthesia or a hospital using general anaesthesia. Depending on the location and the amount of tissue taken, a biopsy can have few complications or can be associated with discomfort, pain, bleeding, and infection or scarring.

Needle biopsies are commonly done to obtain tissue samples, or cells or fluids; the types of needle biopsy are:

1. **Core needle biopsy:** It may be used to collect a slender piece of tissue from an area suspected to be malignant. It is not advisable in vital structures or areas like over the collarbone as there is a risk of

complications such as bleeding or nerve damage.

2. **Fine needle biopsy:** It is used for the same purpose but a much thinner needle is used. Needle biopsies of the internal deep-seated areas are often done in the X-ray department where the X-ray machine or the CT scanner can accurately show the needle's condition. Tumours in the lung, liver, and pancreas can be diagnosed by a needle biopsy. But the amount of tissue obtained through a needle is not usually enough to accurately diagnose cancers of the lymph glands.

Bone Marrow Examination

Bone marrow is analyzed to diagnose blood or bone marrow cancers and to find out if the malignancy from somewhere else has spread to the bone marrow. Needle is inserted into either the breast bone or pelvic bone, both of which are just under the skin and is easily entered. A small amount of liquid bone marrow is drawn into a syringe, placed on the slides, and examined under the microscope for evidence of leukaemia, lymphoma, or any other cancer cells. Bone marrow biopsies are helpful in staging and immune-cytochemistry to detect micro-metastasis. One third of the women with breast cancer with negative lymph nodes had micro-metastasis. This ultrasensitive test is an independent prognostic predictor for relapse or death.

A bone marrow biopsy may be done to diagnose primary and cancerous tumours, to evaluate the stages of cancer such as Hodgkin's disease and to evaluate the effectiveness of chemotherapy and other treatments.

Bone marrow examinations are also done to discover how well the bone marrow could produce new blood cells after vigorous chemotherapy, which demands extra work of bone marrow.

Surgery

Exploratory surgery is performed to get the information about the state of internal tissues and organs. Based on the findings, tissue samples are taken from the lymph nodes, tumours or organ tissue may be removed. However, the visual inspection of the tissue does not confirm cancer, therefore microscopic analysis is done afterwards and also, the surgery usually requires a hospital stay and a recovery time. Surgical diagnosis enables the surgical

staging as well, with inputs from the surgeon's visual and other findings to determine the overall stage of the cancer.

Can Dogs help us to Diagnose Cancer

For years, dogs have been trained to assist people who are impaired physically or visually. They can sniff out bombs, drugs, and victims of disaster. Is it possible then, that your faithful pooch can detect cancer? According to researchers at the Pine Street Foundation in San Anselmo, California, the answer is a resounding 'yes'. Their pilot study, featured in the journal Integrative Cancer Therapies, demonstrated that five ordinary household dogs could be trained to detect cancer by smelling exhaled breath samples. The dogs were trained in a matter of weeks. If they detected cancer, they were to stay in front of the sample. If they did not detect cancer, they were to ignore the sample. The researchers found that overall sensitivity of dog detection compared to biopsy-confirmed conventional diagnosis was an amazing 99 percent for lung cancer and 88 percent for breast cancer. These diagnostic results are comparable to chest X-ray for lung cancer and mammography for breast cancer. The researchers speculate that the dogs could have been responding to odours caused by cancer symptoms such as inflammation, infection, or necrosis (tissue death) rather than the cancer itself. This was a blind study, meaning that the dog handlers and experimental observers did not know which breath samples were from diagnosed cancer patients and which were from the control group, i.e. people who did not have cancer. In addition, the dogs did not have any previous encounters with the participants who gave the samples. Previous studies have confirmed that there are distinguishable biochemical patterns in exhaled breath. Unfortunately, we have yet to develop a technology that can use these patterns for accurate diagnosis; in the meanwhile, perhaps our canine companions can be trained to provide an effective and low-cost method of early cancer detection.

Early Diagnosis and Increased Survival Rate

The earlier the cancer is detected the better it is for success for any modality of treatment, e.g. homoeopathy, ayurveda, allopathy, naturopathy. One of the biggest advantages of homoeopathy over modern medicine is early detection

(by identifying fundamental miasms and diathesis of patients). Here the physician should have a good knowledge of screening patients where cancer is suspected (this is quite different than the diagnostic tests used in hospitals to confirm cancer).

Indian cancer society has beautifully given guidelines for lay man as well as physicians for early screening. Diagnostic tests are basically useful to find the cause after developing symptoms suggestive of cancer.

Warning Symptoms of Cancer

Self-examination of the organs by the patient can be very important for early detection of cancer. The biggest obstacle today is the fear of the results of screening and detection tests and the mere thought of tests being positive can totally paralyse the patient and disrupt the quality of life. Hence the best suggestion is to neither avoid, nor to over use detection test, along with a vigilant mind.

Since cancer is more likely to be cured if treated in initial stages, therefore, early diagnosis is of utmost importance. The warning symptoms should be carefully identified and further workup should be planned accordingly. The presence of warning symptoms however, does not ascertain their cause to be malignant, but they demand a high degree of vigilance to rule out malignancy. There are some vague warning symptoms that arise suspicion of malignancy somewhere in the body, while some symptoms are specific to malignant changes in certain specific locations. A few such warning symptoms are:

Cancer Warning Symptoms

C: Change in bowel or bladder habits

A: A sore that does not heal

U: Unusual bleeding or discharge

T: Thickening or lump in the breast or elsewhere

I: Indigestion or difficulty in swallowing

O: Obvious change in a wart or mole

N: Nagging cough or hoarseness

1. **A change in bowel or bladder habits:** Ongoing dysuria constipation, chronic diarrhoea, abdominal pains, rectal or urinary bleeding or melaena—these symptoms should be regarded as signs to seek professional help.
2. **A sore that does not heal:** Sores that do not heal may also be indicative of melanoma. A persistent sore throat or hoarseness, a persistent lump in the throat or dysphagia may indicate cancer of the pharynx, larynx, or oesophagus.
3. **Unusual bleeding or discharge:** Unusual bleeding or vaginal discharge may be the initial presentation of early stages of uterine endometrial cancer, later stages of cervical cancer, and some ovarian cancers. In the case of cervical cancer, Pap tests can detect problems before the later stage causes bleeding.
4. **A lump or thickening:** Self-examination of the breast and testicles offers the best protection against breast and testicular cancer. A lump or thickening in the breast or any noticeable change in the testicles is an early warning sign.
5. **Constant indigestion or dysphagia:** Symptoms like dysphagia or continued indigestion, nausea, heartburn, bloating, loss of appetite, or bowel changes may be due to colon cancer or cancer of the stomach or oesophagus. Unexplained weight loss is another ominous sign.
6. **A change in a wart or mole:** It may be indicative of melanoma or squamous cell carcinoma. Skin cancers may appear as dry, scaly patches, as pimples that never go away or as inflamed or ulcerated areas. Warts or moles that grow or bleed and persistent mouth sores should be checked.
7. **A persistent cough or haemoptysis:** Chronic coughs especially in smokers, should be checked. If there is a tumour in the air passages that lead into the lungs, they may be partially obstructed or irritated or even bleed. Coughing may be a sign of this obstruction or irritation.
8. **Chronic fatigue:** Subjective feeling of chronic fatigue usually accompanies a rapidly progressing malignant disease. Fatigue along with decreased appetite and night sweats is particularly concerning and necessitates prompt evaluation.

Screening Tests for Cancer

Table 3.7: Indian Cancer Society screening guidelines for the early detection of cancer in average risk asymptomatic people

Cancer Site: Breast. **Population: Women, age 30+**	
Test or Procedure	**Frequency**
Clinical breast examination (CBE)	For women in their early 30's, it is recommended that clinical breast examination (CBE) should be part of a periodic health examination, preferably at least every three years. Asymptomatic women aged 40 and over should continue to receive a clinical breast examination as part of a periodic health examination.
Breast Thermography – Mammography	Preferably annually.
Breast MRI	It is used as screening test in high risk women, especially with dense breast tissue.
Cancer Site: Colorectal **Population: Men & Women, age 50+**	
Test or Procedure	**Frequency**
Stool DNA test	Interval uncertain, starting at age 50.
Flexible sigmoidoscopy A flexible viewing tube allows visualisation of the least part of the colon, without anaesthesia.	Every five years, starting at the age of 50 years.
Faecal occult blood test (FOBT) and flexible sigmoidoscopy Positive	Annual FOBT or faecal immunochemical test (FIT) and flexible sigmoidoscopy every five years, starting at age 50.

results are not diagnostic, but require additional testing.	
Double-contrast barium enema (DCBE).	Every five years, starting at age 50.
Colonoscopy A flexible viewing tube allows visualisation of the entire colon, under light anaesthesia.	Every 10 years, starting at age of 50 years.
CT colonography.	Every five years, starting at the age of 50 years.
Cancer Site: Prostate **Population: Men, Age 50+**	
Test or Procedure	**Frequency**
Digital rectal examination (DRE) and prostate specific antigen test (PSA) Measures a specific protein in the blood released by prostate cells.	Medical social workers should discuss the potential benefits and limitations of prostate cancer and early detection testing with men and offer the PSA blood test and the digital rectal examination annually, beginning at age 50, to men who are at average risk of prostate cancer, and who have a life expectancy of atleast 10 years.
Cancer Site: Endometrial **Population: Women, at menopause**	
Test or Procedure	**Frequency**
Pap test It is a non-invasive test done by gentle scrapings of cervical and vaginal tissue of sexually active females and adult women.	Cervical cancer screening should begin approximately three years after a woman begins having vaginal intercourse, but not later than 21 years of age. Screening should be done every year with conventional Pap tests or every two years using liquid based Pap tests. At or after age 30, women who

	have had three normal test results in a row may get screened every two to three years with cervical cytology (either conventional or liquid-based Pap test) alone or every three years with an HPV DNA test plus cervical cytology. Women 76 years of age and older who have had three or more normal Pap tests and no abnormal Pap tests in the past 10 years and women who have had a total hysterectomy may choose to stop cervical cancer screening. At the time of menopause, women at average risk should be informed about risks and symptoms of endometrial cancer and strongly encouraged to report any unexpected bleeding or spotting to their physicians
Cancer related checkup: Population men and women, age 30+	
On the occasion of a periodic health examination, the cancer related checkup should include examination for cancers of the thyroid, testicles, ovaries, lymph nodes, oral cavity, and skin, as well as health counselling about tobacco, sun exposure, diet and nutrition, risk factors, sexual practices, and environmental and occupational exposures.	

Mammography

It is the radiographic imaging of breast tissue of women. Begin annual mammography at the age of 40 years. Routine mammograms every two years are recommended to begin at the age of 50, unless you have a high risk.

Mammography has long been considered the gold standard of breast cancer screening. When combined with a physical exam, mammography can help detect cancer early. Unfortunately, mammography has the following limitations:

- It exposes the breast tissue to harmful radiation.
- It isn’t sensitive to fast-growing tumours in the pre-invasive stage.
- It is less sensitive for women using hormone replacement therapy.

- It is difficult to interpret findings in large dense or fibrocystic breasts.
- It cannot show areas near the chest wall in most women.
- In addition, mammography does not detect ductal carcinoma in situ (DCIS), which is the most common pre-cancerous abnormality (although it can detect abnormal calcification that may indicate DCIS). Breast thermography is a new technology that provides women and doctors with an alternative or additional screening method. Using infra-red sensors to detect heat and increased blood flow, it yields a computerised image that indicates suspicious areas in red. While the research on breast thermography is still preliminary, the technique is safe and non-invasive and is likely to become an excellent adjunct to mammography.

Some patients present to the physicians during the initial stages of cancer without the symptoms of overt malignant disease process. The screening tests are designed to detect the malignant cells and tumours at various locations of the body, at an early stage when there is larger possibility of medical interventions including surgery. Some cancer screening tests have been found to lower the mortality rate due to certain cancers. For example, for cervical cancer screening, the cervical smear is used to identify the cell morphology through the Pap test and also for human papillomavirus (HPV). HPV is strongly associated with cervical cancer, but it is not conclusive of malignant change. The latest screening tests have very low false positive or false negative results (i.e. high sensitivity and specificity) and the findings are usually supported by further confirmatory tests. But some of the screening tests have low sensitivity, e.g. chest X-ray detects lung cancer of advanced stages. Even with medical advances, some tests may still give false positive or false negative results. E.g. annual mammograms for women below 40 years age is not generally recommended since the natural density of breast tissue in younger age makes the mammograms less accurate, with low specificity and sensitivity resulting in false positives and false negatives. The commonly recommended screening tests continually undergo evaluation for their sensitivity and specificity so that there is more accuracy in screening the patients.

Prognosis of Malignant Tumour

Malignant cells are typically poorly differentiated or immature cells. A

human infant is born with about five trillion cells differentiated into about 100 different cell types, each type having a definite role; e.g., erythrocytes transport the blood gases while leucocytes play a role in immunity. All these differentiated cells have a specific life span (e.g. 120 days for erythrocytes) after which they are destroyed and replaced by newer cells. It is due to this differentiation that the normal cells are unlike the malignant cells. The degree of cellular differentiation in a given sample of tissue helps in ‘grading’ of the cancer; lower the degree of differentiation, lower is the grade, and better the prognosis.

Grading

Tumour grade is determined by the microscopic appearance of the biopsy tissue. It is the description of a tumour based on how abnormal the tumour cells and the tumour tissue look under a microscope, i.e., well-differentiated, undifferentiated, or poorly differentiated. The grade indicates how quickly a tumour is likely to grow and spread, i.e. how aggressive is the cancer. Based on the cell morphology, a numerical grade is assigned to most cancers. The factors used to determine tumour grade can vary between different types of cancer. If a grading system for a tumour type is not specified, the following system is generally used:

GX: Grade cannot be assessed (undetermined grade)

G1: Well differentiated (low grade)

G2: Moderately differentiated (intermediate grade)

G3: Poorly differentiated (high grade)

G4: Undifferentiated (high grade)

Staging

Cancer stage refers to the extent of the malignancy, i.e., size and/ or extent of the original tumour and whether the cancer cells have metastasised in the body. It is based on factors such as the location of the primary tumour, tumour size, regional lymph node involvement, and the number of tumours present. A cancer is always referred to by the stage it was given at diagnosis,

even if it gets worse or spreads.

The primary stages are as follows:

- Stage 0: Carcinoma in situ.
- Stage I: Is the earliest, most curable stage with only local tissue involvement.
- Stage II: Cancer has spread to some surrounding tissues and perhaps to nearby lymph nodes.
- Stage III: Cancer has metastasised to distant lymph nodes.
- Stage IV: Cancer has spread to distant organs or other parts of the body; this stage is the most advanced and difficult to treat.

1. **The TNM Staging System**
   The TNM system is the most widely used cancer staging system. 'T' represents the size and extent of the primary tumour, where T0 means no evidence of primary tumour, and T1-4 are the ascending degrees of increase in primary tumour size and local involvement.
   'N' represents the nearby lymph nodes that have cancer; N0 means nearby lymph nodes are free of tumour, and N1-4 are the ascending degrees of nodal involvement.
   'M' represents the status of metastasis; M0 means metastasis not present, and M1-4 are the ascending degrees of metastatic involvement.
   It helps in selecting the line of treatment; evaluate the prognosis; in research as it provides a sound data base. This staging was developed by UICC (Union Internationale Contre Cancer, Geneva).

2. **American Joint Committee (AJC) Staging:** It divides all tumours into 0 to IV stages under which all tumour components are described. (Table 3.9)

Table 3.8: Cancer Staging for Breast Carcinoma according to the American Joint Committee

TX	Primary tumour cannot be assessed
T0	No evidence of primary tumour
Tis	Carcinoma in situ: Intraductal carcinoma, lobular carcinoma in situ, or Paget's disease of the nipple with no tumour.

T1	Tumour 2 cm or less in greatest dimension
T2	Tumour more than 2 cm but not more than 5 cm in greatest dimension
T3	Tumour more than 5 cm in greatest dimension
T4	Tumour of any size with direct extension to chest wall and screen
NX	Regional lymph nodes cannot be assessed (e.g. previously removed)
N0	No regional lymph node metastasis
N1	Metastasis to movable ipsilateral axillary lymph node(s)
N2	Metastasis to ipsilateral axillary lymph node(s) fixed to one another or to other structures.
N3	Metastasis to ipsilateral internal mammary lymph node(s)
MX	Presence of distant metastasis cannot be assessed
M0	No distant metastasis
M1	Distant metastasis (includes metastasis to ipsilateral supraclavicular lymph node[s])

The significance of this classification is that treatment depends on the stage of the disease as defined by the TNM system. It is important to know the stage to decide on appropriate therapy. Some stages of cancer are best treated surgically, remaining with radiotherapy and chemotherapy.

Table 3.9: Stage Grouping

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage IIA	T0	N1	M0
	T1	N1	M0
	T2	N0	M0
Stage IIB	T2	N1	M0
	T3	N0	M0
Stage IIIA	T0	N2	M0
	T1	N2	M0
	T2	N2	M0
	T3	N1, N2	M0
Stage IIIB	T4	Any N	M0
	Any T	N3	M0
Stage IV	Any T	Any N	M1

Cancer is a complex disease caused by the uncontrolled proliferation of a single cell that has lost the ability to respond to the negative controls that restrict cell division. With increased longevity, there has been a corresponding increase in cancer incidence. To become a fully malignant tumour, a cell has to overcome many hurdles. These hurdles are overcome by the acquisition of several genetic mutations that:

1. activate a signalling machine,
2. inactivate tumour suppressor genes,
3. overcome cell suicide programs,
4. attain immortality,
5. penetrate blood vessel walls,
6. stimulate the production of blood vessels to provide nutrients.

The genetic mutation that does all of the above can be accelerated by inherited defects in the ability to repair DNA or by tumour promoting agents that stimulates excess cell proliferation. The process of progression to a malignant cancer is now beginning to be understood at the molecular and

genetic level. Research studies focusing on exploiting the understanding of the molecular pathways to cancer can help us to treat and eradicate this disease that has exposed itself along with the increased longevity of human beings.

Immunology and the Prognosis of Cancer

Certain cancers evoke significant lymphocytic infiltrates. These infiltrates are thought to be composed of immuno-competent cells, since in general, these tumours carry a better prognosis than those unassociated with lymphocytic responses.

1. There is a positive and significant correlation between cancer curability and the absolute peripheral blood lymphocyte count.
2. Certain malignancies can occasionally undergo spontaneous regression. The types most commonly regressing in order of frequency are adenocarcinoma of the kidney, neuroblastoma of the bladder and soft tissues and bone sarcomas. These make up 70% of recorded, verifiable cases.
3. Regression of metastasis has been reported following removal of the primary tumour. The host could possibly deal immunologically with metastatic tumour residue with reduction of the tumour dose once the bulk of the tumour had been removed, whereas a massive primary tumour might either exhaust or overcome the body’s capacity to reject it.

Immunotherapy of Cancer

Interferon and Interleukin-2 have been used for the treatment of cancer patients. However, immunotherapy of cancer is still in the early stages of research.

Immune System and Cancer

In a normal, healthy state, the body’s immune system identifies the malignant cells, i.e. those undergoing uncontrolled cell divisions, and targets them. So, ideally, the healthy body does not harbour malignant cells and destroys them before they culminate in overt malignancy. However, the immune system is sometimes invaded by the stronger force of cancer. Earlier, cancer was

considered to be a result of lowered immune function that enabled the cancer to develop and spread. However, it has not been established that weak immunity is the only cause behind malignancies; the aetiology of cancer is a multi-factorial and complex phenomenon. Although the role of healthy immune system in fighting off cancer cannot be underestimated; it is seen that even fulminant malignancies occur in patients with strong immune system. This is because cancer escapes immune system's surveillance by various mechanisms such as producing cytokines that prevents the immune cells from overcoming it; more the cancer gets advanced, more challenging it gets for the immune system to overpower it.

A healthy immune function has a significant role even before, during, and after conventional treatment. One of the weapons of conventional medicine in this fight against cancer is chemotherapy. Chemotherapy destroys and eradicates the bulk of malignant cells, but a few cancer cells escape this attack, which the immune cells scavenge and destroy. Chemotherapy damages some healthy cells as well as it targets the cancer cells, so the immune cells are put in motion from the lymph nodes and even more immune cells are created in the bone marrow to make up for the losses.

The Natural Killer cells identify and destroy the cells damaged due to free radicals and prevent them from turning into malignant ones. When the oxidative damage is constant and NK cells are unable to counter the cellular damage, process of carcinogenesis ensues. Once the malignant disease occurs, the other cells of immune system come into play. Free radicals are generated endogenously by cellular metabolism, by inflammation, stress, illness, and aging and are also exogenous, i.e. present in the environment as pollutants, toxic metals, alcohol, cigarette smoke, radiation, industrial chemicals, and medications. The free radical induced cell damaged can be prevented with antioxidant rich foods such as fresh fruits and vegetables and vitamin and mineral supplements. More antioxidant rich foods have been discussed in next few pages.

T cells have a significant role in immune response and they also modulate the working of rest of the immune system for its optimum functioning. The different T cells are programmed to attack specific antigens. Damaged or malignant cells have antigenic proteins that are recognised by the T cells which bring about cellular destruction. Therefore, the body is unable to fight

the cancer effectively if T cells are low in number or if they do not function actively.

In a research study on women with advanced ovarian cancer, done at the University of Pennsylvania in Philadelphia, it was found that poor survival and low T cell counts had a definite relation; those whose T cells were able to penetrate the tumours had a better five-year survival rate - 38 percent, while those patients whose tumours did not contain T cells had 4.5 percent five-year survival chances. T cell infiltration of tumours enhances the conventional chemotherapy and radiation, and improves the prognosis. Thus, there is scope of research into the development of immune boosting vaccines to enhance patients' T cell response. The suppressor T cells maintain immune system balance by suppressing the activation of the immune system and autoimmunity. Malignant tissues secrete chemicals stimulating the regulatory T cells disabling the immune response at the site of the tumour. The cancerous tumours therefore effectively immobilise the immune response against themselves.

Phagocytes are a critical component of our overall immune response to malignant cells. Phagocytes are activated in response to pathogens, inflammation, toxins, and cells that have undergone apoptosis. The activated phagocytes along with natural killer cells produce gamma interferon and tumour necrosis factor (TNF) that are involved in directly killing these aberrant cells.

Enhancing Natural Immunity

As we have discussed that the immune system has a critical role in maintaining health, and preventing and overcoming malignancies, so it is pertinent to have an optimum level of immunity. However, in case of immune system dysfunction, the immunity can be supported by various means to enhance the critical immune mechanisms. The key ways to enhance healthy immune function are: dietary modifications, physical activity, stress reduction, well planned nutritional supplements and avoiding or reducing exposure to pathogens and other environmental toxins.

There has been a lot of research on implications of exercise on immunity. Moderate physical activity and exercises (walking, biking, hiking, a sport -

golf or tennis, lifting weights, yoga, etc. for 20 to 30 minutes daily) contribute in enhancing the immune activity. Exercise improves the lymphatic circulation and blood flow, and raises the body temperature that help in fighting off the pathogens. However, excessive exercises have shown to be lowering the number of leucocytes which is not what is required for optimum immune function. So, physical activity should be performed in a well planned way, avoiding intense exercises. Therefore, it is always advisable to modify one's lifestyle to include moderate activity helps in improving the immune function.

The link between stress and immune dysfunction in both healthy people and cancer patients has been confirmed in several research studies. External stress factors and depression initiate a cascade of physiological responses that elevate the levels of cortisol hormone, and reduce the activity of cytotoxic T cells, and natural killer cells. The persistent activation of the hypothalamic pituitary adrenal (HPA) axis due to stress response contributes to the development and progression of some types of cancer due to impaired immunity. In addition to lowered NK cell and cytotoxic T cell activity, stress also leads to impaired DNA repair and apoptosis of damaged cells, therefore, it favours cancer growth. Some factors that alter the physiological response to stress and its impact on immunity are: genetic predisposition, psychological, spiritual and emotional state at present and in the past, endocrine function, physical health and lifestyle. When the stress is repetitive, intense, and sustained, the immune system is affected the most. The symptoms of chronic stress response or raised cortisol are: anxiety, mood disturbances, impaired memory, insomnia, daytime fatigue, osteopenia or osteoporosis, hypothyroidism, hypertension, peptic ulcers, irritable bowel syndrome (IBS), etc. The therapeutic interventions to reduce psychological stress by psychological or behavioural approaches are beneficial in the reduction of both the stress associated with cancer and the concomitant stress related immune down regulation and also may retard the development or progression of cancer.

In addition to a healthy diet, consistent physical activity and stress reduction, certain natural supplements like minerals, herbs, etc. can also be immensely helpful for boosting the immunity. These may not have a direct action in preventing or treating cancer, but these do have immune enhancing properties. Most of these enhance the activity of immune cells and prevent

cellular damage by the free radicals due to their antioxidant action. (Table 3.10)

Table 3.10: Immune boosting supplements

Nutrient/Natural Herb	**Immunity Enhancing Action**
Zinc	Has antioxidant and immune stimulatory actions - destruction of cells by NK cells and production of IL-1.
Coenzyme Q10	It increases cellular production of energy and prevents cellular damage.
Curcumin (in turmeric)	It inhibits the production of inflammatory cytokines that stimulate tumour growth.
Flavonoids	They inhibit the enzymes involved in inflammatory response, to reduce inflammation and inhibit tumour growth.
Lycopene (in tomatoes, watermelon, pink grapefruit, papaya, and rosehips)	Low lycopene intake is associated with increased risk of prostate cancer.
Melatonin	Helps prevent bone marrow suppression induced by chemotherapy and radiation. It also reduces inflammation by inhibiting cytokines (IL, TNF alpha).
Omega-3 fatty acids	Increase macrophage function and tumour inhibition.
Plant sterols and sterolins (extracted from fibrous parts of plant based foods)	Immune regulating activity. Increase counts of CD4 T cells. Decrease levels of cortisol.

Mushroom polysaccharides	Stimulate lymphocytes and NK cells to secrete cytokines and interferon, which activate immune mediated cytotoxicity.
Vitamin A	Involved in normal regeneration of mucous membranes damaged by infection. It is required in the development of helper T cells and B cells.
Vitamin C	Powerful antioxidant supports the phagocytic and cytotoxic activity of lymphocytes and NK cells.
Vitamin E	It increases T cell cytotoxic immune reactions. Associated with lower risks of cancer development.
Green tea	Promotes DNA repair and apoptosis. Also has anti-angiogenesis properties. Its polyphenol epigallocatechin gallate (EGCG), regulates inflammatory response.
Garlic	It inhibits carcinogenesis by repairing damaged DNA, may increase tumour cells' antigenicity, and reduces the incidence of all cancers.
Echinacea	It increases production of interferon and TNF alpha.
Astragalus	It protects against reductions in cytopenias induced by chemotherapy.
Probiotics	Restore beneficial intestinal bacterial flora. Improve the immunologic barrier of intestine, by stimulating the antibodies produced in the intestines.

Combinations of several natural immune boosting substances are used in many complementary medicine systems such as Ayurveda, Tibetan medicine and traditional Chinese medicine. In these systems the particular combination to be employed in a particular case is chosen by keeping in view the constitutional and individual characteristics of the patient. The underlying imbalances in the patient's body are identified according to the diagnostic principles of each system of healing and these traditional and natural immune boosters address these issues. Homoeopathy is one such system that highlights the constitution and individual characteristics for the purpose of

healing. Homoeopathic remedies are chosen for a person based upon their totality of symptoms, even if the primary objective is to stimulate their immune system responses.

Factors Reinforcing the Immunity

The immune system is supported by the other physiological responses, body mechanisms and organ systems in the battle against cancer. The inflammatory responses, endocrine function, metabolism and digestion, detoxification, and excretion, all play a significant role in reinforcing the immune system of the body. Therefore, a comprehensive systems approach is required for treating cancer that goes beyond immunity involving all systems in the process. These factors that have a significant impact on the development of cancer have been described below.

Relationship between Cancer and Inflammation

Inflammation and its association with cancer has been a significant arena of study for the cancer researchers. Inflammation, which is the outcome of complex internal responses, involves the immune and endocrine systems, whose coordinated response normally defends the body against a dangerous infection, injury, or illness. Inflammation is the immune system's first response to such offending agents by the series of responses including vasodilatation, facilitating the reach of and activation of the specialised cells and antibodies at the site to resolve the situation. However, vigorous chronic inflammatory response can lead to diseases including malignancies. In majority of chronic inflammations, the immune system goes out of control. The normal immune functioning is impeded by the chronic repeated infections due to the internal turmoil created by the cytokines and other inflammatory proteins. Unlike the normal situations when the immune system is operating smoothly and the inflammatory response occurs at a controlled pace, during emergency, there is increased activity and the hectic pace of the emergency responders can cause discomfort. The hallmarks of inflammation are redness, heat, swelling, and pain. The increased blood flow to the area causes tissues to swell, compressing the nerve endings and resulting in pain. The cytokines, enzymes, interleukins, and prostaglandins released by the inflamed tissue or responding immune cells disrupt the coordinated response. Therefore, the efficient response to an emergency

situation turns into a free for all response.

The link between inflammation and cancer originates as follows.

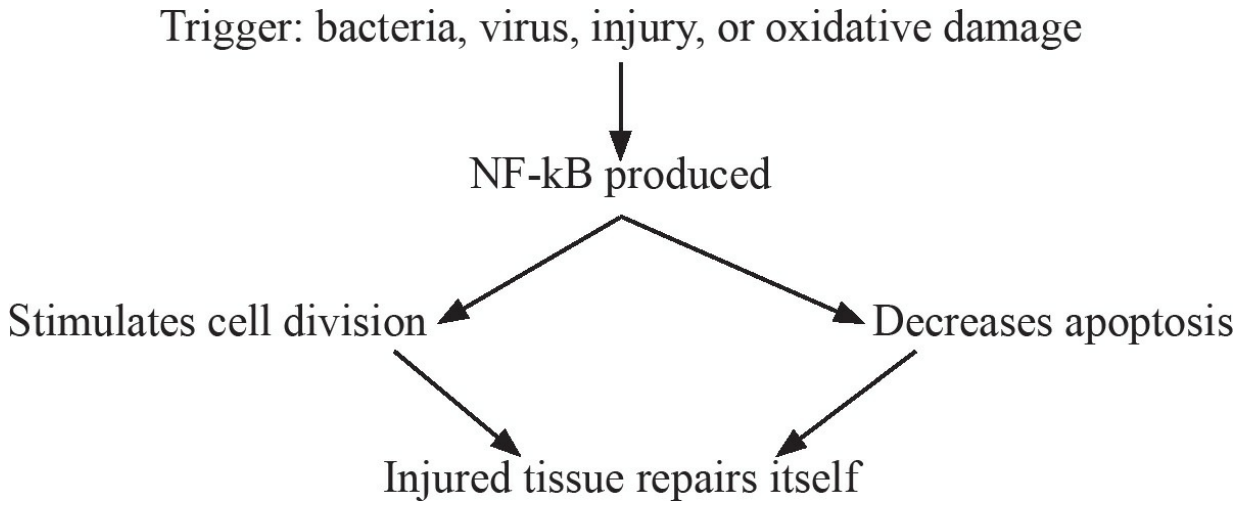


Figure 1: Acute response of Nuclear Factor kappa B

During prolonged inflammatory response, the action of the protein - Nuclear Factor kappa B (NF-kB) extends beyond the acute response (Fig. 1). Prolonged NF-kB activation also occurs due to ageing process. In contrast, to prevent and treat cancer, increased apoptosis and decreased division of cancerous cells should be happening.

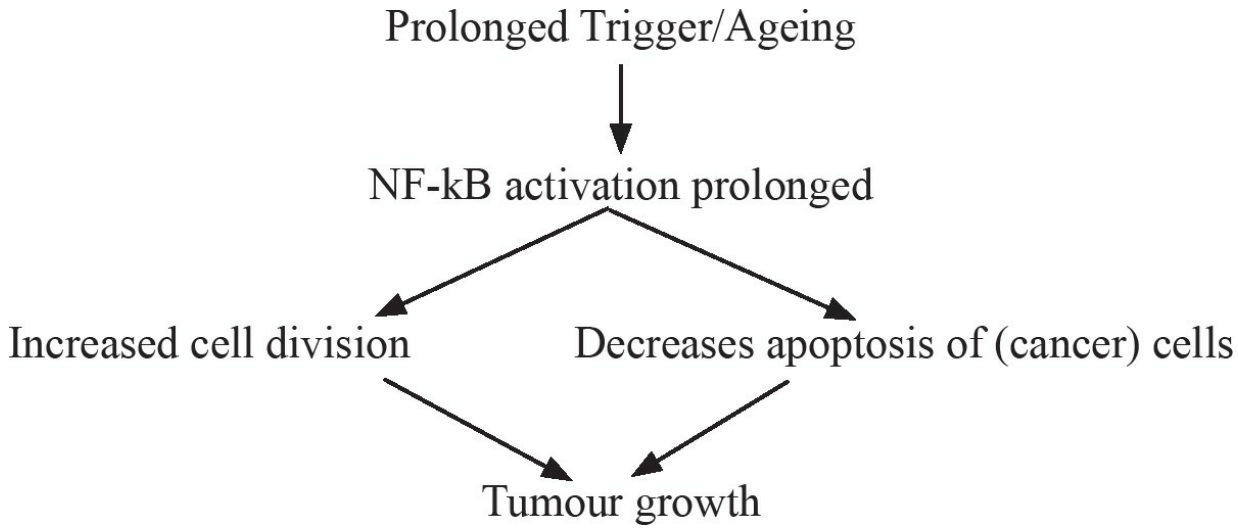


Figure 2: Prolonged activation of Nuclear Factor kappa B

NF-kB activates:

1. COX-2 enzymes: They make prostaglandins (lipid-like hormonal agents) → dilatation of blood vessels, clotting, stimulation of pain receptors, and cellular proliferation.
2. Cytokines (IL-1, IL-6, IL-8).

    a. IL-1:

        i. Activates the growth and function of neutrophils, lymphocytes, and macrophages.

        ii. Involved in inflammation induced fevers.

    b. IL-6:

        i. A lymphokine secreted by many cells (adipose cells, endothelial cells, phagocytes and T cells).

        ii. IL-6 mediates the acute inflammatory response.

        iii. Enhances B cell production and function.

IL-6, IL-1 and COX-2 enzymes are critical for an acute inflammatory reaction. However, their continuous secretion disrupts the checks and balances that control cellular activity and growth. For example, continuously secreted IL-6 stimulates the invasion and migration of breast cancer cells. High blood levels of IL-6 are correlated with shorter survival of women with metastatic breast cancer, patients with leukaemia, kidney cancer, and prostate cancer. In addition to stimulating invasion, IL-6 also stimulates the release of vascular endothelial growth factor (VEGF) which is responsible for angiogenesis to tumours, and tumour growth. So, people with high levels of VEGF have more aggressive cancers. IL-8 is another inflammatory lymphokine that is correlated with increased angiogenesis, increased metastasis and worse survival in breast cancer, colon cancer, gastric cancer, non-Hodgkin's lymphoma, leukaemias, lung cancer, melanoma, ovarian cancer, prostate cancer, and squamous cell head and neck cancers. Unfortunately, one of the characteristics of metastatic cancer is the ability of the cancer cells to produce these inflammatory molecules themselves. Thus, cancer perpetuates the inflammatory milieu, which, in turn, stimulates their continued growth. This is the vicious cycle of inflammation and cancer and this is why naturopathic oncologist Dr Dan Rubin refers to cancer as an 'unhealed wound'.

Efect of Conventional Anti-inflammatory Medications

Allopathic anti-inflammatory drugs for acute inflammation control some of the symptoms effectively. However, when treating chronic inflammation, the side effects of these drugs can outweigh the benefits. Some of the prescription and over the counter medications are: non-steroidal anti-inflammatory drugs (NSAIDs) (ibuprofen, naproxen, and aspirin), and COX-2 inhibitors (celecoxib and rofecoxib). Prolonged use of NSAIDs is associated with severe ulcers and several other side effects. NSAIDs block COX-1 and COX-2 activity and COX-2 inhibitor blocks the activity of the COX-2 enzyme. Thus the production of prostaglandins is impeded.

While this is an effective way to interfere with the inflammatory response, however, when used for long term, adverse effects happen. Prostaglandins also influence the blood flow, digestion and wakefulness, thus, prolonged use of NSAIDs and COX-2 inhibitors creates problems such as ulceration in the digestive tract. Conventional medicine also falls short in effectively managing or even detecting a chronic inflammatory internal environment that has not yet manifested itself in acute symptoms of inflammation. Systemically, inflammation may be percolating under the surface, not yet producing overt symptoms such as muscle swelling or joint pain. But this biochemical environment of inflammation can be a precursor to many illnesses, including cancer.

Antioxidants' Role to Overcome Inflammation

Inflammation is always accompanied by the generation of highly reactive free radicals. Free radicals are results of inflammation and also lead to inflammation by causing direct oxidative damage to cells and tissues.

Free radical induced cellular damage occurs as follows. As we know that the molecules in our cells are made up of atoms that contain circulating negatively charged electrons. Free radicals are unstable molecules and lack electrons for which they make up by reacting with the other molecules. The molecule is thus left damaged and in anticipation of electron replacement. The molecule in turn damages the neighbouring molecule of their electrons and the cycle goes on. This damage amplifies inflammation by increasing the activity of several key enzymes and proteins, such as NF-kB, that are involved in the inflammatory response.

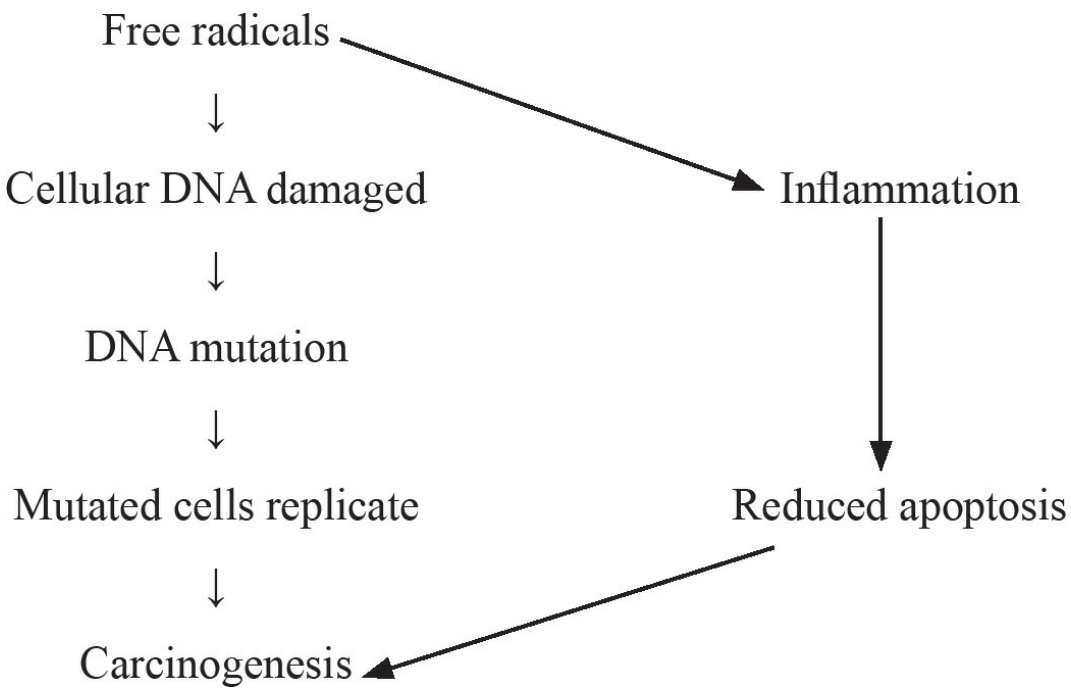


Figure 3: Free Radical Induced Carcinogenesis

According to immunotics, oxidative stress is a condition that occurs when the body has too many free radicals and too few antioxidants. Therefore, in order to prevent and reverse oxidative stress, antioxidants are pertinent to neutralise excess free radicals. Antioxidants, being electron donors, are the compounds that can prevent or reduce oxidative damage caused by free radicals. Therefore, antioxidants are very helpful at breaking the cycle of chronic inflammation and preventing the damage to DNA, cancer and other illnesses. The source of antioxidants is diet or the dietary supplements. It has been evidenced by many research studies that demonstrate key antioxidant supplements that can help in prevention of cancer. Some important antioxidants to reduce chronic inflammation and potential cancer risk are listed in Table 3.11.

Table 3.11: Antioxidants

Antioxidant	**Role**
Alpha-lipoic acid	Enhances the effects of other antioxidants, specifically vitamins C and E
Coenzyme Q10	Beneficial in reducing oxidative stress;

	works synergistically with vitamin E.
Curcumin (compound found in turmeric)	Reduces lipid peroxidation from free radicals.
Epigallocatechin gallate (EGCG): flavonoid found in Green tea	A potent antioxidant; promotes apoptosis of cancer cells.
Folic acid	Involved in DNA repair; especially beneficial for those who consume alcohol.
Garlic	Antioxidant and anti-carcinogenic.
Selenium	Supports antioxidant activity and promotes the body's production of its own antioxidants.
Vitamin C	Protect against oxidative damage.
Vitamin D	Deficiency is associated with chronic inflammatory conditions including cancer.
Vitamin E	Effective in reducing inflammation and preventing cancer development.

Antioxidants along with an anti-inflammatory diet, herbs and nutrients can help prevent and potentially reverse chronic inflammation; homoeopathic constitutional medicines may also be helpful. Conversely, a poor diet can contribute to internal inflammation. Insulin resistance is also a dangerous outcome of chronic inflammation. Increased levels of the inflammatory compounds NF-kB and IL-6 have been linked to insulin resistance, controlling chronic inflammation will help control insulin resistance. The reverse is true as well. Overweight individuals with insulin resistance have higher levels of NF-kB, IL-8 and IL-6. When these individuals lose weight, their NF-kB levels decrease.

Anti-inflammatory Components in Diet

It is quite a well-known fact that fruits and vegetables are a key part of the anti-inflammatory diet. They provide natural sources of the nutrients, and

antioxidants. Results from human epidemiological studies have demonstrated consistently that, because of their anti-inflammatory properties, increased vegetable and fruit consumption protects against cancers of the stomach, oesophagus, lung, endometrium, pancreas and colon. The most beneficial vegetables are carrots, green vegetables, and cruciferous vegetables such as cabbage, broccoli, and cauliflower—all preferably raw. Anthocyanidins from berries are particularly effective at reducing NF-kB levels.

There are several misconceptions regarding the dietary fats and the benefits of a low fat diet are often debated. The type of fat consumed is often more important than the amount, especially in regard to inflammation. ‘Good’ fats help protect against chronic inflammation. Poly-unsaturated and mono-unsaturated fats reduce inflammation, whereas saturated fats and Trans fats promote inflammation.

Arachidonic acid is a polyunsaturated omega-6 fatty acid, however, when consumed excessively, it enhances inflammation by metabolising into harmful leukotrienes and pro-inflammatory prostaglandins. Therefore, by reducing the intake of arachidonic acid, the chronic inflammatory cycle can be minimised. Animal foods like meat, poultry, dairy products, etc. are sources of arachidonic acid.

Trans fats also have damaging effects in terms of inflammation. When these synthetically transformed fats are incorporated into cell membranes, their altered structure interferes with the function of certain anti-inflammatory substances. The essential fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), as well as conjugated linoleic acid (CLA), have direct AMP inflammatory effects and can help manage the inflammatory process. Most of the scientific data on essential fatty acids for inflammation is on EPA, an omega-3 fatty acid. Cold water fish such as mackerel, herring, halibut, and salmon; and shellfish such as shrimp are great dietary sources of EPA and DHA.

There is growing scientific evidence regarding the anti-inflammatory and anti-cancer actions of CLA, which is found in dairy products. However, dairy products also contain the pro-inflammatory arachidonic acid, so these have to be consumed with caution; i.e., reduce consumption of other sources of arachidonic acid, such as meat and poultry when there is regular intake of dairy products.

Table 3.12: Natural Anti-inflammatories

Anti-inflammatory Component	Role
Enzymes (primarily bromelain from Pineapple)	Dietary enzymes that break down proteins not only aid with digestion, they can also help reduce both acute and chronic inflammation.
Ginger	Has anti-inflammatory properties.
Probiotics	Help control inflammation, specifically lowering IL-8 and NF-kB.
Antioxidants	Some antioxidant nutrients also have anti-inflammatory properties (green tea, curcumin, CoQ10, alpha lipoic acid, selenium, and vitamins C, and E.)

Though more clinical research is needed, homoeopathic constitutional medicines have been shown to be beneficial for inflammatory symptoms. *Arnica* is perhaps the most popular anti-inflammatory homoeopathic ingredient; others include *Belladonna, Hypericum, Phytolacca* and *Vipera*. Animal studies using a homoeopathic formula known as Traumeel demonstrated effectiveness against swelling. The researchers concluded that the product did not block the development of swelling but did speed up the healing process.

Cancer and Hormonal Influences

The hormones have a significant impact on the prevention, development and treatment of cancer, therefore, a general overview of the endocrine system is presented here. The endocrine system consists of the ductless glands and the hormones produced by them. The endocrine glands of human body are: the pituitary and pineal gland, thyroid and parathyroid, thymus, pancreas, adrenals, ovaries in females and testes in males. The endocrine system helps in maintaining the body's homeostasis by regulating the functioning of body organs. Cellular metabolism, respiration, reproduction, sexual development,

sugar and mineral homeostasis, lymphocyte development and other immune responses, influence on brain function, heart rate, blood pressure, and digestion are among the functions regulated by the endocrine system. The secretion of the hormones is under the complex feedback mechanism consisting of the nervous system, the chemical receptors in the blood and hormones produced by other glands. The components of endocrine system are so much inter-connected that anything that affects a single gland or a single hormone impacts several, even distant organs and their functioning. There are both internal and external factors that affect the hormone secretion, so, the body is in constant working to maintain the internal homeostasis for optimum functioning of the body.

However, if the hormones and the feedback mechanism do not function synergistically, such an abnormality when occurs over a period of time can influence carcinogenesis. Not only the hormone dependent cancers (CA breast, CA ovary and CA prostate), but also other cancers are affected by this endocrine dysfunction. This is because all the cells have hormone receptors so the malignant cells are affected and the growth of many cancers is influenced. When the circulating hormone molecule attaches with the corresponding cell receptor, this initiates a series of physiological processes in the cell and its nuclear material, and has a particular outcome for the cell. However, when the receptor is stimulated by the hormone for too long or in an abnormal way, the series of processes are amplified beyond the physiological limits and thus results in abnormal, altered cellular behaviour, especially of the malignant cell. The malignant cell may thus begin to divide under the influence of a hormonal stimulus; growth stimulation being one of the key functions of hormones. Further, this also initiates the release of the chemical messengers that aid in providing the resources for cell division by increased blood supply or oxygen, or release of hormones by the cell itself affecting the other adjacent cells as well. This is why, in case of breast cancer, it is important to know the oestrogen receptor status of breast cancer cells. When oestrogen binds to the receptors, the cell is encouraged to grow and divide.

The immune function and the stress response are also controlled by the hormones. However, stress per se does not lead to cancer, stress induced lowered immune function which creates a suitable environment for the malignant cells to thrive and get unresponsive to treatment. Stress induces

cortisol secretion, due to which the immune function is reduced. Deficient immune function leads to inadequate tissue defences and results in tissue damage. This damage further elevates cortisol and the vicious cycle of high cortisol and low immunity goes on. Prolonged immune dysfunction contributes to carcinogenesis.

Another negative impact of the hormones is due to the increased cytokines produced in response to the hormones. The role of cytokines in inflammation, infection and immunity has already been discussed previously. Hormone secretion is intimately connected with cytokine levels. For example, increased growth hormone levels will lead to increased cytokines levels (IL-6 and TNF α) that affect immune surveillance and may hamper cancer treatment. High levels of cytokines are frequently observed in cases of advanced malignancies.

It is thus observed that even though hormones play a key role in maintenance of healthy functioning of the body, but any abnormality in endocrine function can play havoc to the body as well. Nature has provided a mechanism to maintain the hormonal balance in the body through a critical function of detoxification of excess hormones by eliminating them through urine or stool after being metabolised in the liver. Thus the internal milieu is maintained in health inspite of ever changing internal and external environment. One of the external factors affecting this internal milieu is foreign hormonal compounds, e.g., xenoestrogens which are synthetic chemicals exhibiting oestrogenic activity. These foreign oestrogens like chemicals are identified and eliminated from the body by the usual hormone detoxification pathways. However, when too many oestrogens overwhelm the detoxification system, these oestrogens then circulate in the body, and may attach with the cell receptors before being eliminated. If many of these oestrogenic compounds attach with oestrogen receptors on breast cancer cells, growth of the cancer is stimulated. Therefore, one potential trigger of cancer is the dangerous combination of too many oestrogenic hormones and a sluggish hormonal detoxification system that can be due to genetic, lifestyle, or environmental influences.

Thus, the link between hormones and cancer is clear and this connection is deeper and more significant than previously thought. The most direct connection occurs in hormone dependent cancers such as breast, ovarian,

prostate, and some cases of lung cancer. Clinical trials have shown that prescription hormones can increase women's risk of developing breast and endometrial cancer, further illustrating the power that hormones can have. Therefore, for comprehensive treatment of hormone dependent cancers, correcting the hormonal imbalance is of utmost importance.

As it is seen above that the endocrine function is affected by various external and internal factors, a few noteworthy points have been mentioned below.

Phytoestrogens are naturally occurring compounds present in a wide variety of plants, including some foods. However, it should be noted that though these phytoestrogens help in reducing the symptoms of oestrogen deficiency or menopause, but they also have a negative impact in those people with a previous history, or family history, or existing diagnosis of an oestrogen dependent cancer. These people should avoid high intake of herbs and foods containing phytoestrogens (such as alfalfa, red clover, and soy), or in concentrated form as standardised extracts. It is well known that soy products (tofu, tempeh, soy milk or miso) are rich in phytoestrogens which are its isoflavones, namely, genistein and daidzein; however, the information regarding soy and cancer is not definitive. These compounds bind to and stimulate oestrogen receptors. Therefore, regular consumption of soy foods by those with oestrogen dependent cancers or at high risk for those cancers may cause increased proliferation of those tumours. Therefore, soy isoflavones or any other concentrated phytoestrogen extracts should be consumed with caution.

Some pesticides and herbicides contain strongly oestrogenic compounds, so exposure to such chemicals should be avoided by encouraging organic foods. Similarly, the organic meat and dairy products that are guaranteed to be hormone free should be chosen. Organic food is also free of antibiotics and other chemicals which can overwhelm the detoxification system.

There are trace minerals and vitamins in green leafy vegetables and fruits that facilitate the health and function of endocrine glands. For instance, vegetables and grains as well as lean meat are excellent sources of selenium, which is necessary to activate the thyroid hormone. Kale, collards, okra, and chard are examples of vegetables rich in minerals.

There are some factors that can aggravate the symptoms of oestrogen

deficiency in women and testosterone deficiency in men, these are: excessive caffeine, spicy foods, lack of sleep, and alcohol. Presumably, these irritants and various stimulants alter the tone of blood vessels, thereby altering blood flow and contributing to hot flashes.

Beyond a comprehensive multivitamin, mineral dietary supplement, the following nutrients and herbs have demonstrated positive effects on hormonal balance and symptoms of hormonal imbalances:

1. Antioxidants (vitamins C and E) reduce the oxidative stress and also the inflammatory triggers for excessive secretion of certain hormones (cortisol, insulin, growth factor).
2. Flavonoids (hesperidin from the inner rind of citrus fruits) strengthen capillary integrity and help reduce hot flashes associated with oestrogen deficiency.
3. Phlorotannin polyphenols found in the brown algae, Eklonia cava (Seanol) are the most potent, longest acting, most highly bioavailable, lipohilic antioxidants now known. They possess powerful, anticarcinogenic, antitumorigenic, antihistaminic, cardioprotective and neuroprotective properties, and have been shown to reduce the risks and symptoms of skin cancers, heart attacks, strokes, Alzheimer's dementia, and Parkinsonism.
4. Calcium D-glucarate and indole-3-carbinol (I3C) as found in cruciferous vegetables or as supplemental 3, 3 ’-di-indolylmethane (DIM) play a role in metabolising and thus detoxifying hormones.
5. Chaste berry extract (Vitexagnur) is inhibits prolactin secretion from the pituitary gland, which lessens menopausal symptoms.
6. Melatonin hormone when taken as a supplement has been shown to reduce oestrogen influence by decreasing the synthesis of oestrogen by the ovaries, blocking oestrogen receptors, and inhibiting the aromatase enzyme.
7. Mushrooms are natural aromatase inhibitors. Aromatase converts adrenal steroid hormones in fat and tumour tissue into oestrogen or testosterone.
8. Probiotics aid in hormonal balance as they stimulate excess hormones break down and conjugation in the liver to be secreted into the intestines for elimination. An intestinal overgrowth of certain bacteria, such as *Bacteroides, Klebsiella* and *Proteus* seen, for instance, in meat eaters,

can deconjugate hormones, such as oestrogen. The free oestrogens are then reabsorbed into the blood. Beneficial bacteria such as *Lactobacillus* spp. and *Bifido bacterium* spp. can restore optimal bacterial balance and decrease the deconjugation of oestrogen in the intestines.

Apart from the dietary factors, hormonal balance can also be maintained with the mind and body connection. Exercise, stress reduction, and homoeopathy have all been shown to help maintain hormonal balance. Exercise can help maintain a healthy weight and since being overweight can lead to excessive production of oestrogen. Exercising also reduces the stress hormones like cortisol and releases endorphins that enhance self-image and elevates mood. Consistent physical activity also encourages proper digestion and elimination, which supports liver detoxification of hormones. Other relaxation and stress reduction techniques such as meditation, reading, or walking calm the mind and the body helping reduce levels of norepinephrine, thus reducing the release of cortisol by the adrenal glands. Homoeopathy since last 200 years has been shown to alleviate symptoms of oestrogen deficiency, testosterone deficiency, elevated cortisol levels, and ovarian and thyroid disorders.

Hormonal Cancer Treatments in Conventional Medicine

In conventional medicine, supplemental hormones are used as Hormone replacement therapy (HRT) and also the hormonal treatment of cancer; however, there is a wide difference between the two and both these should not be confused. *Hormone Replacement Therapy*, or HRT, is a widely used treatment for menopausal symptoms, in which the hormones that the body ceases to produce during the menopause are replaced with synthetic hormonal preparations. *Hormone therapy* for cancer, is a systemic therapy that uses medicines to block or lower the amount of hormones in the body (like oestrogen, progesterone, testosterone, or androgens) to slow down or stop the growth of cancer. It is based on the fact that the hormone binds with the receptors on the surface of malignant cells, stimulating them to divide and grow. This therapy is thus recommended for patients with hormone receptor-positive (ER+ i.e. for oestrogen, and/or PR+ i.e. for progesterone) breast cancers, and it does not help the patients whose tumours are hormone receptor-negative (ER- and PR-). In some cases, this reduction in the level of hormones may be brought about by surgical removal of the gland producing

the hormone. Hormone therapy is usually given with an aim to reduce the chances of recurrence after surgical removal of malignant tumour. The cancers that respond to this therapy are the hormone dependent cancers: CA breast, CA ovaries, CA endometrium, and CA prostate. Hormone therapy for cancer is usually given as part of a multimodality treatment after chemotherapy, radiation, or surgery. Unfortunately, most advanced hormone sensitive cancers eventually become resistant to hormone treatment. It is therefore recommended that women should not take tamoxifen for more than five years; since it typically no longer remains effective.

Table 3.13 : Hormonal Therapy Drugs for ER+ Cancer Treatment

Hormone Therapy Medication	Action	Drug Names	Risks or Adverse Effects
Anti-oestrogens or Selective Oestrogen Receptor Modulators (SERMs)	Block oestrogen receptors, preventing oestrogen from entering the cell and stimulating growth.	Tamoxifen: Recommended to pre-menopausal women with a history of early stage breast cancer in order to reduce the risk of recurrence. Tamoxifen reduces the risk of recurrence of invasive breast cancer by 50-90%	• Increased risk of fractures of the hip, forearm, and spine (osteoporosis from oestrogen deficiency). • No effect on the rate of heart disease. • Increased incidence of uterine and endometrial cancer, stroke, cataracts, and blood clots. • Symptoms similar to menopause - decreased libido, vaginal dryness, hot flashes, leg cramps, urinary tract infections and incontinence.
		Raloxifene	It has generally fewer side effects. Muscle cramps, vaginal dryness, and weight gain.
Aromatase inhibitors	Reduce the body's production of oestrogen produced in the fat cells of post-menopausal women.	Anastrozole, Exemestane, Letrozole. They cannot block ovarian oestrogen production, therefore, not as effective in pre-menopausal women with functioning ovaries	• Reduced incidence of hot flashes, strokes, and vaginal bleeding or discharge; lowest risk for endometrial cancer. • Musculoskeletal disorders and fractures (other than hip fractures). • Fatigue and dizziness. • Ovarian tumours, infertility, and decreased bone mineral density have also been observed
Luteinizing Hormone Releasing Hormone agents (LHRH)	Stimulate pituitary to release LH, which inhibits oestrogen and progesterone (ovaries) and testosterone (testes). Survival after treatment with LHRH drugs is equivalent to survival after removal of a testicle.	Leuprolide for prostate cancer Goserelin for breast and prostate cancer Triptorelin for ovarian and prostate cancer.	• In males: osteoporosis, unfavourable body composition (including breast enlargement), sexual dysfunction, and reduced quality of life. • In females: symptoms similar to menopause - fatigue, hot flashes, night sweats, osteoporosis, mood swings, nausea, and weight gain.
Anti-Androgen Hormone Therapy	bind to androgen receptors and inhibit androgen uptake in androgen sensitive prostate cancer cells	bicalutamide and flutamide	• Heart attacks and high blood pressures, aggravate asthma, and contribute to osteoporosis. • Hot flashes, nausea, dizziness, constipation, and pain

As seen in the table 3.13, hormone cancer treatments have adverse effects inspite of being useful in certain patients. The side effects and the utility of such treatments should therefore be carefully weighed and applied. Complementary therapies like homoeopathy can help manage some of the adverse effects of hormone therapy and therefore can be an important part of this treatment. Though certain supplements also have powerful effects on the endocrine system, they have not been studied well, so currently they cannot take the place of conventional hormone therapy for cancer.

The endocrine system embodies both strength and vulnerability. It controls the growth and development of the human body and when balanced, its activity can positively impact health in powerful ways. Yet it is susceptible to imbalance and the results of that imbalance are so profound as to potentially be a form of physiological chaos.

Glucose, Insulin and Cancer

Indians are known to consume huge amount of sugar in their daily diet e.g. sugar in food, sweetmeats, beverages like tea, and snacks, etc. On an average an adult Indian consumes about 80 kilograms of sugar in a year, if he follows an Indian standard diet. Sugar consumption has increased dramatically since the introduction of aerated water, breads, cream biscuits, and different brands of chocolate especially in the last 50 years. High sugar consumption has been linked to obesity and many illnesses, including cancer. In addition to the strong link between obesity and cancer, a growing body of evidence makes a link between diabetes and cancer, as well.

According to public health researchers, impaired glucose tolerance or insulin resistance is an independent predictor for cancer mortality. People with insulin resistance are four times more likely to die from colon cancer and nearly twice as likely to die from any other type of cancer. In a large study of post-menopausal non-diabetic women, breast cancer incidence rates were threefold greater among those with the highest fasting insulin levels compared with the lowest fasting insulin level. Breast cancer and other oestrogen receptor positive cancers are particularly susceptible to the growth influence of insulin because insulin and oestradiol act in concert to promote cell cycle progression.

Insulin resistance has been linked to the incidence and progression of several cancers, which has led many to examine the role of sugar in cancer development. With all these research findings pointing towards the connection between insulin resistance and malignancy, let us first have a glance over normal carbohydrate metabolism and further attempt to establish the role of insulin in carcinogenesis. Carbohydrates are of two types: simple carbohydrates (having a single or two sugar molecules) e.g. refined sugar, and complex carbohydrates (complex chains of sugar molecules), e.g. starch and fibre found in most plant foods, especially grains, legumes, and

vegetables. The simple carbohydrates, which are included in the diet of millions of Indians in their kitchen or dining table; show up in the form of sweetmeats, table sugar, sugar in sodas, and other snacks. The complex carbohydrates are broken down in the body into glucose molecules that are utilised for energy; however, these complex carbohydrates in their natural form do not breakdown rapidly, thus they are a slow and steady source of energy which is good for the body. But the refined complex carbohydrates get devoid of the fibre and other essential nutrients as they undergo milling and other processes and as a result, they behave much more like simple carbohydrates.

As a result of normal blood glucose metabolism, the body is better able to protect healthy cells and kill malignant cells. Conversely, erratic blood sugar levels and insulin resistance can contribute to cancer growth and development and may even interfere with successful cancer treatment.

Glucose is the primary source of energy for all the cells and tissues in the body: the heart, muscles, immune system, nervous system, etc. Insulin which regulates the blood glucose levels is therefore critical for the normal physiological functioning of the body. How much glucose is released in the blood depends on several factors including the type and quantity of food consumed, state of starvation, etc. Further, the blood glucose level regulates the pancreatic secretion of insulin or glucagon, the two hormones that work together continuously to keep blood glucose in the normal range. Low blood sugar level state, as during starvation, stimulates the release of glucagon, which stimulates conversion of glycogen (storage form) to glucose (usable form) in the liver. To the contrary, in response to high blood sugar levels, insulin is secreted by the pancreas, facilitating cellular uptake of glucose. Therefore, glucagon increases the blood glucose level while insulin decreases it. The intake of refined carbohydrates and simple sugars spike the blood glucose levels. Over a period of time, if blood sugar levels are repeatedly elevated, the cells stop responding to insulin. This is insulin resistance, also known as metabolic syndrome or syndrome X. It is a precursor to pancreatic failure in response to persistently elevated blood glucose levels and it can lead to diabetes. It can also contribute to cancerous state.

There are many insulin receptors on the cancer cells and they tend to retain their ability to accept insulin. When the insulin receptors on a cancer cell are

repeatedly stimulated by insulin, the cancer cell will keep on getting stimulated to divide. Insulin acts as both a growth factor and a conveyor of glucose for a cancer cell. In some patients with insulin resistance, diabetes does not develop as pancreas compensates by producing excessive insulin. However, this high circulating insulin concentration makes them susceptible to cancer. Insulin receptors also facilitate the cellular uptake of glucose, so, the large number of receptors on the cancer cells leads to increased glucose uptake from the blood into the cells. Sugar is utilised as the fuel by the cancer cells, as also by the normal cells.

Cancer cells have efficient glucose utilisation and they grow rapidly. It is believed that increased glucose uptake can also help protect cancer cells from apoptosis, or cell death. Therefore, it is often said that cancer has a ‘sweet tooth’. However, simply eliminating sugar from the diet is not the solution for cancer; even when sugar and carbohydrate intake is reduced, cancer adapts and thrives. This is due to the large number of insulin receptors, they compete with healthy cells for glucose and get more fuel than the normal cells. Therefore, to selectively kill the cancer, it is nearly impossible to reduce glucose levels low enough. If blood glucose levels are reduced by less intake, the healthy cells will starve first and cancer cells later. Also, in an effort to avoid sugar, valuable sources of anticancer agents such as antioxidants, flavonoids, fibre, and vitamins may be deprived of that are found in high sugar vegetables like tomatoes and carrots. The immune system needs these nutrients to fight cancer. Even though eliminating sugar and carbohydrates will not cure cancer, still one should avoid simple sugars and refined carbohydrates because it ‘feeds’ the cancer and also leads to insulin resistance. Such a diet ultimately favours cancer, specifically, colon, pancreatic, kidney, breast, and endometrial cancers. In contrast, a diet low in simple sugars and refined carbohydrates will prevent and help correct insulin resistance, thereby making the body less susceptible for cancer and more receptive to cancer treatment.

Thus, we see that progression of insulin resistance increases the risk of cancer since the resultant over production of insulin by the pancreas ultimately results in insulin dysfunction or diabetes. Insulin hormone has a strong control over cellular development and ultimately, cell survival. Once the excess insulin molecules circulating in the blood attach with the cell receptors, the cell gets a signal to divide, or it signals other growth factors

that also cause cell division, also the cells become more sensitive to other growth factors. Growth factors stimulate cell division and subsequent growth of the tissue or tumour. Insulin-like Growth Factor (IGF) it is a very potent cancer promoting agent although it is necessary for the regulation of normal physiology. A number of studies now show that “individuals with higher levels of circulating IGFs are at increased risk for developing colon, pre-menopausal breast, and aggressive prostate cancers”.

Reversing Insulin Resistance

The present day lifestyle has resulted in alarming incidences of diseases like diabetes, cardiovascular diseases, and cancer by producing insulin resistance. However, this insulin resistance can be reversed by lifestyle changes including dietary modifications and exercise. Weight reduction in overweight individuals has been shown to help reverse insulin resistance. Reducing the consumption of refined carbohydrates and sugars, and instead emphasising on whole grains, fruits, and vegetables, blood glucose levels can be balanced, a healthy weight be maintained and insulin resistance be reversed. Simple sugars and refined carbohydrates, such as added sweeteners, sugary drinks, candy, pastries, sugary snack foods, and anything made from refined flours including bread and pasta should be avoided. At the same time, increasing fibre intake in the form of whole and unprocessed grains, as well as legumes, vegetables, and fruits, will improve the glucose metabolism as these foods take time to breakdown and do not cause a spike in blood sugar levels.

There should be utmost vigilance for the things that are incorporated in the diet. The food labels should be intelligently scrutinised for the contents of over the counter food products. The amount of sugar if contained should be looked for; sugar may be mentioned as corn syrup, fructose, glucose, lactose, maltose, sucrose, and white grape juice concentrate, etc. Those drinks and snacks that have sugar listed as the first, second or third ingredient should be avoided, as these are more likely to be having lots of sugar and no nutritional value.

One litre of an average soft drink has around 25 tea spoons, or 1/2 cup of sugar. Beverages with artificial sweeteners (like diet soda) contain aspartame and other harmful chemicals that are not recommended. Instead, natural soft drinks have less sugar content and often have added beneficial ingredients

like green tea and other nutrients. A typical 2000 calorie Indian diet should not contain more than 8-10 tea spoons of added sugar. However, most Indian families still consume, on an average, 30 tea spoons of sugar in their daily diet. Since complex carbohydrates are metabolised into glucose, so carbohydrate consumption should be monitored as well. The healthiest carbohydrates are those closest to their natural state: whole grains and products made from whole grains. Refined carbohydrates, on the other hand, are broken down more quickly and result in insulin rush into the blood stream. Dietary fibres aid in maintaining blood sugar levels, and assist in proper digestion, elimination, and detoxification. At least 25 grams of fibre is recommended in a standard 2000-calorie Indian diet.

Along with diet and exercise, a variety of herbs and nutrients can help curb or reverse insulin resistance. These are:

1. **Alpha-lipoic acid** or thioctic acid, an anti-oxidant and can help to regenerate other antioxidants, and can increase cellular glucose uptake and help reverse insulin resistance.
2. **B Vitamins:** Deficiencies of folic acid, vitamin B6, and vitamin B12 have been linked to high homocysteine levels, which is a risk factor for both heart disease and cancer. Elevated homocysteine has also been linked with insulin resistance. Niacin has been shown to be beneficial in helping control blood glucose levels. Additionally, vitamin B6 helps to activate insulin receptors, thereby reducing insulin resistance.
3. **Vitamin D:** Intake of this vitamin improves postprandial insulin.
4. **Coenzyme Q10:** Taking 250 mg of CoQ10 improves insulin sensitivity and blood sugar control.
5. **Essential fatty acids:** Omega-3 fatty acids can help increase insulin sensitivity and control of blood glucose levels in obese.
6. **Chromium:** This trace mineral is found in brewer’s yeast, whole grain breads, and fruits such as apples, bananas, oranges, and vegetables such as green peppers, spinach, and carrots.
7. **Flax lignans:** Flax seeds and oil are considered to be healthy sources of complex carbohydrates (lignans), phytoestrogens, and essential fatty acids such as alfa-linolenic acid (ALA).
8. **Gymnema:** Naturopathic medicine like *Gymnema sylvestra* has been shown to control blood sugar levels. *Gymnema* rejuvenates the function of the insulin secreting cells in the pancreas. This is particularly

important for diabetics.

9. **Green tea:** Many nutritional experts believe that, green tea can improve insulin resistance.
10. **Mushrooms:** Some mushroom extracts such as Agaricus blazei and Maitake extract have each been shown to lower both insulin and blood sugar and to reduce insulin resistance.
11. **Magnesium:** The primary role is to activate enzymes. It can increase insulin receptor sensitivity and conversely, low levels of magnesium can result in a worsening of insulin resistance. Magnesium rich foods include wheat bran, nuts, tofu, brown rice, figs, apricots, dates, garlic, and fresh green peas.
12. **Probiotics:** Oral probiotics treatment significantly reduces insulin resistance induced by a high fat diet.

Implications of Digestion on Cancer

Digestion is responsible for the effective utilisation of the nutrients that are consumed in food and has far reaching health implications on all other body functions like neurological functioning, blood formation, cardiovascular functioning, bone and muscle growth, reproductive function, glucose metabolism, hormone synthesis, immune response, tissue repair, etc. During a healthy state, the gastrointestinal system processes the consumed food, metabolises it into usable form, eliminates the residual metabolites and detoxifies the body. Any abnormality in this functioning is usually easy to feel subjectively, and can have varied manifestations ranging from mild discomfort, pain, or even serious illnesses such as cancer of oesophagus, stomach, colon, liver, gallbladder, and pancreas. There is a strong association between digestion and immunity; so it is very important to have a healthy digestive function and a healthy gut for cancer treatment. The digestive tract lodges more than seventy percent of the cells of the immune system. Gastrointestinal dysfunction can also contribute to other cancers indirectly. Besides this, digestive issues may also arise during and after cancer treatment.

Food Allergies

Even after lots of advancement in medical science, there is quite a lot to be

discovered about the gastrointestinal tract and its functioning. For instance, there is an entity called the ‘leaky gut syndrome’ that is not a verbatim medical diagnosis, but it is a proposed condition well recognised by the gastroenterologists. In this condition, there is abnormal hyper-permeability of intestinal wall that leads to outflow of partially digested food particles and toxic molecules into blood. The clinical manifestations like specific food allergies and autoimmune disease result due to the immune response triggered by these toxins or other substances that have been absorbed into the bloodstream. In this process, free radicals formation and inflammation also take place. The cause of this increased intestinal permeability has not yet been established, however, it may happen as a result of inflammation or damage to the intestinal lining. Certain medications like non-steroidal anti-inflammatory drugs can be a cause of such damage to the intestine. The other causes may be improper digestion in the stomach, specific food intolerance, impaired intestinal motility, bacterial over growth, or free radical stress. The symptoms are usually vague, like fatigue, indigestion, flatulence, diarrhoea, headache, or even mood swings and anxiety. This condition leads to an increase in pro-inflammatory compounds in the blood leading to chronic inflammatory state; and inflammation has a role in carcinogenesis and affects the treatment as well. Therefore, food allergies or intolerances should be dealt with carefully. Some simple measures may be of help like eating slowly, chewing the food well, eating with a relaxed state of mind, promoting intestinal bacteria using probiotics, etc.

Intestinal Flora

The digestive tract forms a semi-permeable barrier between the food taken from outside (consisting of nutrients, micro-organisms, toxins, chemicals, etc.) and the body’s interior milieu. Some bacteria inhabiting the intestinal lining have a significant role in digestion, synthesis of vitamins, bowel movement, and supportive role in immune response against pathogens. These useful bacteria get harmed by antibiotics, unbalanced diet with less fruits, vegetables and grains, and more of sugars and meat. This state of dysbiosis in the digestive tract makes it prone for leakage and inflammation, and may lead to constipation, infections within or outside the gut, or autoimmune diseases.

The gut associated lymphoid tissue (GALT) located throughout the digestive

tract protects the body from pathogens and harmful chemicals. In a healthy state, GALT is intact and fully functional, and the nutrients are extracted from food and absorbed in the body without being harmed by the damaging substances that have been consumed with the food. But if GALT is impaired, the pathogens and other chemicals escape the digestive system's immune defences and invade the body. Also, the abnormal functioning of GALT extends over to rest of the body's immune system as well. This results in systemic immune dysfunction and consequential weaker defence against the development and progression of cancer. Probiotics help to support the GALT.

Digestion and Detoxification

Along with the normal immune responses, the detoxification process by the liver has a crucial role. The digestive system has remarkable defence mechanisms against the pathogens and toxins, and it is able to filter out most of these offending agents, but a few of these overcome these defence barriers and reach the bloodstream. In addition to these, some toxic compounds are also formed during digestion and metabolism. The liver detects these toxins which are catabolised or converted to less harmful forms and excreted into the bile, and eventually eliminated. There are certain natural substances that aid in detoxification like rosemary (carnosol), red grapes (resveratrol), capsicum (cayenne), cloves (eugenol), onions and apples (quercetin), garlic, green tea, etc.

Sustaining Healthy Digestion and Metabolism

In order to aid the normal functioning of the digestive system, the toxic burden has to be reduced. This can be done by reducing the intake of food that is low in nutrients and merely provides empty calories. Such food is usually processed food with a lot of artificial ingredients that can damage the intestinal lining. The toxic burden can be reduced by:

1. Intake of fibre-rich food like oats (with anti-cancer agents - water soluble beta glucans), whole grains, legumes, fruits, and vegetables.
2. Adequate water intake.
3. Eating the food slowly and chewing the food thoroughly.
4. Relaxed, stress free meal times.

5. Reducing stress in all other aspects of life.
6. Lifestyle modifications like reducing alcohol intake as it interferes in detoxification.

Certain over the counter supplements can support healthy digestion and aid in correcting the underlying digestive issues, thereby helping in prevention and treatment of cancer. Some of these are:

4. Vitamins C, E, and beta carotene are all powerful antioxidants that protect the gastrointestinal mucosa from free radical damage.
5. Peppermint oil supplements relieve dyspepsia and symptoms of irritable bowel syndrome, like pain, pressure, bloating, and intestinal spasms.
6. Folic acid helps in tissue regeneration. Patients with inflammatory bowel disease are usually deficient of folic acid.
7. Probiotics: Several studies have demonstrated that probiotics can improve bowel health and the intestinal immune response. Probiotics also have systemic benefits, helping to reduce inflammation and infection throughout the body. There are more than 400 different species of friendly bacteria in the gut like *Lactobacillus acidophilus* and *Bifidobacterium bifidum*. These good bacteria also help balance the harmful pathogenetic bacteria that can accumulate in the digestive system. Probiotics that contain friendly bacteria can be consumed in the form of supplements or cultured foods such as yogurt or sauerkraut.
8. Melatonin: It is secreted by the intestinal cells. Melatonin regulates the intestinal motility, is helpful in reducing constipation and irritable bowel syndrome, and supports the immune system in the gut.
9. Bovine colostrum: Colostrum has a different biochemical profile than the usual milk that follows it. It is especially rich in growth factors, antibodies, vitamins, and minerals. Colostrum provides increased passive immunity in the digestive tract. It is useful for prevention and treatment of diarrhoea, allergies, infectious gastroenteritis, hepatitis C, obesity, peptic ulcers, *Helicobacter pylori* infection, and even cancer.
10. Deglycyrrhizinated licorice (DGL) supports repair of the mucosal lining of the stomach.
11. Gamma oryzanol supports relief of stress induced gastrointestinal disorders.
12. L-glutamine: This is an important amino acid for proper intestinal cellular function and regeneration, as glutamine is the preferred food

source for intestinal cells. It also protects the liver and acts as an antidepressant. In cancer patients, it reduces intestinal toxicity from chemotherapy drugs and increased concentrations of methotrexate in tumours while selectively protecting normal tissues. The fast growing tumours deplete the body's supply of glutamine, therefore glutamine supplements aid in muscle metabolism.

13. Proteolytic enzymes: Enzymes like bromelain from pineapple, papain from papaya, and the pancreatic enzymes chymotrypsin and trypsin support the body's own enzymes in catabolism of consumed food and are usually taken with a meal. Proteolytic enzymes have also been studied and used as anti-cancer agents. If they are used to prevent or treat cancer, they are typically taken on an empty stomach.

Cancer Types

Childhood Cancers

ancer in children is a rare disease. Childhood cancers and related problems

are different from adults in growth pattern and reaction to treatment.

Types

Leukaemias, central nervous system tumours, and lymphomas account for over 60% and malignancies of muscle, bone, supporting tissues, or blood vessels which are called sarcomas accounting for 15% of all the cancers diagnosed in children.

1. **Leukaemia:** The most common childhood cancer and accounting for about one third of all cancers. The most common types in children are:
   i. Acute lymphoblastic leukaemia (ALL)
   ii. Acute non-lymphocytic leukaemia
   iii. Chronic granulocytic leukaemia (CGL).
2. **Brain tumour:** This is the second most common cancer of childhood, e.g. glioma, medulloblastoma, ependymoma. A new term has recently been designated for certain types of brain tumours - PNET, which stands for primitive neuroectodermal tumours.
3. **Neuroblastoma:** It is a cancer of the sympathetic nervous system which may occur in the adrenal gland located on top of the kidney or may originate anywhere, where there is a particular kind of nerve ending - in chest, abdomen, pelvis, and rarely other sites.
4. **Wilms' tumour:** This is a cancer of kidney, particularly in children of two to four years of age and rarely in those over sixteen. It may occur in one or both kidneys.
5. **Retinoblastoma:** Tumour of the retina.
6. **Rhabdomyosarcoma (RMS):** A skeletal muscle tumour.
7. **Teratomas:** Tumours of young cells, known as germ cells.
8. **Hepatoblastoma:** Tumours of the liver.
9. **Bone tumour:** Osteogenic sarcoma, Ewing's sarcoma, and Chondrosarcoma occur in children particularly in teenagers.
10. **Lymphoma:** Hodgkin's lymphoma and Non-Hodgkin's lymphoma.

Aetiology

No specific causes have been identified for childhood cancer. Some

evidences show that the environment or a genetic inheritance pattern may play role as risk factor. However, children with certain diseases do have an increased incidence of cancer. Oncogenes (tumour-promoting genes) and Anti-oncogenes (tumour-suppressing genes) have been found to be associated with childhood tumours.

It is believed that children are more likely than adults to develop leukaemia as a result of exposure to radiation. Radiation treatment is useful in the treatment of cancers in children, but there is a chance that children cured of their first cancer may develop a second one partly related to the use of radiation therapy.

Risk Factors

Children who are black have low risk to develop acute lymphocytic leukaemia, lymphomas, and Ewing's sarcoma than white children. Black children have a higher incidence of Wilms' tumour, retinoblastoma, and the bone tumour, which is known as osteogenic sarcoma. Cancers like leukaemia and Wilms' are more commonly developed between the ages of two and four years. Other cancers, such as lymphoma and bone cancer, have a peak incidence in older age. High risk children are:

1. Previously exposed to radiation.
2. Children who do not have an iris have a higher incidence of developing the kidney cancer called Wilms' tumour.
3. Children whose bodies are bigger on one side than the other (hemi hypertrophy) have a higher incidence of Wilms' tumour.
4. Males with an undescended testicle (cryptorchidism) are at higher risk for testicular cancer.
5. Children with the skin disease xeroderma pigmentosum have a higher risk of developing skin cancer.
6. Children with the immune disorder ataxia telangiectasia, Down syndrome, Fanconi's anaemia and Bloom's syndrome are at higher risk for developing leukaemia.

Screening

Urine of very young children is screened to detect the presence of abnormal

amounts of the chemical group known as catecholamine, so that earlier detection of neuroblastoma can be done, thus resulting in increased cure rate.

Children with risk factors should be screened early in the children with risk factors very early by the physician in order to prevent development of cancer. The screening includes blood test in an identical twin of a child with leukaemia or a series of ultrasound examinations of the abdomen for many years in a child with hemi hypertrophy.

Signs and Symptoms

Many of the signs and symptoms of childhood cancers are non-specific and only specially trained physicians will be able to tell whether a complaint is due to a normal childhood disease or a rare disease such as cancer. The signs and symptoms are:

1. Tiredness and paleness are usually the result of nothing more than the flu, but could also signal the onset of leukaemia.
2. Fever is often noted in a child with infection, but recurrent fever, especially with bone pain, may be a symptom of leukaemia or a bone tumour.
3. Children who have headaches with vomiting may have nothing more than an upset stomach, but recurrent headaches with vomiting that do not go away with time require a physician to make sure there isn’t a brain tumour.
4. Children who have a mass in the abdomen are probably just constipated, but the mass could be Wilms’ tumour, neuroblastoma, lymphoma or liver tumour.
5. Lumps in the neck are usually due to an infection, but if they don’t respond to antibiotics, there is a possibility of presence of lymphoma.
6. Discharge from the ear is usually due to an ear infection and only rarely due to some tumour.
7. Weight loss is rare in a young child. However, if it is not controlled, there may be psychological reasons involved or a lymphoma, such as Hodgkin’s disease.
8. Any newborn child with a white dot in the centre of the eye should be seen by a physician, since the dot may indicate a retinoblastoma.
9. Blood in the urine may be the result of an infection but may also be

caused by Wilms’ tumour.

Diagnosis

Physical Examination

1. A complete physical examination should include groin area, testicles, skin, and nervous system. A rectal examination may also be performed to rule out the tumour in that area.
2. An enlarged liver and/or spleen or a mass in the abdomen may indicate a tumour.
3. Lumps in the neck that are firm, non-movable, and have not responded to antibiotics may be due to lymphoma, leukaemia, and other cancers.
4. Eyes should be examined which is often pressurised by a brain tumour.

Investigations

1. A simple blood test to examine RBC, WBC, and the platelet count will usually help to decide whether there is acute leukaemia.
2. Other specific tests such as urine test will be helpful in cases of suspected neuroblastoma.

Imaging

X-ray, CT, and MRI scan help the physician to decide whether there are tumours in the brain, chest, abdomen, or extremities.

Endoscopy and Biopsy

Some suspected tumours might have to be biopsied for a definitive diagnosis.

Staging

1. Stage I - Usually refers to local disease that can be entirely removed by the surgeon.
2. Stage II - Could still be a local disease that may also be removed but has extension beyond the immediate area of the tumour.
3. Stage III - Disease tends to be more extensive but localised in a

particular region of the body.

4. Stage IV - Disease is widespread, having spread through the blood or lymphatic system to produce metastasis in other organs.
5. Acute lymphoblastic leukaemia is categorised as standard low and high risk, according to its potential risk of recurrence. Two major factors, like age of diagnosis and white blood cell count are useful for staging of ALL. The child with low-risk leukaemia has an excellent chance of responding to therapy in the long term and the best chance of being cured. On the other hand, a child with high-risk leukaemia may still respond to therapy and may still have a good chance of being cured although he or she may need more intensive treatment.

Treatment Procedures

Bone Marrow Transplantation

Several treatment procedures for childhood cancer use the concept of bone marrow transplantation.

Allogenic bone marrow transplantation – Here, bone marrow is taken from a donor who is a close relative such as brother or sister. It is being used very often in children with acute non-lymphocytic (granulocytic) leukaemia. It is also used quite frequently in children with acute lymphoblastic leukaemia who have had a relapse.

Autologous bone marrow transplantation – Here, patient's own bone marrow is used. A portion of bone marrow is stored in the laboratory while the patient is receiving the treatment and then it is transformed in the form of an intravenous infusion of bone marrow cells. These cells circulate throughout the body and settle into the bone marrow compartment from which they come. They subsequently grow and regenerate the bone marrow. In high dose rescue therapy or autologous rescue, the patient's bone marrow cells are stored while high-dose chemotherapy is given. The cells are then re-transfused. The higher doses of chemotherapy may kill cancer cells more effectively but might also seriously damage the bone marrow; so rescue therapy is performed.

Supportive Therapy

Throughout the course of the treatment, there will be a need for many kinds of support therapies, like: transfusion of blood cells, plasma, and white cells may be needed. Infections are common in children and may require specific treatment. Exposure to contagious disease is likely to occur, so the child may require specific gamma globulin.

Supportive measures can include nutritional support such as artificial feedings through a vein or enteral feeding through nasogastric or nasojejunal tubes. Access to a vein may be a problem, so central venous catheter is often used.

Medicines and psychological support technique may be necessary to help children with anticipatory nausea, or nausea and vomiting after radiation or chemotherapy treatments.

Follow-up After Treatment

The follow-up evaluation may include specific liver function tests, urine tests, specific X-rays, psychological test, and other tests; these can help to detect the progress and effects of the disease and the response to treatment.

Even when a child finishes a course of treatment, he or she will require long-term follow-up by a paediatric cancer expert. This is not only because some treatments have long-term side effects, but also because of children who get cure from a first cancer do have a small risk of developing a second one. So, though the child who finishes all therapy and who looks apparently cured should be followed up by a specialist for the rest of his or her life.

Brain Tumours

Primary brain tumours, meaning cancer tumours originating in the brain, account for about 20 percent of all brain cancers. Primary brain tumours though relatively rare, are the most common “solid” tumours in children and are the second most common after leukaemia among overall incidence. Many tumours are controllable or curable with treatment and over half of the children are diagnosed with brain tumours will live for more than five years. Other tumours in the brain are the ones that have spread from cancerous tumours originating in other organs of the body. Metastatic brain tumours occur in 20 percent of cancer patients. The most common cancers that

metastasise to the brain are melanoma, cancers of the lung, breast, kidney, and head and neck. Primary brain tumours rarely spread to other areas of the body, but they can spread within the brain. Because there are more than 110 different varieties of brain tumours, effective treatment can be difficult. The most common form of brain tumour is a glioma or glioblastoma. Gliomas are tumours of the glial cells; these are cells located in the brain and spinal cord that protect and support nerve cells. Among the glioma tumours, the most prevalent type is astrocytomas, which develop from star-shaped cells called astrocytes. There are several different subtypes of astrocytomas, ranging from relatively slow-growing, minimally invasive and highly curable to fast-growing and invasive tumours with a poor prognosis.

Types of Brain Tumours

Brain tumours are classified according to their microscopic appearance (histopathology) and their location in the brain. Tumours of the posterior fossa region include Astrocytomas, Medulloblastoma, Ependymomas, and Brain stem gliomas.

Tumours in the supra-tentorial region include Astrocytoma, Cerebral neuroblastomas, Ependymomas, Germ cell tumours, Optic nerve gliomas, Pineal tumours, and Choroid plexus tumours.

Spread of Cancer

Brain tumours rarely spread outside the central nervous system but can spread within the brain and the spinal cord.

Aetiology

Exact causes are unknown, though some genetic disorders have been associated with an increased risk. They are, frequent exposure to radiation and industrial chemicals. Role of artificial sweeteners and cell phone use is controversial.

Signs and Symptoms

As the tumour enlarges, it causes increased pressure in the brain. Depending on the location of lesion, the symptoms produced are:

1. Irritability
2. Failure to thrive
3. Frequent or worsening headache
4. Nausea
5. Vomiting
6. Seizures
7. Weakness or changes in sensation in various parts of the body
8. Altered mood, personality, thinking ability and learning
9. Difficulties in co-ordination or balance
10. Vision and speech problems
11. Loss of appetite.

Diagnosis

Physical Examination

1. Complete neurological examination.
2. Evaluation for optic tract glioma includes neuro-opthalmological testing, especially visual fields. Subtle changes in the tumour that may not be apparent but with CT or MRI scanning can be measured.
3. Young children may have a test called visual-evoked response for diagnosis and follow-up.

Blood and other tests

1. Bone marrow may be analysed for tumours that spread outside the central nervous system (medulloblastoma).
2. For tumours that may spread to the spinal cord or through the cerebrospinal fluid (medulloblastomas, ependymomas, intracranial germ cell tumours, pineal tumours, cerebral neuroblastomas or primitive neuroectodermal tumours, spinal fluid should be examined for malignant cells).
3. For intracranial germ cell tumours, tumour markers including alpha-fetoprotein (AFP) and human chorionic gonadotrophin are measured in

the blood and cerebrospinal fluid. The same markers are also measured in pineal tumours to exclude the possibility of the malignant germ cell tumour.

Imaging

1. Until the advent of MRI screening, CT scan conventionally did imaging for the brain and myelography for the spinal cord.
2. Images of the entire brain and spinal cord should be taken for tumours that may spread to the spinal cord (medulloblastomas, ependymomas, intracranial germ cell tumours, pineal tumours, and cerebral neuroblastomas).
3. Bone scans and bone marrow examinations are sometimes done in medulloblastoma because this tumour may spread outside the central nervous system, especially to bone and bone marrow.

Biopsy

1. Tumours of the brain stem, medulla, and pons (brain stem glioma) biopsy are risky. They cannot be removed surgically (radiation therapy is the standard treatment). Stereotaxic needle biopsy techniques may be done when it could have an effect on treatment for example, if it is not certain that a mass in this area is malignant, if the tumour grows outward and protrudes into the ventricles, or if there is a need to remove part of the tumour because of pressure symptoms.
2. Biopsy of optic tract glioma is not always possible because it is difficult to expose the area surgically.

Treatment

The conventional treatment depends on the type and grade of brain tumour, its location, size and extent, and also the age and general health of the patient. Surgery and radiation are commonly used conventional treatments for brain cancer, with chemotherapy used occasionally.

Surgery

Craniotomy is the primary treatment for the malignant brain tumours which

aims to remove all or as much of the tumour as possible. The biopsy of the removed tissue confirms the diagnosis. The goal of surgery is to reduce symptoms and improve quality of life by relieving intracranial pressure caused by the malignant tumour. Surgery also provides access for intra-surgical treatments, internal chemotherapy or radiation.

Radiation Therapy

Radiation therapy may be used alone or in combination with surgery and/or chemotherapy in the treatment of brain cancer. Radiation may be used preoperatively or post-operatively, or in cases where surgery is undesirable or impossible. The radiation technologies often employed are: intensity modulated radiation therapy (IMRT), tomotherapy, intra-operative radiation therapy, stereotactic radiation, and proton beam therapy.

Chemotherapy

Chemotherapy is infrequently used to treat primary brain tumours. It is used in some cases depending upon the type of tumour, the presence of brain oedema and whether the tumour can be surgically removed.

The blood-brain barrier in the brain is a significant challenge for administering brain tumour chemotherapy. Due to this selective barrier, it is difficult for most of the chemotherapy medications to penetrate into the brain, therefore, the utility of chemotherapy for brain tumours is significantly lowered. In addition, the cerebral oedema that happens along with the brain tumours, can also impede the effectiveness of chemotherapy, as the fluid prevents the chemotherapy medication reaching the site of tumour tissue and saturating it. Therefore, chemotherapy is generally advised preoperatively or postoperatively for certain types of tumours. To bypass the blood-brain barrier, direct implantation technique is used in which the chemotherapy agent gets in direct contact with the tumour tissue. Common chemotherapy agents used include surgical implantation of nitros-urea based drugs and carmustine (BCNU). Temozolomide can cross the blood-brain barrier and is utilised for some brain tumours like glioblastoma and certain astrocytomas.

Chemotherapy drugs used and their side-effects:

1. **Vincristine:** Fatigue, abdominal cramps and constipation, temporary numbness and tingling, loss of fertility, nausea, hair loss, paralysis of the

muscles of the wall of the bowels, temporary urinary bladder incontinence, loss of appetite, mouth ulcers, jaw pain, drop in function of bone marrow, cramps, staggering, bone marrow, blurred or double vision, hearing loss or dizziness.

2. **Prednisone:** Retention of salt and fluid, weight gain, high blood pressure, worsening of diabetes mellitus, loss of potassium, headache, muscle weakness, glaucoma, cataract, obesity, depression, osteoporosis, retardation of growth in children, psychotic behaviour, and insomnia.
3. **Cisplastin:** Fatigue, nausea, reduction in the function of bone marrow, harmful effects on a developing baby, loss of fertility, loss of appetite, numbness or tingling, tinnitus, metallic taste or loss of taste in the mouth, and blurred vision.
4. **Etoposide:** Fatigue, bone marrow function temporarily affected, nausea, hair loss, metallic taste in the mouth, loss of appetite, may have harmful effect on the baby, loss of fertility, reddening of skin, sore mouth, and diarrhoea.
5. **Lomustine:** Nausea, lowered WBC, bruising and bleeding, anaemia, fatigue, sore mouth, diarrhoea, loss of appetite, hair loss, affected eyesight, and also loss of fertility. It may show changes in lung tissue; so one must look out for symptoms like cough, and breathlessness.
6. **Carboplatin:** Fatigue, loss of appetite, nausea, reduction in bone marrow function, hair loss, numbness and tingling, harmful effects on a foetus, loss of fertility.
7. **Bleomycin:** Fatigue, reddening, darkening, and thickening of skin and nails or dry peeling skin at finger tips, hair loss, loss of appetite, sore mouth, nausea, harmful effects on foetus and reduction in bone marrow function.
8. **Cyclophosphamide (Cytoxan):** Lowered activity of immune system, loss of appetite, nausea, vomiting, temporary hair loss, chances of development of secondary cancer, typically of bladder, lymph nodes, bone marrow.
9. **Dactinomycin:** Fatigue, reduction of bone marrow function, nausea, loss of appetite, hair loss, sore mouth, diarrhoea, harmful effects on foetus, fever, chills, abdominal cramps, depression, difficulty in swallowing. Children should not be immunised with live vaccines (rubella, mumps, BCG, yellow fever, typhoid and polio) while having chemotherapy or for 6 months afterwards.

10. **Vinblastine:** Fatigue, reduction in bone marrow function, hair loss, nausea, mouth ulcers, sore mouth, loss of fertility, foetus, numbness and tingling, constipation, and diarrhoea.

Treatment by Tumour Type

Medulloblastoma

It is also called as primitive neuroectodermal tumour. It arises in the cerebellum and may spread to adjacent tissues. It can also spread to the rest of the brain or to the spinal cord and very rarely to sites outside the nervous system.

Standard treatment: Surgical removal can be attempted to remove the tumour if possible. For low-stage disease, standard therapy followed by surgery is given. High dose of radiation to the tumour area and lower dose of radiation to the entire brain and spine with the addition of chemotherapy are given.

High-stage disease treatment involves chemotherapy in addition to surgery and higher dose of radiation therapy to the site of the tumour and entire brain and spinal cord.

Survival rate: 5 years (about 60 percent).

Cerebellar Astrocytoma

These are generally low-grade tumours in the cerebellum. Metastasis is unusual.

Standard treatment: The primary treatment is surgical removal of the tumour, which is successful in cases wherein the whole tumour is removed. In contrast to most other brain tumours, some patients with microscopic and even larger residual tumour after surgery may survive a long time without any symptoms or tumour growth even without post-operative therapy.

Recurrent cerebellar astrocytoma, if possible, may be treated with another surgery. If this is not possible, then local radiation is used. If it recurs in an area where it can’t be removed and has already received maximum radiation, chemotherapy should be considered.

Survival rate: 10 years (about 80 percent).

Infra-tentorial Ependymoma

These tumours arise from the cells lining the fourth ventricle (a cavity within the brain), as well as cells lining a cavity in the centre of the spinal cord. They can occur anywhere in the brain or the spinal cord, but 60 percent of them start in the part of the brain, back of the skull, and posterior fossa. The prognosis depends on the grade and size of the tumour and the degree of spread. These tumours may spread via the spinal fluid pathways.

Standard treatment: Surgical excision followed by high-dose radiation to the back part of the brain is the usual treatment. The tumour can be completely removed surgically in about 30 percent of cases. Radiotherapy to the entire brain and spinal cord is given only in case of high-grade tumours. This tumour is seldom controlled permanently if it recurs after surgery and radiotherapy. About one third of patients respond to cisplastin.

Survival rate: 5 years (25 to 60 percent).

Brain Stem Glioma

Tumours arising in the brain stem are often astrocytomas, a tumour of neuron-supporting cells. These are also referred to as ‘brain stem gliomas’. They may be low, intermediate, and high grades. The majority of the tumours growing in the brain stem cannot be removed surgically.

Standard treatment: The usual treatment is high dose radiation therapy. Higher doses may be possible using twice-daily treatment. No effective chemotherapy currently exists. Some patients may be candidates for surgical removal. Children younger than three may be given chemotherapy to delay or modify radiation therapy to reduce the risk of neurologic impairment.

There is no standard therapy for recurrent brain stem glioma. These children cannot go for surgery and have already received maximum radiation therapy and there are no standard chemotherapy drugs with significant results which would help these children.

Survival rate: 2 years (varies with site and grade of tumour).

Cerebral Astrocytoma (Low Grade)

These tumours may sometimes be completely removed surgically and have good prognosis. These tumours spread by extension to the adjacent brain and sometimes occur in multiple sites.

Standard treatment: The treatment for low-grade supra-tentorial astrocytoma is surgery. If the tumour cannot be completely removed, radiotherapy or chemotherapy is given after the operation. The role of chemotherapy is not defined but it appears to control the disease for long periods of time. Patients may benefit from chemotherapy if tumours recur after maximum surgery and radiation therapy.

Survival rate: 5 years (50 to 80 percent).

Cerebral Astrocytoma (High Grade)

Sometimes called anaplastic astrocytoma or glioblastoma multiforme, these tumours often grow rapidly and involves portions of the brain that cause major neurological problems.

Standard treatment: Treatment includes surgery, radiation therapy, and chemotherapy. Chemotherapy is given if relapse occurs after radiation therapy. The prognosis may be better if the tumour can be totally removed. Younger patients and those with lower-grade tumours may do better.

Survival rate: 2 years (less than 25 percent).

Supra-tentorial Ependymoma

These ependymomas arise outside the posterior fossa, usually within and adjacent to the ventricles.

Standard treatment: Surgery followed by radiation therapy is the usual treatment. In low-grade tumours, radiation is given to the primary tumour area. With high-grade tumours, the entire brain and spinal cord are treated. This tumour is seldom controlled if it recurs after surgery and radiation therapy.

Survival rate: 10 years (about 40 percent).

Craniopharyngioma

These benign tumours arise in the central portion of the brain and produce problems primarily because of their location. Since they are benign, metastasis is unknown.

Standard treatment: Surgery is the treatment of choice. For recurrent non-surgical tumours, radiotherapy is recommended.

Survival rate: 10 years (about 80 percent).

Intracranial Germ Cell Tumour

There are number of sub-types, which usually arise in the central portion of the brain. The prognosis relates to the cell type and is especially favourable in patients with germinoma.

Standard treatment: The role of biopsy is to establish the diagnosis, since the location of these tumours usually prevents complete removal. Localised germinoma is treated with chemotherapy and radiation confined to the site of the tumour.

Advanced or disseminated germinomas, as well as the various germ cell tumours other than germinomas, are usually treated with radiation and chemotherapy to the brain and spinal cord.

Survival rate: Variable.

Pineal Tumours

This undifferentiated tumour resembles medulloblastoma, but it develops in the region of the pineal gland at centre of the brain. The prognosis depends upon the size of tumour and its degree of spread.

Standard treatment: The usual treatment is radiation and chemotherapy. A high dose of radiation is given to the tumour, with a lower dose to the brain and spinal cord. Young children can be given chemotherapy to delay or modify the radiation treatments.

Survival rate: 2 years (less than 50 percent).

Optic Tract Glioma

These tumours grow along the optic tracts of the brain that carry visual impulses. They are low-grade and slow-growing astrocytomas that produce visual symptoms.

Standard treatment: Treatment is generally reserved for patients that demonstrate clinical or radiological evidence of progression. For younger children, chemotherapy would be the treatment of choice under these circumstances. Only if this fails, radiation therapy would be used. For older children this approach is also often used, but radiation can be used earlier. Some tumours that do not appear to be growing and have no symptoms, may be carefully observed without treatment as long as they are stable.

Survival rate: 5 years (over 75 percent).

Cerebral Neuroblastoma (Supratentorial Primitive Neuroectodermal Tumour or PNET)

There are a variety of names for these tumours. These are poorly differentiated tumours, which microscopically may have features of various primitive tumours of other cell types. Prognosis depends upon the extent of disease.

Standard treatment: The usual treatment is high-dose radiation therapy. Many patients receive radiation to the entire brain and the spinal cord because this tumour has a tendency to spread to the rest of the central nervous system through the cerebrospinal fluid. Chemotherapy also produces good control and has a particular value in younger children to delay or to avoid the use of radiation therapy and its consequences.

Survival rate: 2 years (30-50 percent).

Supportive Therapy

1. Provide psychosocial support to maintain a positive attitude and will towards life and to aid in coping with cancer.
2. **Lifestyle and Diet:** Most important is to reduce their exposure to possible contributing factors, such as regular use of cell phones and consumption of aspartame a synthetic sweetener added to many sugar-free foods and beverages. Also, exposure to pesticides may increase risk

of brain cancer. There have also been reports of higher incidences of brain cancer in children with high exposure to electromagnetic fields (EMFs), for instance, those living near high-voltage power lines. A whole food diet that minimises processed food and artificial ingredients is recommended. Eating organic food will support overall health and may provide food-based nutrients that will support apoptosis of brain cancer cells.

3. **Nutrients and Herbs:**
    a. **Curcumin:** Useful in cases of glioma as it arrests the invasion of deeper tissue of the brain.
    b. **Aloe vera:** Tincture along with 20mg of melatonin at bed time, will help a lot to stabilise the disease.
    c. **Green tea:** Epigallocatechin gallate (EGCG), an active ingredient in green tea, aids in halting the progression of glioma cells.
    d. **Melatonin:** Brain tumour growth is inhibited by melatonin. It also reduces toxicity due to radiation and steroid therapy.
    e. **Ginseng:** *Panax ginseng* helps control the growth and invasiveness of brain tumours.
    f. **Phosphatidylserine and *Ginkgo biloba*:** These nutrients also enhance the brain function. They may reduce treatment-related side effects such as cognitive dysfunction and memory loss.
    g. **Dong quai:** One tablet daily at breakfast has an anti-cancer effect on glioblastoma cells.

Follow-up after Treatment

1. Repeated clinical evaluation.
2. Repeated CT or MRI scans.
3. Repeated studies of any other abnormal tests, such as cerebrospinal fluid.
4. Since radiotherapy can affect growth hormone production and brain development, careful endocrine and neurological follow-up is very important.

Retinoblastoma

It is the most common childhood malignant tumour of the retina, the

membrane at the back of the eyeball. The vast majority of retinoblastoma cases occur in very young children (66 percent occurring before age two and 95 percent before age five). In some cases, retinoblastoma is diagnosed at birth. The tumour may occur in one eye (75 percent) or both eyes (25 percent).

Spread of Cancer

The tumour may be confined to the retina or extend directly to other parts of the eye (commonly the optic nerve). In its later stages, it may spread to the central nervous system or other parts of the body.

Aetiology

There are two forms of retinoblastoma:

1. **Hereditary (40 percent):** It may be unilateral but more typically is bilateral. When there is disease in both eyes, it is almost always the hereditary form. There is no racial or gender predilection. Children who inherit defects in Retinoblastoma (RB) gene have a 90 percent chance of developing retinoblastoma.
2. **Non-hereditary (60 percent):** It is a rare form of cancer that usually affects children under the age of six. It is typically unilateral, and rarely spreads beyond the original site.

Diagnosis

The tumour is detected when a white spot is seen in place of dark pupil (cat’s eye). There may also be symptoms such as poor vision and strabismus (squinting).

Staging

The purpose of treatment of retinoblastoma is divided into intraocular and extra-ocular disease.

Conventional Treatment

In some cases, it may be possible to destroy the tumour within the eye by using the light treatments (photocoagulation), freezing (cryotherapy), or laser therapy. Other options include removal of the diseased eye, heat treatment (thermotherapy), and radiation therapy (brachytherapy or external-beam).

The above procedures are used depending upon the size of the tumour and whether the child has potential useful vision. Also the tumours generally responds very well to a number of chemotherapy drugs.

Survival rate: 5 years (over 90 percent if the disease is confined to the eye; less than 10 percent if it has spread beyond the eye).

Follow up after Treatment

Children with hereditary form of retinoblastoma have an increased risk for developing other malignancies later in life, and so should be followed up closely. Up to 8 percent may develop bone tumours after eighteen years. Secondary cancers may develop spontaneously or as a result of treatment.

Chemotherapy Drugs used and their side-effects

1. **Vincristine:** Fatigue, abdominal cramps and constipation, temporary numbness and tingling, loss of fertility, nausea, hair loss, paralysis of the muscles of the wall of the bowels, temporary urinary bladder incontinence, loss of appetite, mouth ulcers, jaw pain, drop in function of bone marrow, cramps, staggering, bone marrow dysfunction, blurred or double vision, hearing loss or dizziness.
2. **Cyclophosphamide (Cytoxan):** Lowered activity of immune system, loss of appetite, nausea, vomiting, temporary hair loss, chances of development of secondary cancer, typically of bladder, lymph nodes, and bone marrow.
3. **Etoposide:** Fatigue, affected bone marrow function, nausea, hair loss, metallic taste in the mouth, loss of appetite, harmful effect on the baby, loss of fertility, reddening of skin, sore mouth, and diarrhoea.
4. **Ifosfamide:** Fatigue, reduction in bone marrow function, nausea, hair loss, irritation of the bladder and kidney, and loss of fertility.

5. **Actinomycin:** Low WBC, low platelet, anaemia, hair loss, soreness of mouth, diarrhoea, and skin discolouration.

Head and Neck Cancer

The squamous cell carcinomas of the mucosal surfaces of the upper aero-digestive tract are collectively described as ‘head and neck cancers’. These include malignancies of the mouth, nose, paranasal sinuses, salivary glands, pharynx, larynx, and lymph nodes of the neck, and sometimes even thyroid cancer may also be included because of its location. In our country, head and neck cancers are a significant problem as they constitute approximately one-third of all cancer cases in contrast to 4-5% in the developed world. Head and neck cancers occur more frequently in males than females. When detected in early stages, head and neck cancers are often curable; while advanced head and neck cancers can have a less favourable prognosis.

Aetiology

Tobacco and alcohol are the two major causative factors for head and neck cancers worldwide; however, smokeless tobacco, betel nut, and Epstein-Barr virus are the chief aetiological factors in the Asian population. The other risk factors are human papillomavirus (HPV), sun exposure, radiations, airborne toxins specifically asbestos, and other industrial toxins.

Signs and Symptoms

Symptoms of head and neck cancers can include:

1. A sore in mouth or throat that does not heal,
2. Otalgia,
3. Dysphagia or odynophagia,
4. A sore throat that does not go away,
5. A lump in the neck that does not go away,
6. Change in the voice or hoarseness that lasts more than two weeks,
7. Dyspnoea,
8. Unexplained weight loss.

Diagnosis

The clinical history and physical examination findings are suggestive of the malignancy. The diagnosis and extent of disease process is viewed by endoscopy. Biopsy of the suspected lesion confirms the diagnosis.

Conventional Treatment

The conventional treatment for head and neck cancer is surgery, radiation therapy, chemotherapy, targeted therapy, or a combination of treatments depending on various factors that differ from case to case. The early stage head and neck cancers i.e. around one-third cases are dealt with either radiation or surgery, the remaining two-thirds of patients those who have locally advanced disease are usually treated with a combination of surgery and radiation, or the two combined with chemotherapy. There is recurrence within five years in 65 percent of the patients with locally advanced disease.

Surgery

The first line of treatment is surgical removal if the malignancy is within the purview of surgery. Depending on the local invasion and extent of the cancer, the surgery may be minor or extensive.

Radiation and Chemotherapy

In those cases where the malignancy is beyond the surgical intervention initially, radiation is first used before surgery to shrink the tumour. However, if radiation is given first, the surgery gets more difficult because of the scar tissue that undermines the blood flow and leads to slower healing of the tissues. Radiation can include external beam therapy (EBT) or intensity modulated radiation therapy (IMRT). Both of these forms of radiation target the tumour selectively, sparing the surrounding healthy tissue as much as possible.

Chemotherapy is indicated in the advanced stage III or stage IV cancers. The most common chemotherapy agents used for head and neck cancers are cisplatin and 5 -fluorouracil (5 -FU). The targeted therapy, cetuximab, is also sometimes used in combination with radiation or chemotherapy.

Supportive Therapy

Psychosocial Support

It should be given to maintain a positive attitude and will towards life and to aid in coping with cancer.

Complementary Approaches

Lifestyle and Diet

Diet should be modified so as to include more of fibres from vegetables, fruits, and whole grain cereals that are known to reduce the laryngeal cancer risk. Green tea reduces the risk of head and neck cancer and may prevent the progression of precancerous lesions of the mouth to overt malignancies. Tobacco consumption is a major risk factor for oral cancer and it must be dealt with. Other lifestyle changes that have to be advised are inclusion of physical activity in the daily routine, i.e. moderate to vigorous exercise which improves quality of life, reduces fatigue, and lessens depression in cancer patients.

Nutrients and Herbs

Some natural substances that may have significant anti-cancer actions against head and neck cancers are:

1. **Honey:** It has mild immune-stimulating properties, significant wound healing actions and analgesic effects. It also provides potent anti-inflammatory and soothing effects on the tissues of the mouth and throat. This is especially helpful during chemotherapy and radiation therapy. Honey reduces mucositis and candidiasis associated with radiation. It is advisable to apply 15 ml of honey 10 minutes before radiation therapy, then again at intervals of 20 minutes and then four hours after radiation.
2. **Lycopene:** A flavonoid compound known as lycopene, found in tomatoes, has been found to inhibit the growth of squamous cell cancers of the mouth.
3. **Artemisinin:** It is a compound isolated from the plant *Artemisia annua L*. (sweet Wormwood). It induces apoptosis in oral cancer cells.

Medications

It may be needed to relieve nausea and to control pain.

Treatment and follow-up

After treatment is completed patients should be seen every one or two months for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lymph nodes and abdomen,
2. blood chemistry test every three to four months, and
3. histopathology.

Breast Cancer

In India, breast cancer is now the most common cancer in most of the urban cities, and second most common in the rural areas. In the recent times, there have been more incidence of breast cancer in the younger females, i.e. around fourth decade of life; while earlier it was more commonly diagnosed in post menopausal women. In most of the cases, the malignant tumour is localised while in six percent of the cases there is metastatic disease. Breast cancer most commonly originates in the duct tissue (ductal carcinoma) but can also begin in the lobes or lobules (lobular carcinoma).

Risk Factors and Aetiology

There are several causes that have been associated with breast cancer.

1. Gender (male:female is <1:100).
2. Age (common after 50 years of age, however this trend is shifting towards younger age women).
3. More common in women of the western world than Asian women.
4. Heredity (women with first degree relatives with breast cancer are twice more likely than those with no close relatives with breast cancer).
5. Gene mutations: Specifically of the genes BRCA1, BRCA2, and p53 are associated with a 40 to 85 percent lifetime risk of developing breast cancer.

6. Early menarche, late marriage, nulliparity are associated with more risk of breast cancer.
7. Diseases of the mammary gland like fibroadenoma breast or fibroadenosis or duct papilloma.
8. Hormonal causes (Oestrogen and Prolactin): Contraceptive pills taken any time during the previous ten years are thought to have a slightly higher risk of breast cancer than those who have not. Hormone replacement therapy (HRT) for management of menopausal syndrome increases the risk of breast cancer.
9. Lifestyle factors: Alcohol consumption, smoking, regular intake of charred red meat, obesity, and sedentary lifestyle also increase the risk of breast cancer.
10. Environmental factors such as exposure to radiation and exposure to pesticides.

Types

1. Cancers in ductules and acini:
    i. Non-infiltrating:
        a. Papillary type
        b. Comedo type
    ii. Infiltrating:
        a. Adenocarcinoma (1%)
        b. Scirrhous carcinoma (65%)
        c. Atrophic scirrhous carcinoma (5%)
        d. Medullary or encephaloid carcinoma (15%)
        e. Mastitis carcinomatosa (2%)
        f. Colloid carcinoma (1%)
2. Cancer in main lactiferous duct:
    i. Duct carcinoma (8%)
3. Cancer closely related to areola and nipple:
    i. Paget’s disease (1%)

Signs and Symptoms

1. Painless lump in breast, (commonly on upper outer quadrant, but some breast tumours develop in areas of the breast that cannot be felt.)
2. Bloody discharge from the nipple
3. Retraction of the nipple
4. Ulceration (occasional)
5. Changes in the skin of the breast
6. Fatigue
7. Metastatic features – like pain in chest, haemoptysis, dyspnoea, fever, jaundice, ascites, bone pain, referred pain, etc.

Spread of Cancer

1. **Intra-ductal spread:** Along the lumen of duct and ductules.
2. **Direct spread:** Cancer cells spread to the whole breast tissue and surrounding tissues. When it spreads along the ligament of cooper it causes dimpling of skin of breast, and when it involves the main milk duct it causes retraction of nipple.
3. **Lymphatic spread:** By embolism and permeation cancer cells are swept along the lymphatic and block those channels.
4. **Venous spread:** These causes metastasis to lung, liver, bones, brain, central nervous system and adrenals.
5. **Trans-peritoneal spread:** Peritoneal spread may occur via the lymphatic piercing the rectus.

Diagnosis

The diagnosis of breast cancer is done by screening methods and then confirmatory tests are done in suspected cases.

1. Clinical examination: Systematic inspection and palpation of the breasts and axillae are done which provide the basis for further evaluation. Any lesion on the breast or areola or abnormal nipple discharge, or a lump felt on palpation should be carefully evaluated.
2. Imaging techniques:
    a. Mammography. It increases the likelihood of early detection and therefore it is associated with an overall decreased risk of death due to breast cancer. There has been a concern about its role in increasing

the risk for developing breast cancer, but it has not been proved. Mammography is done to investigate any new or suspicious breast lump. According to recently proposed guidelines based upon comprehensive research, it is suggested that only high risk women (family history or past diagnosis) or those with a suspicious breast lump, should start getting mammograms before the age of 50; rest of the women above 50 years may get regular mammogram screenings at least every two years. I emphasise, however, that the decision about when to begin mammogram screening is one that needs to be made by both patient and the homoeopath based on the individual total risk factors and the index of concern.

b. Ultrasound examination is a very important supplement to mammography.
c. c. Molecular Breast Imaging or Breast specific gamma imaging (BSGI): It is a molecular breast imaging technique for detecting very small breast lesions. BSGI is particularly useful in detecting ductal carcinoma in situ and lobular carcinoma.

3. Needle biopsy: All suspected tumours are evaluated by a fine needle biopsy or sometimes, a core needle biopsy, which removes more of the tissue. The tumour cells are identified and if malignant, it is classified as ductal or lobular carcinoma. Also, its grade of differentiation, proliferative activity, and status in regard to oestrogen receptors (ER), progesterone receptors (PR), and human epidermal growth factor receptors is evaluated, since these factors have significant implications in terms of prognosis and treatment options.
4. Cytology of nipple discharge.
5. Tests to detect metastasis: X-ray chest or of any suspected bony lesion.
6. Assay of urinary steroids.

Stages

Clinical Staging (Manchester)

1. **Stage I:** Tumour confines within the limit of breast tissue.
2. **Stage II:** Tumour involves the breast tissue along with axillary nodes (mobile).
3. **Stage III:** Tumour extended beyond the limit of breast tissue, i.e. it

involves pectorals and skin. Axillary nodes may or may not be involved, but when involved, they are mobile.

4. **Stage IV:** Tumour fumigating through skin, fixed with chest wall, fixed axillary nodes, significant supraclavicular nodes, distant metastasis, spread to opposite breast.

TNM Staging

The total score will give idea about the extent of malignant process.

Treatment

Conventional treatment for breast cancer depends upon the type and sub-type of tumour, disease stage and the clinical status of the patient. Most breast cancers are considered curable at an early stage but highly incurable once metastatic. Patients with breast cancer require a multimodality approach to treatment; the goal of treatment being to lower the risk of occurrence. However, surgical intervention is the most often employed treatment modality for the cases of breast cancer, followed by radiation therapy. For larger or more aggressive cases, systemic treatment with chemotherapy or hormonal therapy is used. In cases of lobular carcinoma-in-situ lumpectomy is done; for ER+ cases, hormonal therapy with tamoxifen is given; and for ductal carcinoma in situ is breast conserving surgery is followed by radiation therapy.

Surgery

Surgery is used in almost all cases of breast cancer, with the goal of removing all cancerous tissue and obtaining a clean surgical margin. Women who carry the BRCA1 or BRCA2 genetic mutation and who are diagnosed with breast cancer are more likely to develop disease in the other breast and therefore mastectomy of the affected breast and a prophylactic mastectomy of the other breast is suggested. After the surgery, other modalities like radiation, chemotherapy or hormonal therapy are given according to the requirements of the case. There are several surgical options, depending on the stage and aggressiveness of the cancer, including:

1. Lumpectomy (removal of the tumour and a clean margin).
2. Lumpectomy with removal of sentinel nodes (removal of the tumour and

one or a small number of lymph nodes that are the first to receive drainage from the tumour and that are most likely to harbour metastatic disease).
3. Mastectomy (removal of the whole mammary gland).
4. Modified radical mastectomy (removal of the breast and axillary lymph nodes).
5. Radical mastectomy (removal of the breast, axillary lymph nodes, and chest wall muscles).

With advances in investigative techniques, more breast cancers are being detected in early stages. As a result, breast-conserving surgery is often a safe and effective option.

Radiation

Radiation is used as a pain control measure in metastatic disease, as it can help shrink tumours. This is especially indicated when these tumours are large enough to be causing tissue and nerve compression, and associated tissue dysfunction and pain. In these instances, the symptom relief provided by radiation-induced tumour shrinkage typically outweighs any adverse reactions to the radiation itself. Radiation therapy often has side effects such as local skin irritation and fatigue, and in some cases there are delayed complications like radiation pneumonitis, cardiac problems, arm oedema, and increased risk of subsequent malignancies in the long term. Despite some of the adverse effects of radiation therapy, it can lower the risk of local recurrence. Radiation therapy can lower the risk of local recurrence but the risk of recurrence in the opposite breast or elsewhere in the body is not reduced. In an effort to lower the risk of recurrence at distant sites it is always advisable to take homoeopathy and improve the immune system.

Chemotherapy

Chemotherapy is given with adriamycin, cytoxan, and/or paclitaxel. Women with metastatic breast cancer are usually given chemotherapy along with hormonal therapy and trastuzumab if the tumour is HER-2/neu-positive. Majority of the patients do not experience side effects while on Herceptin; but in those with cardiac conditions, there is a risk of significant heart damage.

There are several chemotherapy agents used for metastatic breast cancer, including doxorubicin, cyclophosphamide, fluorouracil, methotrexate, epirubicin, carboplatin, paclitaxel, and docetaxel. Women with node-positive, ER-positive, PR-positive, and HER-Z/neu positive tumours tend to respond most favourably to chemotherapy. Adverse effects from chemotherapy are expected, and homoeopathic management of these symptoms is important. Chemotherapy drugs used and their side-effects are:

1. **Platinum:** Nausea, vomiting, decreased blood cell count and platelet, and immunosuppression, nephrotoxicity, and neurotoxicity
2. **Taxol (Paclitaxel):** Fatigue, hair loss, numbness and tingling, mouth sore, diarrhoea, sometimes bradycardia, abdominal pain, temporary alteration in taste, headache, and loss of fertility.
3. **Taxotere (Docetaxel):** Fatigue, reduction in bone marrow function, fluid retention, rash, hair loss, sore mouth, diarrhoea, nausea, numbness, and tingling loss of fertility.
4. **Irinotecan:** Increased sweating, increased saliva production, watery eyes, abdominal cramps, diarrhoea, fatigue, nausea, loss of appetite, reduction in bone marrow function, hair loss and thinning of hair, and bad effects on foetus.
5. **Gemcitabine (Gemzar):** Flu-like symptoms, vomiting, constipation, diarrhoea, loss of appetite, headache, muscle pain, fatigue, blood in urine and stools, skin rash, insomnia, cough or hoarseness, lower back pain, high blood pressure, alopecia, itching, numbness, and tingling.
6. **Vinorelbine:** Lowered resistance to infection, bruising or bleeding, anaemia, constipation, diarrhoea, nausea, numbness and tingling, tiredness, hair loss, and allergic reaction.
7. **Zoledronic acid (Zometa):** It is used to treat breast cancer bone metastasis. Recent data indicates that it may also help prevent breast cancer metastasis to the bone and elsewhere in premenopausal women with breast cancer. Many times adjuvant homoeopathic drugs show better results.

Hormonal Therapy

Hormonal therapy, or endocrine therapy, is effective for the tumours that are positive for either oestrogen or progesterone receptors (ER+, PR+). Hormone

therapy can help prevent recurrence and death from breast cancer when used either by itself or after chemotherapy. Hormonal therapy may also be given before surgery to shrink a tumour; or after surgery to reduce the risk of recurrence. Tamoxifen, a drug that blocks oestrogen from binding to breast cancer cells is used usually. However, adverse effects of Tamoxifen increases the risk of deep vein thrombosis, pulmonary emboli, and endometrial cancer. Therefore, the patients taking Tamoxifen should be monitored and managed for these side effects.

Supportive Therapy

Psychosocial support should be given to maintain a positive attitude and will towards life and to aid in coping with cancer.

Additional medication to relieve nausea and to control pain may be needed.

Physical therapy helps in maintaining muscle strength.

Complementary Approaches

Lifestyle Improvements

Alcohol intake is very strong risk factor for breast cancer therefore the patient should be well aware of the implications and should be encouraged to reduce the alcohol consumption. More is the quantity of alcohol consumed more the risk gets amplified. Folic acid found in various beans, and leafy vegetables like coriander, asparagus, and spinach is thought to have a protective effect against the alcohol intake associated risk.

The diet should be modified so as to include a variety of fruits and vegetables. These provide the required nutrients and antioxidants to fight off the abnormal cellular activity, are low in fat and high in fibre. Such a diet is useful for the prevention of metastasis and aids in long term survival. Sugar consumption should be reduced since high sugar diet enhances insulin resistance which promotes breast cancer growth. High carbohydrate diet, high glycaemic index foods, and insulin resistance, are all related and are associated with ER+/PR- breast cancer risk.

Moderate physical activity improves the metabolism of the body thereby

reducing the risk factors for the development and progression of breast cancer, like obesity.

Natural Supplements

1. Vitamin D therapy improves prognosis in advanced breast cancer.
2. Vitamin E is useful in inhibiting oestrogen receptor positive cancer growth by altering the cellular response to oestrogen.
3. Omega-3 fatty acids found in flax oil, algal oil, and fish oil, help to reduce breast tumour growth.
4. CoQ10 is helpful for improving the health of advanced breast cancer patients.
5. L-glutamine increases the effectiveness of chemotherapy drugs, such as methotrexate and paclitaxel, in cases of breast cancer.
6. Melatonin higher melatonin levels are associated with a lower risk of breast cancer. Melatonin inhibits the enzyme aromatase thereby reducing the conversion of androgens in fat cells into oestrogen. Androgens are the primary source of oestrogen in menopausal women, so this is a significant way to lower breast cancer risk in menopausal women.
7. Flaxseed lignans can reduce tumour growth and help prevent metastasis.
8. Curcumin decreases oxidative damage, has anti inflammatory effect inflammation, interferes with growth factor stimulation of breast cancer cells, and reduces tumour growth. Curcumin should be avoided if the chemotherapy drug doxorubicin is being used.
9. Black cohosh *(Actea racemosa)* has significant protective effect on the rate of recurrence of breast cancer.
10. Ashwagandha *(Withania somnifera)* reduces cell proliferation and increases apoptosis in ER+ and ER– human breast cancer cells.
11. Fermented wheat germ extract (Avemar) enhances tumour destruction when combined with hormonal therapies.
12. Green tea can inhibit cancer cell growth and invasion.
13. Mistletoe extract reduces complaints including mouth sores, fatigue, pain, and headache and also prevents metastasis.

Treatment follow-Up

After treatment is completed, the patients should be seen every one or two

months for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lymph nodes and abdomen,
2. blood chemistry test every three to four months, and
3. neurological examination.

Complications

1. Injury of nerves
2. Sloughing of skin
3. Local recurrence
4. Distant metastasis
5. Limitation of shoulder movements
6. Oedema of arms

Thyroid Cancer

Thyroid cancer is the most common malignancy of the endocrine system. The incidence of thyroid cancer has tremendously increased in India in the past decade, due to increased occurrence of the disease along with advent of improved diagnostics. Thyroid cancer is two to four times more common in females than males; genetic factors also play a part in the development. Thyroid cancer can occur in any age-group but more so in adults aged 45 to 54 years; prognosis is better for patients of younger age at diagnosis. A common clinical finding in the thyroid is the nodules, that are mostly benign and a small fraction of these turn out to be malignant. Thyroid cancer occurs in four forms: papillary thyroid cancer, follicular cancer, anaplastic cancer, and medullary cancer. Papillary and follicular types are more common, also treatable and have a better prognosis while medullary and anaplastic cancers are less common, more aggressive, and tend to metastasise, therefore have a poorer prognosis.

Aetiology

The exact cause of thyroid cancer remains unknown, however a few risk factors have been identified:

1. Exposure to high doses of radiation like X-rays, or radioactive material is a very strong risk factor for thyroid cancer.
2. Family history of thyroid diseases like goitre, or inherited genetic mutations increase the risk of some types of thyroid cancer.
3. Inadequate dietary intake of iodine may also be one of the risk factors especially for the follicular type.
4. An association has been found that patients of celiac disease may be having more risk of developing thyroid cancer.

Signs and Symptoms

1. Appearance of a lump in the region of the thyroid gland. The thyroid swelling moves with deglutination.
2. Hoarseness or change of voice.
3. Pain in the throat or neck, dysphagia, odynophagia.
4. Dyspnoea.

Diagnosis

Thyroid cancer may be diagnosed if the patient presents with the above mentioned symptoms or it might be discovered during a routine physical examination or investigations.

1. The neck region is palpated for swellings or lumps that are noted for their characteristics and if found suspicious malignancy is ruled out by other tests.
2. Blood tests for the levels of thyroid stimulating hormone and calcitonin.
3. Ultrasound is used to check the number and size of thyroid nodules and to determine if it is solid or cystic and also to assess the status of surrounding lymph nodes.
4. Radioiodine thyroid scan differentiates between the ‘hot’ nodule or ‘cold’ nodule depending upon the radioactive iodine uptake. Hot nodules usually are not cancerous, but cold nodules can be benign or cancerous. However, a definite diagnosis of malignancy needs to be confirmed further.
5. Biopsy is the confirmatory test and is done by fine needle aspiration (FNA) of the suspected thyroid nodule.

Conventional Treatment

Early diagnosis and proper treatment of thyroid cancer patients improves the prognosis and reduces the mortality rate due to this disease. The prognosis and treatment of thyroid cancer depend on the type and stage of the malignancy during diagnosis.

Surgery

Thyroidectomy is also recommended for most of the malignant thyroid tumours. Depending upon the extent of surgery, surgical options for primary tumours are hemithyroidectomy (i.e. removal of a lobe of the gland with or without isthmusectomy), near-total thyroidectomy (leaving <1 g of thyroid tissue adjacent to the recurrent laryngeal nerve); and total thyroidectomy i.e. removal of the entire gland. Patients with near-total thyroidectomy or total thyroidectomy require lifelong thyroid hormone replacement. There may be lymph node involvement in some cases, in those cases the affected lymph nodes are also removed along with the gland.

Radioactive Iodine Treatment

In case of large tumours or cases with advanced metastasis, surgical treatment does not suffice. In addition, the remnant thyroid tissue may be the site of recurrence. In these cases, radioactive iodine therapy is used. The malignant thyroid cancer cells take up the administered radioactive iodine (^{131}I) and are destroyed by its radioactivity. There are side effects which are common after ^{131}I therapy and include salivary gland dysfunction, dry eyes, transient fertility reduction, transient leukopenia, and thrombocytopenia.

External Beam Radiation

External beam radiation is occasionally used for palliative treatment of advanced or inoperable cases in order to shrink the cancerous thyroid tumours. It is also used for tumours that are unresponsive to radioactive iodine therapy. Most medullary and anaplastic tumours do not benefit from radiation therapy.

Chemotherapy

Chemotherapy is used in cases of relapse of papillary or follicular cancers or advanced anaplastic and medullary thyroid tumours in which the above mentioned treatment modalities are not successful. Chemotherapy agents used include doxorubicin and cisplatin. Chemotherapy may result in side effects such as an increased risk of infection, fatigue, hair loss, poor appetite, nausea, and vomiting.

Supportive Therapy

Psychosocial Support

It is to maintain a positive attitude and the will towards life and to aid in coping with cancer can help a patient survive the rigors of surgery, chemotherapy, and radiation therapy.

Diet and Nutrition

A diet rich in iodine and other important nutrients can is essential to keep away from thyroid diseases, including cancer. A diet high in soy products should be avoided by those diagnosed with thyroid cancer or for those who are at high risk of thyroid cancer. Certain foods like turnips, cabbage, soya beans, peanuts, and pine nuts inhibit the utilisation of iodine and should be avoided. Foods high in zinc, and vitamins A and E are helpful in the synthesis of thyroid hormones. Rich sources of zinc are pumpkin seeds, whole wheat, rye, and certain nuts. Physical therapy will help maintain muscle strength to keep life as normal as possible.

Nutrients and Herbs

1. Vitamin A inhibits the growth of thyroid cancers by encouraging malignant cells to differentiate into cells that behave normally. Retinoic acid may be especially beneficial in follicular thyroid cancers.
2. Vitamin E and CoQ1O: Patients with follicular and papillary thyroid tumours had higher levels of vitamin E and a lower concentration of CoQ10 in the thyroid tissue.
3. Melatonin can reduce oxidative damage associated with many thyroid diseases, and also it is a significant factor in development of thyroid cancer.

4. Quercetin may inhibit the growth of thyroid cancer as it inhibits thyroid peroxidase, a stimulator of thyroid cells, including malignant thyroid cells. Thus, quercetin may inhibit the growth of thyroid cancer.

Treatment follow-up

Since the risk of relapse is greatest in the first two years, a regular follow-up with a physician every one to three months is essential.

1. Blood chemistry tests for hormone assay, every three to four months.
2. Physical examination of the neck.
3. Ultrasound.

Lung Cancer

Lung cancer is one of the commonest cancers and cause of cancer related deaths worldwide. Thirteen per cent of all new cancer cases and nineteen per cent of cancer related deaths worldwide are due to lung cancer. There were 1.8 million new lung cancer cases estimated to occur in 2012. In India, lung cancer constitutes 6.9 per cent of all new cancer cases and 9.3 per cent of all cancer related deaths. It is the commonest malignancy and cause of cancer related deaths in men. Lung cancer is broadly divided into small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC). The main histological subtypes of NSCLC are adenocarcinoma and squamous cell carcinoma. SCLC is more aggressive than NSCLC, with a prognosis that is even worse.

Signs and Symptoms

1. A new or changing cough
2. Blood stained sputum
3. Hoarseness or shortness of breath or increased shortness of breath during exertion and wheezing
4. Recurrent episodes of lung infection (sometimes in the same lobe of the lung as cancer) like chronic pneumonia or bronchitis
5. Weight loss or loss of appetite and fatigue
6. Swelling of face or arms and neck

7. Symptoms of metastasis can include: severe headache, double vision, pain in the bones, chest, abdomen, neck, and arms.

Non-Small Cell Lung Cancer

Non-small cell lung cancer (NSCLC) is the second most common cancer and the number one cause of death due to cancer in both men and women. In fact, lung cancer has now surpassed breast cancer as the number one cancer killer of women, killing twice as many women as breast cancer. This is very unfortunate since it is one of the most preventable cancers. The cause is well known. Before tobacco use became popular, lung cancer was a rare disease.

Types of NSCLC

There are at least four distinct types of non-small cell lung cancer. They are:

1. Adenocarcinoma
2. Squamous cell
3. Large cell
4. Broncho-alveolar carcinoma

Spread of Cancer

Non-small cell cancers can spread through lymphatic system and blood. It can also directly invade to involve the centre of the chest (mediastinum), the lining of the chest, ribs, and if it is in the top part of the lung, the nerves and the blood vessels leading into the arm. When non-small cell lung cancer enters the blood stream, it can spread to distant sites such as the liver, bones, brain, and other places in the lungs.

Causative Factors

1. Cigarette smoking has been a major factor in the development of both small cell and non-small cell cancers.
2. Lung tissue affected by the connective tissue disease scleroderma may be associated broncho-alveolar carcinoma.
3. Lung cancer may also occur at sites of old scars in the lung resulting from an infection (tuberculosis) or an injury (scar carcinoma) or prior radiation.

4. Lung cancer may predispose a person to a higher incidence of developing another lung cancer later.

Risk Factors

Significantly Higher Risk Factors

1. **Cigarette smokers:** The Indian Chest Society reports that 89 percent of lung cancer cases are caused by smoking tobacco products. Exposure to second hand tobacco smoke can also lead to lung cancer, accounting for 12,000 lung cancer deaths each year.
2. **People exposed to radon:** The second leading cause of lung cancer is exposure to radon gas. Radon occurs in underground rock and earth and can be found in well water and building materials.
3. **Male adults:** The male to female ratio is 4:1. Peak incidence occurs between ages fifty and sixty.
4. **Industrial exposure:** Workers exposed to industrial substances such as asbestos, nickel, chromium, cadmium, uranium, radon compounds, arsenic, petroleum products, and chloromethyl ether, especially those who smoke.
5. **Past history:** Prior early-stage lung cancer or head and neck cancer.

Slightly Higher Risk Factors

1. Patients with previous or pre-existing lung disease.
2. Former smokers.
3. People who are second hand smokers for many years.

Diagnosis

Diagnosis is done by a series of investigative measures for the suspected cases. A thorough clinical history is of utmost importance for evaluation of individual risk factors such like history of smoking or exposure to tobacco smoke, exposure to other toxic carcinogenic substances, family history, past history, etc.

1. Physical examination:
    a. Lymph node enlargement in the neck or in the region above the collar bone.

b. Enlarged liver or another mass in the abdomen.
c. Signs of a mass in one lung, such as decreased breath sounds, noises in the lung that are not usually present, and areas of dullness on percussion, indicating presence of fluid in the lung.

2. Blood and other tests
3. Sputum examination for malignant cells
4. Imaging
   a. A chest x-ray that shows an abnormality does not establish a diagnosis until some tissue is obtained and examined under the microscope.
   b. CT scans of chest and often the liver and adrenal glands.
   c. PET scans can be helpful in staging the mediastinum. A positive PET scan strongly suggests that cancer might be present.
   d. Sometimes PET, CT, or MRI scans of the brain may be required.
5. Endoscopy and Biopsy
   a. Fibre-optic bronchoscopy with brushing, lavage, and/or biopsy
   b. Mediastinoscopy with biopsies
   c. FNAC under a local anaesthesia and often with CT guidance
   d. Removal and analysis of fluid in the chest to detect tumour cells
   e. Pleural biopsy
   f. Lymph node biopsy
   g. Bone biopsy
   h. Liver biopsy
   i. Biopsy of nodule during surgery
   j. DNA analysis.

Conventional Treatment of NSCLC by Stage

1. **Stage I:** T1-2, N0, M0. The tumour can be removed surgically and has not spread to involve the lymph nodes.
   Standard treatment: The lobe of the involved lung with the tumour in place is removed along with the nearby lymph nodes. Sometimes the entire lung on one side needs to be removed to ensure that the entire tumour is resected.
   In patients with a small (T1) tumour or in patients with impaired lung function, only a wedge segmental resection, which removes the tumour with a small amount of normal surrounding tissue, is done. A lobectomy

has a better success in preventing a local recurrence compared with a wedge resection. Most of the patients can tolerate an upper lobectomy unless they have severe, diffuse pulmonary dysfunction.

In patients with severe lung or heart disease who cannot tolerate surgery, limited radiation is used.

Survival rate: 5 years (50 to 80 percent).

2. **Stage II:** T1-2, N1, M0 or T3, N0, M0. The tumour has spread to the hilar (N1) nodes or the tumour invades the chest wall, mediastinum, or diaphragm (T3).

   Standard treatment: This stage is treated with surgery. Patients who are unable to withstand surgery should receive radiation therapy or chemoradiation.

   A special condition under Stage II is a superior sulcus tumour, which involves cancers in the top of the lung that invades local nerves and cause pain in the arm (often classified as T3, N0 and M0). These tumours seem to have a reduced potential for distant metastasis, so local radiation therapy is possible for cure. Surgery is frequently used after radiation. Additional chemotherapy to radiation, followed by surgery, significantly increase the cure rate of these upper lung tumours.

   Survival rate: 5 years (30 to 50 percent).

3. **Stage IIIA:** T1-2, N2, M0 or T3, N1-2, M0. Stage III is divided into IIIA and IIIB. Both show involvement of nodes in the centre of the chest, but Stage IIIA tumours maybe removed under certain circumstances.

   Standard treatment: These tumours are treated mainly with radiation therapy and chemotherapy, surgery, or both, depending on the clinical circumstances.

   Radiation therapy is frequently given after surgery, which helps in reducing recurrences at the original tumour site.

   Patients whose tumours invade the chest wall or the upper portions of the lung / chest can often be treated with surgery, which may involve the removal of some of the chest wall, including ribs and chest wall reconstruction. Radiation therapy is often used along with surgery.

   Some patients with extensive metastatic disease in the centre of the chest may develop superior vena cava syndrome, in which the great vessels in the chest are compressed by the tumour. When this involves the large vein that returns blood to the heart, the blood gets backed up into the

tissues of the neck, head, and arms. It is an urgent situation and patients should be given prompt radiation therapy.
In case of a superior sulcus tumour, radiation should be given. *Survival rate:* 5 years (10 to 40 percent).

4. **Stage IIIB:** T, N3, M0 or T4 (non-effusion lesions), any N, M0. The tumour cannot be removed due to technical reasons or because there would be no benefit to the patient.
   Standard treatment: These tumours are best treated with radiation and chemotherapy where best results are seen when chemotherapy is administered concurrently with radiation therapy.
   Survival rate: 5 years (5 to 20 percent).
5. **Stage IV:** Any T, any N, M1. The cancer has spread to different sites.
   Standard treatment: Metastatic disease cannot be cured by surgery, so the treatment for this stage is directed towards relieving symptoms with either radiation therapy or chemotherapy. Radiation may relieve local symptoms such as tracheal, oesophageal, or bronchial compression, bone or brain metastasis, pain and vocal cord paralysis, haemoptysis and superior vena cava syndrome. Patients without symptoms should be kept under close observation.
   Chemotherapy will give modest but consistent and significant improvements in survival. The new combinations of chemotherapy drugs are well tolerated; the more severe side effects deal mostly with suppression of the bone marrow. Occasionally, people with excellent performance status and a limited metastatic disease can benefit with aggressive combined treatment, including chemotherapy, radiation, and resection or gamma knife treatment of metastasis, as well as resection of the primary tumour of the lung.
   Survival rate: 5 years (Less than 5 percent).

Treatment Follow-up

Since the risk of relapse is greatest in the first two years, a regular follow-up with a physician every one to three months is essential.

1. Chest X-ray every three to four months in the absence of symptoms.
2. Chest X-ray is done more often if symptoms occur.
3. Blood chemistry tests every three to four months.
4. Physical examination of the chest, lymph nodes and abdomen.

5. Neurologic examination.

Small Cell Lung Cancer

Small cell lung cancer (SCLC) accounts for about 20 percent of all lung cancer cases. It is also called oat cell carcinoma of the lung. It has the most rapid clinical course among any type of lung cancer with average survival (with extensive stage disease from the time of diagnosis of only several months without treatment).

Compared to other types of lung cancer, small cell carcinoma has a greater tendency to have spread widely by the time of diagnosis. Because of its rapid growth, it tends to be more responsive to treatment with chemotherapy and radiotherapy than are the other types of lung cancer.

Small cell cancer is not always confined to the lung. Occasionally, it may occur in other organs such as the oesophagus, prostate, and cervix and sometimes it may occur without the primary site of origin. Chemotherapy remains the fundamental basic treatment.

Types of SCLC

1. Small cell
2. Mixed small cell / Large cell
3. Combined small cell

This tumour arises from neuro-endocrine cells and is known as an APUD (amine precursor uptake and decarboxylation) tumour. These tumours can abnormally produce hormones and cause para-neoplastic syndromes.

For example, if the tumour produces too much cortisone the condition is called Cushing’s syndrome. If ADH is produced, water is retained in the body and apparent salt level decreases. Each of these paraneoplastic syndromes produce its own signs and symptoms.

Spread of Cancer

SCLC can spread via lymphatic vessels to the lymph nodes in the centre of the lung (hilar nodes), centre of the chest (mediastinal nodes), neck and above the collar bone (supraclavicular nodes), and in the abdominal cavity. It

is likely to spread through the bloodstream to the liver, brain, and bones. Classically, small cell lung cancer presents with small primary tumours in the lung and large mediaclonal lymph nodes.

Risk Factors

Lung cancer may predispose a person to higher risk of developing another lung cancer later. Risk factors are:

1. Cigarette smoking.
2. Exposure to industrial substances such as asbestos, nickel, ionization, radiation, chromium compounds, and chloromethyl ether and /or air pollutants.

Diagnosis

1. The diagnosis of small cell lung cancer is usually apparent by routine microscopy.
2. Other techniques include electron microscopy, which detects the small cell cancer's neuroendocrine granules and immunocytochemical stains, which can detect certain markers, which are characteristic of small cell cancer.
3. Blood and other tests.
4. Chemistry profile.
5. Sputum examination.
6. Removal of fluid from the chest and examination of it for malignant cells.
7. Imaging:
    i. Chest X-ray
    ii. CT scan of the chest and abdomen
    iii. MRI or CT scans of the brain
    iv. PET scans can be helpful in staging the mediastinum. A positive PET scan strongly suggests that cancer might be present
    v. Bone scan.
8. Endoscopy and Biopsy:
    i. Fibre-optic bronchoscopy with brushing or biopsy

ii. Mediastinoscopy with biopsies

iii. Needle biopsy through the chest wall

iv. Biopsies of the chest lining, lymph nodes, bone, and liver.

Staging

By focusing on limitation of disease staging will determine the prognosis and may affect the choice of treatment. Limited stage means the tumour is confined to the chest only, including the mediastinum and the supraclavicular nodes.

Extensive-stage disease means the tumour is too widespread to be included within the definition of limited-stage disease and is typically considered as involving sites below the diaphragm or in the opposite lung.

Treatment of SCLC by Stage

Limited Stage

Standard treatment: Limited-stage small cell lung cancer is highly responsive to treatment with combination chemotherapy. Radiation therapy along with chemotherapy may improve the survival rate. A small minority of very limited stage patients without evidence of tumour in the mediastinum might benefit from surgery followed by adjuvant chemotherapy.

Survival rate: 2 years (20 percent).

Extensive Stage

Standard treatment: Extensive-stage small cell lung cancer patients are given chemotherapy in much the same way as those with limited stage disease.

Radiotherapy may relieve symptoms caused by the primary tumour or metastatic disease. Symptoms of brain metastasis and pain from bone metastasis can be promptly relieved with radiation.

If the superior vena cava syndrome is present, chest irradiation may result in a very rapid initial response.

Survival rate: 2 years (5 percent).

Treatment follow-up

After treatment is completed patients should be seen every one or two months for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lungs, chest wall, lymph nodes, and abdomen,
2. chest X-ray every three to four months or more frequently if required,
3. blood chemistry test every three to four months, and
4. neurological examination.

Recurrent Cancer

If small cell lung cancer recurs, the prognosis is very poor regardless of stage or treatment. The expected average survival is two to three months, so the patient should be considered for palliative treatment.

Palliative therapy could include chemotherapy agents that have not yet been used or radiation therapy for bone metastasis or when otherwise appropriate.

Supportive Therapy

Psychosocial support is to be given to maintain a positive attitude and the will towards life and to aid in coping with cancer. This can help a patient survive the rigors of surgery, chemotherapy, and radiation therapy. Physical therapy helps in maintaining muscle strength to keep life as normal as possible.

Lifestyle and Diet

Cigarette smoking is by far the leading cause of lung cancer, accounting for most of the cases of lung cancer. Smoking one pack of cigarettes a day increases the risk of developing lung cancer by twenty times, as compared to a non-smoker. Those who have quit smoking have a lower risk than the active smokers but higher than non-smokers for several years after quitting. To help the patients to quit smoking, a variety of approaches are available that utilise conventional nicotine addiction aids along with complementary acupuncture, behavioural modification techniques and supplements such as vitamin C, and *Lobelia inflata* (Indian tobacco plant). Women smokers are more at risk of developing lung cancer since oestrogen also plays a role in

lung cancer development. Therefore, women who are taking hormone replacement therapy should be extra cautious.

Lifestyle factors other than cigarette smoking, such as diet and exercise, have been extensively investigated for their potential role in influencing lung cancer risk. The most thoroughly investigated dietary factors are also those that appear to have the greatest implications for prevention are fruits, vegetables, and specific antioxidant micronutrients that are commonly found in fruits and vegetables.

Since lung cancer patients have a high risk of developing cachexia, therefore it is important to take a protein rich diet consisting of legumes, nuts and seeds, lean meats such as chicken and pork, cold water fishes like tuna, herring, salmon, mackerel and sardines, etc.

Nutrients and Herbs

A number of nutrients and herbs are beneficial for lung cancer, specifically NSCLC. These are:

1. Antioxidants like carotenoids, flavonoids, vitamin E, selenium, and vitamin C are useful especially for the male smokers.
2. Vitamin D: Among early-stage NSCLC patients, adequate vitamin D has been associated with increased survival.
3. Curcumin has been shown to induce apoptosis in human non-small cell lung cancer.
4. Melatonin hormone has anti-cancer effects, improves the quality of life and is useful in many types of cancers.
5. *Ashwagandha* has immune-stimulating properties and helps in suppressing proliferation of lung cancer cells when used along with the other treatment modalities.
6. Green tea and its active compound EGCG can induce apoptosis of lung cancer cells; useful for many cancers, including lung cancer.
7. *Astragalus* herb improves survival of lung cancer patients when used along with homoeopathy and chemotherapy.
8. Fermented wheat germ extract (Avemar) helps in cases with distant metastasis.
9. Shark cartilage (Neovastat liquid extract): It has been used in United States by many cancer patients, and provided satisfactory results.

10. Silymarin, an antioxidant flavonoid found in the milk thistle, has been shown to inhibit tumour growth and progression of lung cancer cells.

Oesophageal Cancer

Worldwide, oesophageal cancer is the eighth most common cancer with an annual incidence of 456,000 new cases. In India, it is the fourth most common cause of cancer-related deaths. Currently, Squamous cell carcinoma is the most common type of oesophageal cancer in the Indian subcontinent and the most common location is the distal third of the oesophagus. It is prevalent among both men and women.

Aetiology

The major risk factors for cancer of oesophagus include obesity, chronic gastroesophageal reflux disease, and the presence of Barrett's oesophagus, poor nutritional status, low intake of fresh fruits and vegetables, consumption of hot beverages, excess tobacco and alcohol consumption, exposure to harmful radiation, and possibly human papillomavirus infection.

Sites of Oesophageal Cancer

1. At the level of cricoids.
2. At the level of aortic arch and where the left bronchus crosses the oesophagus.
3. At the level of diaphragm, at cardia.

Types

1. **Squamous cell carcinoma:** The most common form in other countries.
2. **Adenocarcinoma:** The most common form in India.

Spread of Cancer

1. **Direct spread**
    i. **By continuity:** The whole wall of the oesophagus is infiltrated by

spreading of cancer cell in longitudinal and transverse direction.

ii. **By contiguity:** Cancer spreads out of the wall and spread to the surrounding organs.

2. **Lymphatic spread:** By embolism and permeation cancer cell reaches the lymphatic and thus spread to other organs.
3. **Venous spread:** Only the cancer of lower end spread to the liver via portal system.

Signs and Symptoms

1. Usually male, aged 45 – 70 years are usual sufferers.
2. Progressive dysphagia.
3. Anorexia, asthenia and anaemia.
4. Regurgitation of food mixed with froth, saliva and blood.
5. Retrosternal, interscapular or epigastric discomfort.
6. Fatigue.
7. Chest pain (e.g., pressure or burning).

Diagnosis

1. Barium meal examination followed by endoscopy (using a lighted, flexible endoscope to view the upper GI) –With the barium swallow test, 3 special liquids are ingested, which coats the walls of the oesophagus so x-rays can clearly outline the oesophagus and any irregularities or filling defect at the site of growth. Even small, early cancers can be seen using the barium swallow test.
2. Oesophagoscopy.
3. Bronchoscopy to exclude involvement.
4. Exfoliative cytology – Oesophageal lavage is examined for cancer cells.
5. CT scan.

Conventional Treatment

Surgery

Surgery is done to remove the oesophagus partially or completely

(oesophagectomy). How much of the oesophagus is removed depends upon the stage and location of the malignancy. If the location is at the lower end of oesophagus, a part of the stomach is also removed. The upper part of the oesophagus is then connected to the remaining part of the stomach. As with other surgeries, there may be complications that need to be managed as well.

Radiation therapy or Chemotherapy

Radiation therapy or chemotherapy alone are not sufficient for management of this malignancy. Often a multimodality approach is utilised combining surgery with radiotherapy and/or chemotherapy. This approach helps to shrink the tumour size that makes surgery feasible. However, radiation therapy can cause oesophageal strictures, so the symptom of difficulty in swallowing is not relieved much. Cisplatin and 5-fluorouracil (5 FU) are the chemotherapy drugs most often used.

Photodynamic therapy

Photodynamic therapy (PDT) is used to destroy the tumour and to relieve dysphagia in cases of early stage oesophageal cancers, oesophageal dysplasia, or Barrett's oesophagus, or for large cancers that obstruct the oesophagus. PDT utilises laser beams that destroy malignant cells with very less harm to the normal cells. However, the laser light is not able to penetrate deeper into the oesophageal tissues or of other organs. The complications of the procedure include bleeding, strictures or perforation of oesophagus.

Supportive Therapy

Psychosocial Support

It is to maintain a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle and Diet

Lifestyle factors such as obesity, alcohol consumption, tobacco chewing or smoking, increase the risk of oesophageal cancer, thus these should be avoided. Physical therapy helps to maintain the muscle strength.

Beneficial foods for reducing the risk of oesophageal cancer are fruits, vegetables, green tea, olive oil, etc.; while red meat consumption is associated with increased risk.

Nutrients and Herbs

Since the patients usually experience difficulty in swallowing, the nutrient supplements have to be given in powdered form. The following supplements may be of benefit for people with oesophageal cancer.

1. Alpha-tocopherol, a form of vitamin E, is associated with reduced risk of developing oesophageal cancer. It protects and repairs damaged oesophageal tissue.
2. Glutamine: It helps in cytotoxicity of T cell activity against tumour cells in patients with advanced oesophageal cancer.

Medication

It is given to relieve nausea and to control pain may be needed.

Physical Therapy

It will help maintain muscle strength.

Treatment follow-up

After treatment is completed patients should be seen every one or two months for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lymph nodes and abdomen,
2. blood chemistry test every three to four months, and
3. neurological examination.

Gastric Cancer

Gastric cancer is the second-most common cancer among men and third-most common among females in Asia and worldwide. The gastric cancer incidence in India is relatively low compared to rest of the world. Due to the initial vague symptoms, the medical intervention is sought late and the patients

present when the disease is already in advanced stages. Five year survival is less than 30% in developed countries and around 20% in developing countries.

Predisposing Factors

1. Adenomatous gastric polyp (glandular benign stomach tumours).
2. Chronic gastric ulcer.
3. Chronic atrophic gastritis (stomach inflammation).
4. Blood group A.
5. Infection by *Helicobacter pylori* (bacteria that is a common cause of ulcers and chronic gastritis).
6. Heredity.
7. Diet with large quantities of dry salted meats and other foods containing nitrosamine.
8. History of pernicious anaemia (a severe blood disease).

Sites of Gastric Cancer

1. Pyloric region (commonest site).
2. Lesser curvature.
3. Any part of stomach, e.g. greater curvature, fundus and cardia.

Types

1. **Microscopic type:**
   i. Columnar cell adenocarcinoma (commonest)
   ii. Squamous cell carcinoma (occasional)
2. **Macroscopic type:**
   i. Ulcerative: commonest type
   ii. Proliferative or cauliflower, i.e., polypoid type
   iii. Infiltrative type:
      a. Generalised: the whole stomach gets grossly thickened
      b. Localised: only limited to pyloric region

c. Colloid cancer: The sub-mucous and sub-serous coats are infiltrated
d. Ulcer cancer: Malignant changes occurs in gastric ulcer

Spread of Cancer

1. **Direct spread:**
   i. **By continuity:** The whole wall of the stomach is infiltrated by this.
   ii. **By contiguity:** Cancer spreads out of the wall and to other organs.
2. **Lymphatic spread:** By embolism and permeation, cancer cell reaches to the lymphatic and thus spread to other organs.
3. **Venous spread:** Spread to the liver is the commonest via portal system.
4. **Trans-peritoneal spread:** Widespread metastasis can occur on the peritoneum, particularly the omentum, pelvic floor, ovaries (Krukenberg's tumour).

Signs and Symptoms

1. Common in males aged above 45 years.
2. Dyspepsia, heartburn (gastric reflux), gallstones.
3. Anorexia, asthenia and anaemia.
4. Pain - constant pain with sometime coffee-ground vomiting.
5. Haematemesis and melaena.
6. Pyloric obstruction and dysphagia.
7. Palpable abdominal lump, bloating, vague or premature abdominal fullness, abdominal discomfort, breath odour and excessive belching or flatulence.

Diagnosis

1. By blood examination
2. Faecal occult blood test
3. Gastric fluid analysis
4. Barium meal examination – shows filling defect at the site of growth
5. Gastroscopy: Shows the growth and biopsy can be done

6. Exfoliative cytology: Gastric wash is examined for cancer cells
7. Tetracycline flourescence test: Tetracycline rapidly absorbed by the cancer cells and under ultraviolet rays it appears as a yellow fluorescence during gastroscopy
8. Exploratory laprotomy.

Prognosis

The best prognosis occurs when gastric cancer is diagnosed early, namely before it extends beyond the stomach wall and before it involves lymph nodes; in such cases, a cure is expected in more than 50 percent of patients. When the cancer is confined to the mucosa and treated by surgical removal of the stomach and regional lymph nodes, long-term survival rates are more than 90 percent. Once the cancer has spread outside the stomach and into regional lymph nodes, only 10 to 15 percent of patients can expect to survive at least five years. This is a poor prognosis, but current treatment strategies offer much improvement in terms of quality of life and some prolongation of life.

Treatment

Surgery

Malignant growth along with at least one and half centimetre area of healthy stomach and all nodes draining the stomach is removed in radical surgery.

Palliative surgery is done in case of inoperable pyloric growth. Gastro-jejunostomy, oesophago-jejunostomy and permanent jejunostomy are done according to the position of the growth. Gastric reconstruction is done in case a large part of the stomach is removed.

Radiation and Chemotherapy

Radiation may be used pre or post-operatively, especially in advanced cases. Certain types of gastric tumours are associated with localised recurrence. In these cases, radiation can be effective, particularly for symptom management. Bleeding, pain, and nausea are some of the symptoms that radiation therapy can alleviate.

Chemotherapy is seldom used alone; it is used to shrink inoperable tumours or slow the growth of advanced cancers. When combined with radiation, it shows some success in reducing advanced cancers. Radiation combined with chemotherapy (fluorouracil and leucovorin) after surgery for cancers of the upper stomach leads a significant five year survival advantage. Typical chemotherapy agents used to treat gastric cancer include fluorouracil (5 -FU), doxorubicin, mitomycin C, cisplatin, epirubicin, etoposide, and methotrexate.

Supportive Therapy

Psychosocial Support

It is to be given to maintain a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle and Diet

Lifestyle factors that can contribute to gastric cancers include smoking, alcohol consumption, and obesity. Smoking directly damages DNA in gastric epithelial and mucosal cells. Smoking also depletes the body of certain essential anti-oxidant nutrients that could otherwise help repair damage from ingested carcinogens. Alcohol directly damages the mucosa of the stomach, leaving the underlying cell layer exposed and susceptible to H. pylori infection, which is associated with an increased risk of stomach cancer.

Diet has a marked influence on gastric cancer risk successful treatment. Starch rich and low protein diet consuming population are at higher risk as they favour acid-activated nitrosation in the stomach which leads to gastric mucosa damage. Garlic and onions can protect the gastric epithelium and should be part of an overall prevention program. There is a much higher incidence of gastric cancer in Japan and that is where much of the research on garlic originates. Garlic also protects against *H. pylori* infection, as well as gastric cancer. High intake of cereal fibre significantly reduced the risk of gastric cancer. Dietary soy intake also reduces gastric cancer risk. Salty food favours *H. pylori* colonization and which further induces cascade of events leading to carcinogenesis. Certain foods that should be avoided are: smoked and cured meats, of dried and salted meats.

Nutrients and Herbs

1. Vitamins C and E help to prevent metastasis.
2. Proanthocyanidins are the phytochemicals from fruits such as cherries, grapes, and berries have antioxidant properties.
3. A mushroom polysaccharide-K (PSK; an extract from the fungus *Coriolus versicolar*) enhances survival time and produces a positive immune response.
4. Astragalus inhibits tumour growth, decreases toxic effects of chemotherapy, increase immune activity, and improves quality of life.
5. Ginkgo biloba is an antioxidant herb that inhibits the growth of gastric cancer cells.
6. Drinking green tea is also associated with a reduced risk of gastric cancer.

Medication

It helps to relieve nausea and to control pain; it may be needed as per the requirement in each case.

Physical Therapy

It will help maintain muscle strength.

Treatment follow-Up

After treatment is completed patients should be seen every one or two months for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the stomach, lymph nodes and abdomen,
2. blood chemistry test every three to four months, and
3. neurologic examination.

Colo-rectal Cancer

Pelvic colon and the pelvi-rectal junction are the commonest sites of colo-rectal cancer. Other sites arranged according to the order of frequency are caecum, ascending colon, transverse colon, descending colon, and the

flexures. There are certain pre-cancerous conditions that predispose to colo-rectal cancer, these are: Familial adenomatous polyposis, Adenoma and villous papilloma, and Ulcerative colitis. Colorectal cancer occurs in various clinical types based on microscopic and macroscopic features.

Microscopic types

1. Columnar: cell carcinoma (commonest)
2. Colloid cancer
3. Anaplastic cancer

Macroscopic types

1. **Non-stenosing variety:**
   i. Proliferative or cauliflower
   ii. Ulcerative
2. **Stenosing type:**
   i. Annular
   ii. Tubular

Spread of Cancer

1. **Direct spread:**
   i. **By continuity:** The whole wall of the colon is infiltrated by spreading of cancer cell in longitudinal and transverse direction.
   ii. **By contiguity:** Cancer spreads out of the wall and to the surrounding organs.
2. **Lymphatic spread:** By embolism and permeation cancer cell reaches to the lymphatic and thus spread to other organs.
3. **Venous spread:** Spread to the liver is commonest via portal system.
4. **Transperitoneal spread:** Widespread metastasis can occur on the peritoneum, particularly ovaries (Krukenberg's tumour).
5. **Implantation of free cells:** During operation, cells get implanted in the suture lines

Signs and Symptoms

1. Passage of blood and mucus.
2. Irregular bowel habit – in non-stenosing type, diarrhoea and dysentery occurs and in stenosing type, alternate diarrhoea and constipation occurs.
3. Anorexia, asthenia and anaemia.
4. Pain – colicky pain in stenosing type.
5. Palpable abdominal lump.

Diagnosis

1. Stool examination
2. Sigmoidoscopy
3. Barium meal examination – shows filling defect at the site of growth
4. Contrast enema
5. Exfoliative cytology – gastric wash is examined for cancer cells
6. Chest X-ray

Conventional Treatment

1. Radical surgery
2. Palliative surgery: It is done in case of non-resectable growth.

Supportive Therapy

1. Psychosocial support is to be given to maintain a positive attitude and will towards life and to aid in coping with cancer.
2. Malnutrition results in a bad outcome in patients. Patient must be served palatable meals keeping his likes and dislikes in mind.
3. Medication to relieve nausea and to control pain may be needed.
4. Physical therapy will help maintain muscle strength.

Treatment follow-up

After treatment is completed patients should be seen every one or two months

for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lymph nodes and abdomen,
2. blood chemistry test every three to four months, and
3. neurologic examination.

Liver Cancer

Hepatocellular carcinoma (HCC) is a not a common cancer, but its incidence is increasing sharply worldwide. It is one of the most malignant tumours; although it is the fifth most common cancer in the world, overall it has a poor prognosis, making it the second leading cancer in terms of cancer related mortality. The annual global incidence is approximately 1 million cases, with a male-to-female ratio of approximately 4:1; and the age incidence is between 50 and 60 years. The common predisposing factors are hepatitis C virus (HCV), hepatitis B virus (HBV) and chronic alcohol consumption; many of the patients suffering from these will eventually get cirrhosis of the liver that makes it prone for malignancy. About 50 to 80 percent of hepatocellular carcinomas are associated with cirrhosis of the liver. Apart from the primary malignancy of the liver, there are also cases in which liver gets involved due to metastasis of the primary malignancy originating from some other site of the body. The prognosis depends upon the number, extent, size of the tumours and metastasis. Metastasised cancer has a poor prognosis when it has spread to the other parts of the liver or to the lungs and bone.

Aetiology

1. The most common cause of liver cancer is cirrhosis that occurs as a result of alcohol abuse.
2. Liver damage due to chronic viral hepatitis B or C also predispose for liver cancer.
3. Other causes are aflatoxin B1 which is a product of the *Aspergillus* fungus. This mould and aflatoxin product may be found in stored grains in hot, humid places, where peanuts and rice are stored in unrefrigerated conditions.
4. Pollutants such as pesticides and insecticides may also have

carcinogenic role.

Signs and Symptoms

1. Abdominal pain.
2. Weight loss, appetite loss, weakness or malaise.
3. Jaundice.
4. Symptoms of cirrhosis like pedal oedema, abdominal bloating, increased girth, pruritus, GI bleeding.
5. Diarrhoea.
6. It may be an accidental finding during routine physical examination, elevated liver function tests or routine CT scan screening of known cirrhosis.

Diagnosis

1. Physical examination reveals hepatomegaly and signs of chronic liver disease.
2. Blood tests show elevated levels of alpha-fetoprotein (AFP), which is elevated in 50 to 70 percent of patients with hepatocellular carcinoma.
3. Biopsy provides the confirmed diagnosis of liver cancer.
4. CT scan, MRI, or radioisotope scan are done to see the size and extent of malignancy and to decide regarding the possibility of surgical intervention.

Conventional Treatment

Liver cancer is usually managed with surgery, followed by chemotherapy to help prevent a recurrence.

Surgery

In many cases where the malignant tissue of the liver is surgically removed, the rest of the healthy tissue regenerates. Surgery is especially beneficial for stage I or II tumours. Surgical removal of malignant tumours within a segment is considered when they are localised, that are not in close proximity with the major blood vessels. The extent of removal depends upon the size

and location of the tumour; there are three types of surgeries:

1. Tumour resection, i.e. removal of the malignant tissue from the liver,
2. Partial hepatectomy, i.e. removal of a part of the liver, and
3. Total hepatectomy i.e. surgical removal of the entire liver which is followed by liver transplant. It is usually done when there is marked cirrhosis of the liver along with the malignant disease. The transplanted liver may be partial liver from a living donor, or whole liver when it is a cadaveric liver transplant. Transplanted liver has a risk of rejection so the recipient has to be on immunosuppressant medication for lifelong.

Small inoperable tumours which are less than 2 inches in size are removed with cryosurgery, percutaneous ethanol injection, or radiofrequency ablation.

Chemotherapy

In order to prevent recurrence of malignant tumour, the above mentioned approaches are followed by regional or systemic chemotherapy. Even though chemotherapy delays the recurrence or progression of the disease but it does not seem to impact overall life span of the patients. Chemotherapy can produce temporary relief of symptoms, particularly from pain, associated with liver tumours and thus provide palliative care. For more effective delivery of chemotherapy drugs in multifocal disease, chemoembolization may be used in which the drugs is injected directly into the blood vessels supplying the area of the tumour while simultaneously reducing blood supply to the tumour by blocking off the artery. Chemoembolization cannot be used in the presence of hypertension, blood clots or jaundice. Biodegradable microspheres filled with chemotherapy drugs are also used to deliver the chemotherapy directly to the tumour. They are injected into the liver or blood vessels supplying the areas with tumour growth. Doxorubicin has been used to treat liver cancer, but subsequent clinical trials have failed to demonstrate its effectiveness as a single agent. In addition, no clear survival benefit has been documented regarding combination chemotherapy regimens. Fluorouracil combined with interferon has also produced low response rates.

Radiation Therapy

Radiation therapy is infrequently used along with chemotherapy to shrink

tumours so that they can be surgically removed. Thera Spheres and SIR-Spheres are radiation-laden spheres that injected into the bloodstream to deliver radiation directly to tumour site. This approach can be effective, as it delivers radiation directly to malignant tissue and sparing the healthy cells thereby reducing side effects of radiation.

Supportive Therapy

Psychosocial Support

It is to be given for maintaining a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle and Diet

Since liver is the key organ for detoxification, it is constantly being exposed to the toxic and reactive insults. Liver damage results from short-term exposure to large quantities of highly toxic compounds or chronic exposure to other less toxic compounds. Once the liver tissue is damaged, the detoxification and reparative mechanisms dysfunction and liver cirrhosis ensues, even DNA damage and eventually liver cancer occurs. Therefore, an important method to reduce the risk of liver cancer is by reducing exposure to chemical toxins like alcohol, oral oestrogens, iron overload, polycyclic aromatic hydrocarbons (formed during charcoal broiling, and in cigarette smoke), and certain compounds found in petrochemicals, insecticides, and solvents. Nitrosamines are particularly toxic to the liver. They are found in tobacco smoke, some cosmetics, latex and rubber products, beer, bacon, and cured meats. The foods consumed should not contain the added chemicals, preservatives and transfats that stress the detoxification process and also yield proinflammatory and cell-damaging compounds during metabolism.

Cruciferous vegetables (like broccoli, brussels sprouts, cabbage, cauliflower, chard, kale, kohlrabi, mustard greens, parsnips, rutabagas, turnips, and watercress) are especially beneficial for liver function and may reduce symptoms associated with liver cancer, support detoxification, have anti-inflammatory action and stimulate apoptosis of cancer cells. It is best to eat them lightly steamed so that the nutrient value is retained.

Nutrients and Herbs

Herbs like ginger, ginseng, green tea, limonene from citrus fruits, pine bark extract (pycnogenol), suppress proliferation of the malignant liver cells. Other useful nutrients are:

1. Vitamin C has anti-oxidant and anti-inflammatory actions which protect against liver cancer.
2. Active hexose correlated compound derived from polysaccharides extracted from mushrooms enhances immune function and prolongs survival in patients with advanced liver cancer.
3. Selenium provides additional antioxidant activity by regenerating glutathione. It also has antiviral properties thus useful in cases where viral hepatitis precedes the liver malignancy.
4. Silymarin or milk thistle extract is a flavonoid complex which has antioxidant activity and helps to stabilise the cell membranes of liver cells. It also helps to maintain adequate liver levels of glutathione amino acid that also provides antioxidant protection for healthy liver cells. It also stimulates apoptosis in liver cancer cells.

Medication

It will help to relieve nausea and to control pain may be needed.

Physical Therapy

It will help maintain muscle strength.

Treatment follow-up

After treatment is completed patients should be seen every one or two months for at least two years. Then it may be every four months for the next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lymph nodes and abdomen,
2. blood chemistry test every three to four months, and
3. imaging and histology.

Pancreatic Cancer

Carcinoma of the pancreas is one of the tumours with worst survival rates. It is the fifth most frequent cause of death from cancer; more than a quarter of a million deaths annually are because of cancer of pancreas worldwide. The incidence of pancreatic cancer in India is 0.5–2.4 per 100,000 men and 0.2–1.8 per 100,000 women. The five-year survival rate is less than 5 percent for all stages; 16 percent when confined to pancreas only; 7 percent for stage III and IV; and 2 percent when already metastasised at the time of diagnosis. Most cancers of the pancreas begin in the gland's ducts and most cysts and tumours that develop in the pancreas are found to be cancerous.

Aetiology

Genetic predisposition is regarded as one of the major risk factors in the development of cancer. Some hereditary diseases are also associated with it like hereditary pancreatitis, familial adenomatous polyposis, familial atypical multiple mole, melanoma, Peutz–Jeghers syndrome, hereditary non-polyposis colorectal cancer, familial breast cancer, ataxia-telangiectasia, and cystic fibrosis. The other risk factors for pancreatic cancer are environmental and lifestyle factors, like:

1. Tobacco smoking: There is a strong association between smoking and pancreatic cancer. Pipes, cigars, oral tobacco products etc. increase the risk of pancreatic cancer. The risk of pancreatic cancer is raised by 75% as compared to non-smokers.
2. Risk of pancreatic cancer increases up to 50% in patients with long-term type 2 diabetes mellitus.
3. Obesity and high fat diet: Exercise has been shown to reduce the risk of pancreatic cancer.
4. Exposure to carcinogenic chemicals.

Sites and Types

1. Carcinoma of head proper: Scirrhous
2. Carcinoma of peri-ampullary region:
    a. Encephaloid: At termination of common bile duct or pancreatic duct,

ampulla of vater (commonest), duodenal papilla adjacent to papilla.

b. Carcinoma of the body and / or tail – columnar cell type.

Spread of Cancer

1. **Direct spread**
   i. **By continuity:** The whole wall of the stomach is infiltrated by this.
   ii. **By contiguity:** Cancer spreads out of the wall and to the other organs.
2. **Lymphatic spread:** By embolism and permeation, cancer cells reach the lymphatics and thus spread to other organs.
3. **Venous spread:** Spread to the liver is commonest via portal system. Common in body and tail cancer.
4. **Trans-peritoneal spread:** Widespread metastasis can occur on the peritoneum, particularly the omentum, pelvic floor, and ovaries (Krukenberg's tumour).

Signs and Symptoms

1. Obstructive jaundice
2. Itching
3. Pain in the upper abdomen or upper back
4. Anorexia, anaemia, vomiting, loss of weight
5. Diarrhoea
6. Diabetes
7. Melaena
8. Thrombophlebitis migrans
9. Ascites
10. Palpable gallbladder and liver

Diagnosis

1. Physical examination reveals signs of jaundice, palpable lump, fluid, or abdominal tenderness.
2. Blood examination: Elevated blood levels of bilirubin can be caused due

to obstruction of the bile duct by the tumour externally. Other parameters of the liver function test show abnormality.
3. Urine examination for urobilinogen.
4. Stool examination for stercobilinogen and occult blood.
5. Exfoliative cytology: duodenal wash for cancer cells, duodenal fluid analysis.
6. Barium enema is done to see the filling defect.
7. Laparotomy and gauge their size, location and extent.
8. Imaging tests: CT scans, ultrasound and endoscopy are required to identify tumours and gauge their size, location and extent.
9. A biopsy after surgical removal of the tumour is done to reach the definitive diagnosis.
10. Additional scans are done to know the distant metastasis; the common sites of metastasis are the lymphatic system, liver, and lungs.

Conventional Treatment

The management of carcinoma of pancreas is according to the stage of the malignancy which depends upon its size, location and metastasis. Pancreatic cancer almost always involves radiation and chemotherapy, with surgery in some cases.

Surgery

Pancreatic surgery is complex and has a risk of several complications. Location is a major factor to determine the possibility of surgical removal of the tumour; i.e. if there are encased critical blood vessels or it has metastasised outside the pancreas, the surgery is not possible. The goal of surgery is to remove all cancerous tissues and obtain a clean surgical margin. Surgery can be of two types, radical surgery, i.e., pancreatico-duodenectomy; and palliative surgery which is done in case of inoperable pyloric growth. Cholecysto-jejunostomy is also done according to the position of the growth. The most common surgical procedure is referred to as a Whipple and involves removal of part of the stomach, part of the pancreas, gallbladder, and the first portion of the small intestine (the duodenum). When tumours can be removed, long-term survival rates are 15 to 20 percent, with median survival time of 15 to 24 months. Recurrence is common in 85 percent of the cases. This is because of the frequent occurrence of sub-clinical hepatic

metastasis.

Radiation and Chemotherapy

Radiation is used in almost all cases, and it is almost always combined with Chemotherapy. Fluorouracil is often combined with radiation in an attempt to shrink the tumour mass so that it can be removed surgically. It is expected that this approach prolongs the life of the patient by around a year or more.

Chemotherapy may be used alone in case of inoperable tumours and metastasis. Gemcitabine is the most commonly used chemotherapy drug; which enhances the quality of life of the patient but there is no significant prolongation of life span with this. Cetuximab is another drug that is being added to chemotherapy for additional benefits, although these benefits are modest at this point of time. Sometimes intra-arterial chemotherapy may be used, usually with mitomycin and cisplatin sent directly to the liver, as well as systemic chemotherapy with fluorouracil, which may prevent, delay or treat liver metastasis. Another common regimen for pancreatic cancer includes gemcitabine, oxaliplatin and docetaxel.

Supportive Therapy

Psychosocial Support

It is to be given for maintaining a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle and Diet

Type II diabetes, alcohol consumption, tobacco smoking, and excess body weight, are the known risk factors for pancreatic cancer. Therefore lifestyle has a key role in development of cancer of pancreas. Sedentary lifestyle should be avoided and planned physical activity and exercise be encouraged.

Noteworthy dietary factors are:

1. Avoidance of rich fatty foods that raise cholesterol and obesity.
2. Encouragement of foods that are beneficial like cruciferous vegetables, folic acid rich green leafy vegetables, beans and nuts.

3. High protein diet along with supplemental enzymes for proper digestion and assimilation of the proteins.

Nutrients and Herbs

Certain natural herbs and supplements that may help patients of pancreatic cancer are:

1. Vitamin C decreases the risk of pancreatic cancer.
2. Mistletoe: The results are quite satisfactory after observing success of this therapy in my practice for more than three decades. A cellular study on human pancreatic cancer cells that compared mistletoe to gemcitabine revealed mistletoe to have more effective anti-tumour activity. This result has not, however, been demonstrated in animals or humans.
3. Limonene is a phytochemical found in the inner rings of citrus fruits that is useful in controlling proliferation of cancer cells.
4. Green tea and one of its active compounds, EGCG, may reduce proliferation and invasion of cancer cells.
5. Curcumin suppresses the growth and induces apoptosis of human pancreatic cancer cells.
6. Genistein is a soy isoflavone that increases the anti-tumour activity of gemcitabine and reduces the activity of the proinflammatory protein NF-kB. Inhibiting NF-kB helps control insulin resistance, which has been linked to cancer development and growth.
7. EPA, an omega-3 fatty acid can help improve cachexia (muscle wasting) in those with pancreatic cancer. Other fatty acids have been shown to inhibit pancreatic cancer cell growth, including docosahexaenoic acid (DHA), which induced pancreatic cell apoptosis.
8. Deficiency of selenium is associated with increased incidence of pancreatic cancer, especially in men.
9. Alpha-lipoic acid plays a valuable antioxidant and anti-inflammatory role. It also induces apoptosis.

Medications

It may be needed to relieve nausea and to control pain.

Treatment follow-up

After treatment is completed patients should be seen every one or two months for at least two years. Then they may be seen every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the stomach, lymph nodes, and abdomen
2. blood chemistry test every three to four months, and
3. imaging tests.

Prostate Cancer

Most often the enlarged prostate in elderly men is due to Benign Prostatic Hyperplasia that causes symptoms of dysuria. However, there has been an increase in the number of cases of prostate cancer. Prostate cancer occurs in men around 65 years of age and usually begins as adenocarcinoma in the glandular cells of the prostate. It is a very slow growing malignancy and metastasis is quite uncommon in most of the cases. Prostate cancer is the second most frequently diagnosed cancer in men worldwide and the fifth most common cancer overall. According to the Indian Cancer Society, the number of prostate cancers diagnosed each year has gone up from 3,00,000 in 2006 to more than 4,00,000 in 2010. Localised disease confined to the gland at the time of diagnosis, has much better prognosis; so early diagnosis and treatment becomes very important for a long term disease free survival.

Aetiology

There are certain risk factors that are presumed to increase the chances of developing prostate cancer. These are:

1. Race; in African-Americans, it occurs 60 percent more often in than in Caucasians and Hispanic-Americans, and less frequently in people of Asian descent than in Caucasians and Hispanics.
2. Heredity; having a first degree relative with prostate cancer increases the risk.
3. Diet high in red meat and dairy products and low in fruits and vegetables.

4. Lack of physical activity is another risk factor.
5. Vasectomy may increase the risk slightly.

Sites of Prostate Cancer

1. Posterior lobe of prostate (commonest site)
2. Lateral lobe (one or both)
3. Occasionally with benign enlargement, following prostatectomy, the false capsule becomes the site of cancer.

Types of Prostate Cancer

1. Spheroidal cell adenocarcinoma – hard nodular prostate
2. Scirrhous carcinoma
3. Anaplastic type

Spread of Cancer

1. **Direct spread:**
   a. **By continuity:** The whole organ is infiltrated.
   b. **By contiguity:** Cancer spreads out of the wall and to other organs of the body.
2. **Lymphatic spread:** By embolism and permeation, cancer cells reach the lymphatics and thus spread to other organs.
3. **Venous spread:** Spread occurs to the bones, lungs and liver, arranged according to the order of frequency. It occurs particularly with anaplastic and scirrhous type.

Signs and Symptoms

1. Common in males aged above 65 years
2. Asymptomatic in its early stages
3. Urinary frequency, urinary incontinence, dysuria and urgency, weak urinary flow, haematuria, sometimes retention
4. Anorexia, asthenia and anaemia
5. Erection difficulty or painful ejaculation

6. Metastatic feature: pain in back, sciatica, chest; jaundice with ascites
7. Per rectum hard, nodular, enlarged growth with restricted movement
8. Oedema of lower limb, external genitalia, lower abdomen.

Diagnosis

1. Routine screening is done by **digital rectal examination** to identify any enlargement or abnormal consistency or lumps in the prostate.
2. **Blood tests** are done for Serum acid phosphatase, alkaline phosphatase estimation and prostate-specific antigen (PSA). A raised PSA is not conclusive of malignancy as there may be other caused of elevated PSA, but it points towards a thorough workup to exclude malignancy. PSA levels are monitored throughout the treatment as well.
3. **Biopsy** is the most definitive method of prostate cancer diagnosis. Core needle biopsy is done under ultrasound guidance to take several samples. Based on the differentiation of the cells, a Gleason score is given. The combination of PSA value, Gleason score, serum acid phosphatase, and extent of disease are used to assess whether the disease is localised and the prognosis of the case is ascertained.
4. **Exfoliative cytology:** Prostatic secretion is examined for cancer cells.
5. **Vesiculography:** After dye administration, X-ray of seminal vesicle can be done.
6. **Cystoscopy:** It shows the growth and biopsy can also be taken.
7. **Imaging:** X-ray of bones to find metastasis, bone marrow aspiration of sternum or ilium may be required to see the extent of metastasis.MRI may also be done to see the exact location and extent of malignancy.

Prognosis

Prostate cancer sometimes progresses very slowly and causes few symptoms. Men who are over 70 years old at diagnosis or those who have PSA levels under 2.5 and who have certain types of low-risk cancers are often advised not to treat the cancer unless its characteristics change significantly for the worse. This is known as watchful waiting or active surveillance. For those engaged in watchful waiting, it is important to routinely monitor PSA levels.

Some oncologists are now monitoring testosterone levels, which should

decrease with treatment, as well as testing for neuron-specific enolase (NSE) and chromogranin A, which help to determine if the cancer is likely to respond to androgen ablation therapy, a type of hormonal drug therapy.

Conventional Treatment

The conventional treatment depends upon the age and health status of the patient and the stage and extent of malignancy. The treatment is usually by surgery or radiation therapy.

Surgery

Radical prostatectomy is done for localised prostate gland involvement and local lymph nodes may also be removed along with the gland. The complication of this surgical procedure is the nerve damage resulting in urinary incontinence and erectile dysfunction.

Radiation

Radiation therapy is especially used in cases where prostatectomy cannot be performed. External-beam radiation therapy is the most common type of radiation treatment. In brachytherapy, the radioactive material sealed into pellets known as seeds are inserted in the prostate. Radiation of the prostate is associated with gastrointestinal toxicity, so supporting gastrointestinal health during and after radiation is important. Probiotics, fish oil, and L-glutamine are useful to manage these gastrointestinal problems.

Cyber knife is another type of radiation therapy that delivers radiation that more precisely conforms to the area of the prostate. Proton therapy is similar to radiation therapy but uses proton beams to kill the malignant cells.

Chemotherapy

Chemotherapy is not generally used for prostate cancer. Even in cases of metastatic prostate cancer, chemotherapy drugs do not produce desired results and are typically only used if the patient does not respond to hormone drugs.

Androgen Deprivation Therapy or Hormonal Treatment

This is an alternative to surgery and radiation therapy in which androgen suppressors are often used, in combination with external beam radiation therapy. It is also used in advanced cases or after a prostatectomy in recurrent cases. Common androgen suppression drugs include leuprolide (Lupron), bicalutamide (Casodex), gosereline (Zolaclex), and others. The side effects of this hormonal treatment are menopause-like symptoms such as hot flushes, mood swings, and sleep disturbances. Osteoporosis is another side effect which is managed with means like doing exercise, smoking cessation, and vitamin D and calcium supplements.

Supportive Therapy

Psychosocial Support

It is to be given to maintain a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle and Diet

Exercise and physical activity are beneficial for prostate cancer. Exercise also helps in weight loss, enhancing pelvic circulation, improving immunity and reducing fatigue.

The most effective prostate cancer diet is low in red meat and dairy and high in fruits and vegetables. Broccoli in particular has been very useful in preventing prostate cancer. A vegetarian diet has been shown to be effective in many cases.

Nutrients and Herbs

Certain natural substances and supplements that have been known to have protective effect on prostate while inhibiting prostate cancer cell growth are vitamin D, vitamins C and E, antioxidants like beta-carotene, selenium, zinc, CoQ10, artemisinin, curcumin, green tea, milk thistle (silymarin).

1. Essiac tea is a combination of four herbs (*Rheum palmatum, Trifolium pretense, Arctium lappa, and Rumex acetosella)* is very useful for prostate cancer.
2. Melatonin can inhibit the growth of prostate cancer cells and may help

prevent the resistance to hormonal therapy that can sometimes occur in prostate cancer.
3. Drinking just 100 ml of pomegranate juice daily is very effective at stabilising PSA levels up to four times longer than normal, potentially delaying the growth of prostate cancer cells.
4. Omega-3 fatty acids like Eicosapentaenoic acid (EPA), abundant in fish oil and krill oil, promotes apoptosis and decreases proliferation in prostate cancer cells.

Medications

They may be required to relieve nausea and to control pain.

Physical Therapy

It will help maintain muscle strength.

Treatment Follow-up

After treatment is completed, patients should be seen every one or two months for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination,
2. blood chemistry test every three to four months, and
3. imaging tests.

Renal Cancer

Malignancy of the kidneys begins in the cells lining the renal tubules and is called as renal cell carcinoma. In 2007, the Indian Cancer Society reported that more than 82,000 new cases of kidney cancer were diagnosed, with men being affected twice more than women. The patients usually belong to the age group of 50 to 70 years.

Aetiology and Risk Factors

1. Increased age is a risk factor as it occurs mostly in elderlies.
2. People with a first degree relative diagnosed with kidney cancer have about double the risk of developing renal cell carcinoma themselves.
3. Smoking doubles the risk for kidney cancer as compared to non-smokers.
4. Obesity leads to hormonal imbalances that may contribute in carcinogenesis.
5. Hypertension and diabetes also increase the risk of renal cancer as the damage to capillary network in the kidneys makes it prone to abnormal cell growth. Also, increased insulin and insulin-like growth factor in diabetics contribute to carcinogenesis.
6. Damaged kidneys due to pre-existent kidney diseases, long-term dialysis, long term use of analgesic phenacetin or exposure to environmental toxins like asbestos, industrial toxins, or radiation increases the risk.

Signs and Symptoms

There are no significant symptoms in the early stages, but in advanced stages, there may be:

1. Haematuria (most common symptom).
2. A lump in the renal region on palpation.
3. Pain in the flanks or low back.
4. Unexpected weight loss and fatigue.
5. Prolonged fever.
6. Pedal oedema.

Diagnosis

1. A complete medical history and physical examination reveals the clinical features suggestive of the renal disease. An abdominal mass or high blood pressure may be observed during examination.
2. Urine analysis is done for presence of blood or cytology may show malignant cells in some cases.
3. Imaging tests such as CT scans, MRIs, intravenous pyelograms, or ultrasound usually reveal the malignant tumour, and its extent.

4. Biopsy confirms the diagnosis.
5. Chest X-rays or bone scans for metastasis.

Conventional Treatment

Treatment depends upon the stage and type of malignancy and status of the patient. The prognosis is better when treated in the early stages. Surgery is the commonest approach and radiation treatment is used as a palliative.

Surgery

In most of the cases, radical nephrectomy is done to remove the affected kidney along with the adrenal gland, perirenal fat and in some cases, the regional lymph nodes also. In cases with localised lesions, and also depending on the other factors, partial nephrectomy may also be done. The complications of the surgery may include urinary leakage in case of partial nephrectomy, or kidney failure.

Radiation and Chemotherapy

Radiation therapy is done in advanced malignancies of kidney as a palliative measure to control pain. Kidney cancer cells are otherwise not very responsive to radiation therefore it is not routinely used in most cases. Chemotherapy is not the standard treatment for kidney cancer as it has not been found to be responsive.

Immunotherapy or Biological Therapy

Immunotherapy acts by boosting the body’s inherent immune system to destroy the malignant cells. Commonly used biological agents are interferon and interleukin. Interferon alfa produces a response in approximately 15 percent of patients with metastatic renal cancer. Both high and low dose interleukin - 2 therapies produce a response rate similar to interferon alfa and can produce long term remissions in about 5 percent of patients. Combining interferon and IL-2 does not seem to improve overall response rates.

Supportive therapy

Psychosocial Support

It is to be given to maintain a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle and Diet

Lifestyle diseases like hypertension, diabetes and obesity are all linked with an increased risk of renal cancer. The carcinogens in cigarette smoke should be avoided. There are certain toxic environmental compounds and heavy metals that pass through the detoxification process of the liver as such to be eliminated through urine. As these are filtered by the kidneys damage to the renal cells ensues. Such a prolonged damage can initiate carcinogenesis. Thus, such toxic environmental compounds have to be avoided. These are - solvents, pesticides and herbicides, copper sulphates, benzene, benzidine, coal tar, soot, pitch, creosol, lubricating oil, mustard gas, vinyl chloride, and technical di-nitrotoluene. The use of such compounds should be minimised.

Good nutritional status of patients is a must for better prognosis; outcome is poor in malnourished patients. So, palatable meals must be planned keeping the view the patient's likes and dislikes. A low salt diet helps to maintain the blood pressure. Things to avoid in diet which increase the risk of renal cancer are: high protein food, rich fatty foods, foods with preservatives, artificial colourings, and hormones, grilled and charred red meat, etc.

Nutrients and Herbs

1. Vitamins: Vitamin E induces apoptosis in a variety of renal cancer cells. People with kidney cancer have been found to have low levels of vitamin A and also of zinc. Both nutrients support apoptosis. Vitamin D inhibits cell division and proliferation of cancer cells, induces apoptosis, and reduces invasiveness and angiogenesis. Vitamin D also increases insulin sensitivity, thereby improving sugar metabolism and reducing production of insulin-like growth factor and IGF receptor activity.
2. Green tea extracts may be especially beneficial like epigallocatechin gallate (EGCG), an active ingredient in green tea which regulates the p53 tumour suppressor gene, which is the most frequently mutated gene in human cancers. Mutated p53 does not effectively suppress abnormal cell growth. EGCG increases apoptosis, or death of tumour cells, by

upregulating healthy, unmutated p53.
3. Alpha-lipoic acid has antioxidant properties and reduces oxidative stress in the kidneys, as liver and nerves, thereby reducing inflammation improving the response to treatment and survival.
4. Neovastat, a liquid extract of shark cartilage, has been shown to inhibit angiogenesis in various tumour tissues.
5. *Panax ginseng* can inhibit renal cell carcinoma, specifically by inhibiting proliferation.

Medications

It may be required to relieve nausea and to control pain.

Physical Therapy

It will help maintain muscle strength.

Treatment follow-up

After treatment is completed, patients should be seen every one or two months for at least two years. Then it may be every four months for the next two years and every six months for another two years. The follow-up should include:

1. blood chemistry test every three to four months, and
2. histology and imaging.

Bladder Cancer

More than 90 percent of all bladder cancers originate in the urothelium. According to the National Cancer Registry Programme, the overall incidence rate of the urinary bladder cancer in India is 2.25% (per 100,000 annually): 3.67% among males and 0.83% for females.

Aetiology

1. Cigarette smoking has been attributed as the major risk factor for bladder cancer. Harmful chemicals of the tobacco smoke enter the blood

stream and are filtered by the kidneys for elimination in the urine. As they come in contact with the bladder epithelium they lead to malignant change in the epithelium.

2. Exposure to certain carcinogens is also a significant risk for bladder cancer. These carcinogens are: aromatic amines, aniline dyes used in the rubber, aluminium, and textile industries, solvents and other chemicals used in dry cleaning, commercial painting, plumbing, heating, air conditioning, and the transportation industry.
3. Arsenic in drinking water and other sources has also been linked to bladder cancer.

Sites

1. In trigone: 25%, near ureteric orifice
2. Lateral wall: 25%
3. Bladder neck and posterior wall: 25%
4. The dome and anterior wall (rare).

Types

1. **Papillary carcinoma:** Commonest
2. **Infiltrating carcinoma:**
   i. Ulcerative type
   ii. Nodular type
   iii. Adenocarcinoma: commonest site is fundus
3. **Microscopic types:**
   i. Transitional cell carcinoma (commonest)
   ii. Squamous cell carcinoma (most malignant)

Spread of Cancer

1. **Direct spread:**
   i. **By continuity:** The whole wall of the bladder is infiltrated by spread.

ii. **By contiguity:** Cancer spreads out of the wall and spread to the surrounding organs.

2. **Implantation and contact spread:** Common in papillary cancer. From full bladder, seeding deposit occurs; and from empty bladder, kissing metastasis of contact spread occurs.
3. **Lymphatic spread:** By embolism and permeation, cancer cells reach the lymphatics and thus spread to other organs.
4. **Venous spread:** Spread to the liver is commonest via portal system. It is rare and late spread.
5. **Allantotic spread:** Metastasis can occur from dome of diaphragm to the peritoneum.

Staging

Stage 0: Growth limited to mucous membrane
Stage 1: No spread beyond the sub-mucous coat
Stage 2: No extension beyond musculature
Stage 3: Involvement of peri-vesicular fat
Stage 4: Extending to neighbouring organs

Signs and Symptoms

1. It is more common in men than women and in the sixth and seventh decades of life.
2. Haematuria.
3. Frequent and painful micturition or dysuria.
4. Anorexia, asthenia and anaemia.
5. Growth causes obstruction and pain in loin.
6. Referred pain in hypogastrium, groin, peritoneum and thigh.

Diagnosis

1. **Urine examination:** To find blood and cancer cells.
2. **Cystoscopy:** To find growth and to collect biopsy material.
3. **Cystography:** Shows filling defect at the site of growth.
4. Bimanual examination under general anaesthesia.

Conventional Treatment

Cystodiathermy

It is a useful procedure for small lesions of the bladder or for obtaining haemostasis after biopsy of the bladder. It is performed by using a high frequency electrode to essentially cauterise the selected areas of the bladder.

Radical Surgery

Most of the bladder cancer patients undergo surgery. Since most of the tumours diagnosed in initial stages are confined to the superficial layers of bladder wall, therefore surgery is successful in removal of the malignant tissue. For the minimally invasive carcinoma of the bladder, transurethral resection of bladder tumour (TURBT) is done to remove the cancer with minimal damage to the bladder. For the more advanced stage cancers, a partial cystectomy or radical cystectomy is performed to remove the bladder partially or as a whole, depending on the location and spread of the tumour. In radical cystectomy along with the entire bladder, the nearby organs involved like the prostate in men or the uterus and part of the vaginal wall in women and the pelvic lymph nodes are also removed. Removal of the bladder is followed by construction of a new bladder using the intestinal tissue which may be connected to the spared urethra or connected to a stoma constructed over the skin. However, after surgery, there are chances of recurrence especially if the malignancy has spread to the muscular layer of the bladder.

Palliative Surgery

It is done in cases of non-resectable growth.

Radiotherapy

Radiation therapy is used in those cases where the malignancy extends beyond the bladder. While surgery removes most of the malignant tissue, radiation therapy that follows the surgery is done to destroy the left over malignant cells. Radiation is administered during transurethral resection of the tumour, especially in more advanced cases. Radiation therapy reduces the chances of recurrence and prolongs the life of the patients.

Chemotherapy

The chemotherapy agents used for bladder cancer treatment are methotrexate, vinblastine, doxorubicin, cisplatin (M-VAC), mitomycin C, and cyclophosphamide. Chemotherapy is given locally by intra-vesical approach in which chemotherapy drugs are administered directly into the bladder. This approach has side effects like bladder irritation, the severity depends on the dose administered and the tolerance of the patient. Systemic chemotherapy is given by intravenous medications or oral medications. It has more severe side effects.

Immunotherapy

Interferon alfa-Za, delivered directly into the bladder, is usually used in cases of papillary tumours. This treatment option is recommended as an initial treatment or it may be used when the therapies have been unsuccessful.

Another immunotherapy option is intra-vesical administration of Bacillus Calmette-Guerin (BCG) vaccine, which has weakened bacteria that attach to the inside lining of the bladder and stimulates the immune system against the malignant cells. It is used in cases of advanced cases of bladder cancer or those with multiple tumours within the bladder or recurrent tumours, or as a preventive measure against recurrence in patients with high-risk cancer after transurethral resection.

Photodynamic therapy is another effective approach to eliminate bladder cancer tumours. In this therapy, photosensitive substances are administered that are taken up by the bladder cancer cells. These substances are then locally activated by light to generate toxic free radical compounds that destroy the malignant cells.

Supportive Therapy

Psychosocial Support

It is necessary to maintain a positive attitude and will towards life, and to aid in coping with cancer.

Medications

It is will help relieve nausea and control pain.

Physical Therapy

It therapy will help maintain muscle strength.

Lifestyle

The risk factors for bladder cancer consists of a lot of environmental carcinogens and tobacco smoke, therefore, the lifestyle has to be modified in such a way so as to avoid these toxic substances. Supportive treatment has to be given to patients for giving up tobacco smoking completely.

Diet should be rich in antioxidant nutrients are particularly helpful to prevent the oxidative damage to bladder cells caused by the carcinogenic toxins. The role of therapeutic doses of vitamins and minerals is significant in the prevention and treatment of bladder cancer. Eating lots of fresh vegetables, soy, brown rice, and fruits may prevent cancer as reported by Harvard Medical School.

Nutrients and Herbs

Malnutrition results in a bad outcome amongst patients. They must be served palatable meals keeping their likes and dislikes in mind. The following are some useful tips:

1. Vitamin A: Several studies have indicated a preventive effect with oral consumption of vitamin A supplements.
2. Probiotics: Very useful if taken naturally with yoghurt or as a tablet.
3. Mistletoe: Iscador therapy is very useful at any stage of bladder cancer.
4. Ginger: Its shavings over meals are very useful to reduce the symptoms of burning urine.
5. Aloe vera: A cup of juice daily, it can also be massaged gently around the bladder.
6. Astragalus: 1 tab with breakfast.
7. Green tea: Drink at least 2-3 cups daily.
8. Cranberry: 1 cup of fresh cranberry juice with breakfast
9. Curcumin: Half a tea spoonful of curcumin with little honey first thing in the morning.

Treatment Follow-up

After treatment is completed patients should be seen every one or two months for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lymph nodes and abdomen,
2. blood chemistry test every three to four months, and
3. neurologic examination.

Testicular Cancer

Carcinoma of the testis occurs mostly in men of the reproductive age group. In 2011, just over 15,000 cases of testicular cancer were diagnosed. Most of the testicular cancers originate form the sperm producing germ cells of the testis.

Risk Factors

1. Cryptorchidism is a major risk factor; if the patient had undescended testis at birth, there is a risk of developing cancer of testis in older age. However, if the corrective surgery for undescended testis is done at an early age, the risk is lowered.
2. Family history of testicular cancer in a first degree relative or a personal history of cancer in the other testicle increases the risk.
3. HIV infection.
4. Role of injury or trauma to the testicle in predisposing to cancer is controversial.
5. Exposure to certain harmful chemicals during intrauterine life is also suspected to have a role in development of testicular cancer; high level of organochloride chemicals in mothers of men with testicular cancer has been observed in recent studies.

Types

1. Seminoma – 40%
2. Teratoma – 32%

3. Combination of seminoma and teratoma – 14%
4. Lymphoma – 7%
5. Others – 7%

Spread of Cancer

1. **Direct spread**
   i. **By continuity:** The whole wall of the colon is infiltrated by spread of cancer.
   ii. **By contiguity:** Cancer spreads out of the wall and spread to the surrounding organs.
2. **Lymphatic spread:** By embolism and permeation, cancer cells reach the lymphatics and thus spread to other organs. Seminoma and majority of teratoma spread by lymphatics.
3. **Venous spread:** Spread to the liver is commonest via portal system. All teratoma spread this way.

Signs and Symptoms

1. Teratoma usually occurs in 20-25 years of age and seminoma at 30-35 years of age.
2. Smooth or sometime lobulated firm growth is found in one testicle, which may be painless.
3. Pain, aches or discomfort in the scrotum, groin or abdomen with heaviness.
4. Spermatic cord grossly thickened.
5. Anorexia, asthenia and anaemia.
6. General fatigue.
7. Metastatic symptoms – abdominal or lumbar pain; chest pain with dyspnoea, cough, haemoptysis; jaundice with ascites.
8. Enlargement or tenderness of the breasts; and loss of sex drive due to abnormal production of hormones by the germ cell tumour.

Diagnosis

1. Complete medical history and physical examination of the testicle to observe any pain, swelling, or growths. The abdominal lymph nodes are also examined to look for possible metastasis.
2. If a growth appears to be present, then ultrasound is advised to determine whether the growth may be cancerous.
3. X-ray of chest to show metastasis; and intravenous pyelography to detection and protection; lymphangiography or PET scans (the insertion of a lighted tube into the lymph nodes) to see the enlarged nodes; CT scans, MRI.
4. Blood tests are done to look for tumour-induced changes in levels of certain hormones alpha-fetoprotein (AFP) and human chorionic gonadotropin (HCG).
5. Hormone test for HCG.
6. Biopsy is rarely done to test for a testicular cancer because it might risk spreading the cancer.

Prognosis

If cancer is determined to be present, the entire testicle will likely be removed to prevent spreading of the tumour to other parts of the body. If testicular cancer metastasises, it typically spreads to the lymphatic system, liver, bone, or brain. Fortunately, prognosis for testicular cancer is excellent, with a cure rate of 90 to 100 percent depending on the type of testicular cancer.

Conventional Treatment

Testicular cancer is managed with surgery and radiation therapy in most of the cases. Chemotherapy is used less frequently.

Surgery

Almost all the cases of testicular cancer are treated by radical inguinal orchiectomy. In those where the malignancy has spread to the nearby lymph nodes, lymphadenectomy is also done. In cases with localised malignancy, the outcome of treatment with surgery is very encouraging.

Radiation

External beam radiation therapy is given in some initial stage cancer cases after orchiectomy, directed at the retro-peritoneal lymph nodes that may have harboured some of the malignant cells. Certain types of testicular tumours are also responsive to radiation and is therefore used in such cases to destroy the cancer cells as well.

Chemotherapy

Chemotherapy is used in cases with metastasis where the malignancy has spread beyond the testicles, or it is used to prevent recurrence. Carboplatin is a chemotherapy drug often used for stage I tumours that have invaded the blood vessels. Stage II tumours are typically treated with three cycles of chemotherapy drugs, namely, cisplatin, etoposide, and bleomycin. Additional chemotherapy agents such as vinblastine and ifosfamide are used with recurrent testicular cancer.

Other Complementary Approaches

Iscador therapy has shown good response in advanced cases by building up on reducing symptoms.

Supportive Therapy

Psychosocial Support

It is to be given to maintain a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle and Diet

It has been observed that after the testicular cancer is treated successfully, there is relapse of the disease at some other location in the body. Therefore it is pertinent to modify the lifestyle in order to include health promoting activities while minimising the general risk factors for cancer and exposure to carcinogens. Exercise on a regular basis, drinking alcohol in moderation, quitting smoking, and eating healthy whole some foods will benefit tremendously in long term.

Medication

They may be needed to relieve pain.

Treatment Follow-up

After treatment is completed, patients should be seen every one or two months for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lymph nodes,
2. blood chemistry test every three to four months, and
3. imaging tests.

Uterine Cancer

Uterine malignancies arise from different tissues of the uterus; the most common malignancy of the uterus arises from the endometrium, known as endometrial cancer; those arising from the smooth muscles are the uterine sarcoma. Between 75 and 80 percent of all endometrial cancers are endometrioid carcinomas; about 10 percent are papillary serous adenocarcinomas; 1 to 5 percent are sarcomas; and 4 to 5 percent are clear cell adenocarcinomas. The papillary and clear cell cancers are the aggressive types, however their incidence is low.

Risk Factors

1. It is mostly diagnosed in women of post menopausal age or later, so advancing age is risk factor.
2. Hormones, especially oestrogen, have a significant role in development of uterine malignancy so the risk is increased due to:
    a. Early menarche with late menopause.
    b. Obesity or being overweight which affects the oestrogen hormone levels.
    c. Hormonal replacement therapy with oestrogen for menopausal symptoms.
    d. Hormonal therapy with drug tamoxifen in patients with history of

breast cancer.
   e. Nulliparity or infertility.
   f. Polycystic ovarian syndrome which involves high oestrogen levels.
3. Positive family history of gynaecological malignancies.
4. History of endometrial polyps.
5. Lifestyle diseases like diabetes and hypertension increase the risk.

Signs and Symptoms

1. Most of the uterine malignancies present with abnormal vaginal bleeding or discharge. There may be metrorrhagia, post menopausal bleeding, or unusual vaginal discharge.
2. Pelvic mass or pelvic pain.
3. Unexpected weight loss, fatigue.
4. Dysuria.
5. Dyspareunia.

Diagnosis

The patients who present with the above suspected symptoms are diagnosed by the following investigations:

1. Transvaginal ultrasound detects any abnormal thickness of the endometrium, intrauterine lesion and the status of myometrium.
2. The suspected endometrial tissue is sampled by dilation and curettage (D&C) or endometrial biopsy which confirms the diagnosis.
3. Other tests like X-rays, CT scan are done to detect metastasis.
4. Blood tests to detect anaemia due to abnormal bleeding and to test for the tumour marker CA-125.

Conventional Treatment

Surgery is the main treatment modality for endometrial cancers. However, depending upon the location and stage of the malignancy, a multimodality approach may be used involving surgery, radiation, hormone therapy, etc.

Surgery

Most of the cases with uterine cancer undergo surgery for removal of the cancerous tissues. Surgery is the curative treatment if the cancer is contained within the uterus. The size and location of the malignant lesion decides the extent of the surgery; hysterectomy or salpingo-oophorectomy or pan-hysterectomy. The excised tissue is biopsied to have information regarding the proper staging of the cancer to further plan the treatment. Uterine cancers with metastasis require radiation and/ or chemotherapy in addition to surgery.

Radiation

Radiation therapy is done in cases of higher risk cases where are inoperable, or in patient who opt not to have surgery or if there is recurrence. Radiation is administered by external beam radiation or brachytherapy; the dose depends upon the stage and extent of the cancer. IMRT (intensity-modulated radiotherapy) is also an equally effective option when indicated. Radiation therapy comes with several short term and long term side effects that need to be managed to improve the quality of life of the patients.

Hormonal Therapy

In advanced cases of endometrial cancer which are progesterone positive (PR+), hormonal therapy may be indicated in which hormone-blocking medications are used that slow down the growth of the cancer. Hormonal therapy may also be used in combination with other treatment approaches. Hormone therapy drugs used for endometrial cancer are: Progestins, Tamoxifen, Luteinising hormone-releasing hormone agonists or Aromatase inhibitors.

Chemotherapy

Chemotherapy is not a significant treatment option for most cases of endometrial cancer. It is mostly used in cases with metastasis after surgery and/or radiation to destroy the distant malignant cells and to prevent recurrence. Chemotherapy agents used in these cases include cisplatin, carboplatin, doxorubicin, liposomal doxorubicin, and paclitaxel.

Supportive therapy

Psychosocial Support

It is to be given to maintain a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle and Diet

As discussed in the risk factors, the lifestyle factors have a significant role in predisposing a patient for endometrial cancer. Therefore lifestyle should be such that the risk due to obesity, diabetes, hypertension etc. is minimised. All these factors disturb the hormonal balance of the body. A diet high in animal fats should be avoided. Conversely, intake of fruits and vegetables should be increased.

Natural Herbs

Certain natural herbs with have oestrogenic activity, such as red clover, dong quai, and possibly licorice, are not to be used by patients of endometrial cancers since it is oestrogen related cancer. Mushroom extract, *Agaricus blazei* Murill helps as a good supplement in dealing with side effects of chemotherapy for endometrial cancer.

Cervical Cancer

In India, cervical cancer is the second most common cancer among women. A significant number of cancer deaths are due to cervical cancer. According to the National Health Portal, over 1,00,000 new cases of cervical cancer were diagnosed in 2012. Sexually transmitted human papillomavirus (HPV) infection is considered to be the most important risk factor for cervical carcinoma. Cervical cancer typically develops gradually in the cervical tissue and progresses from dysplasia to cervical cancer in situ to invasive cancer over a period of 10 to 12 years or even within a year in rare cases.

Risk Factors

1. Infection with Human papillomavirus (HPV), a sexually transmitted virus is attributed to be the cause in more than two-thirds of cervical cancer cases.
2. Sexual intercourse at an early age or early age pregnancy.

3. Multiple pregnancies.
4. Multiple sexual partners.
5. Cigarette smoke is an independent and significant risk factor for invasive cervical cancer.
6. Contraceptive pills.
7. Women who are overweight have twice the risk of developing cervical cancer as compared to women who are not.
8. Compromised immune function.

Types

1. **Macroscopic:**
   i. Exophytic
   ii. Ulcerative
   iii. Infiltrative
2. **Microscopic:**
   i. Squamous cell carcinoma (85 – 90%)
   ii. Adenocarcinoma (10 – 15%)

Signs and Symptoms

The symptoms are noticeable in advanced stages of cancer. In early stages, cervical cancer is detected during gynaecological examination or screening tests.

1. Irregular and continued vaginal bleeding.
2. Offensive vaginal discharge.
3. Pelvic pain in varying degree.
4. Pain during intercourse.
5. Bladder symptoms – micturition, dysuria, haematuria, incontinence.
6. Rectal symptoms – diarrhoea, rectal pain and bleeding, rectovaginal fistula.
7. Ureteric colic or frequent attacks of pyelonephritis.
8. Cachexia, anaemia and anorexia.

Spread of Cancer

1. Direct spread
2. Lymphatic spread
3. Haematological spread
4. Direct implantation

Diagnosis

1. PAP smear: In India it is recommended that sexually active women of age 19 years or older, should get the PAP test annually. The presence of other risk factors in each case determines the frequency of screening tests in subsequent years. Pap tests can identify both cancer and atypical cells that may be pre-cancerous; the latter condition is known as cervical dysplasia. If Pap test results are suspicious, biopsy is done.
2. Cervical biopsy or Endocervical curettage.
3. Cystoscopy and/or Proctoscopy are done to visualise the extent and local spread of the malignancy.
4. Chest X-ray, CT scan, MRI, PET scan are done to have the status of distant metastasis.

Complications

1. Ureteric pain, pyelitis, pyelonephritis
2. Pyometra
3. Vesicovaginal fistula
4. Rectovaginal fistula

Conventional Treatment

Conventional treatment approach is decided depending upon the location, extent and stage of the malignancy. A variety of techniques in addition to surgery, radiation, and chemotherapy are utilised.

Surgery

Pre-malignant lesions or carcinoma-in-situ are destroyed by various surgical

techniques like: Loop Electrosurgical Excision Procedure (LEEP), laser therapy, conization (surgical removal of the premalignant or malignant cervical tissue), or cryotherapy (destroying the tissue by freezing technique).

In case of confirmed malignancy, surgical removal of the cervix is the main treatment. The extent of surgery depends on the size and location of the malignancy ranging from removal of tip of the cervix or the entire cervix along with some part of the uterus or even a radical hysterectomy along with lymph nodes excision.

Radiation

Radiation therapy is used in cases with localised malignancy confined to the cervix or in conjunction with surgery, pre-operatively or post-operatively. It may also be used in cases where there is relapse of cancer. The radiation therapy is administered by external beam pelvic radiation and intra-cavitary brachytherapy. Radiation can also be used in combination with chemotherapy and homoeopathy in cases of advanced disease.

Chemotherapy

Chemotherapy may be used pre-operatively or post-operatively. In recurrent cases, chemotherapy is often combined with radiation therapy and homoeopathy as this decreases risk of death (reduction of 30 to 50 percent). The chemotherapy medications used for cervical cancer include cisplatin with or without another agent, including fluorouracil, ifosfamide, irinotecan, paclitaxel, or gemcitabine. Because many chemotherapy drugs have not been successful in treating cervical cancer, new biological agents are being tested, including the angiogenesis inhibitor TNP - 470.

Supportive therapy

Psychosocial Support

It is to be given to maintain a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle Factors

1. Preventing cervical cancer or its recurrence requires the practice of safer sex with barrier methods to avoid contracting HPV.
2. Reduction of exposure to second hand smoke and/or if one is smoking, it is important to find a way to quit.
3. Genital hygiene is also important. If possible, all the sanitary and body care products should be natural and chemical free. Use of talc powder in the genital area should be avoided; this is directly associated with an increased risk of ovarian cancer and some speculate it may contribute to other health problems associated with female genitalia.
4. Maintaining proper weight through diet and exercise is also likely to help with management of cervical cancer.
5. In addition, supporting the immune system is critical. A compromised immune system due to grief, frustration, disappointment, and forsaken feeling are responsible for development of cervical cancer, hence taking regular homoeopathic treatment can surely prevent this dreadful disease.

Dietary Management

Malnutrition is associated with poor outcome in patients treated for cervical cancer. The patient must be served palatable meals keeping her likes and dislikes in mind.

Eating plenty of fruits and vegetables, which are high in antioxidant nutrients e.g. whole grains, vegetables, beans, nuts and seeds will help women with cervical cancer.

Nutrients and Herbs

The following nutrients have been shown to help prevent and treat cervical cancer:

1. Vitamins C and E play a protective role in preventing development of cervical neoplasia. High levels of vitamin C are associated with reduced risk of cervical cancer and low intake of vitamin C from food sources is correlated with increased risk of cervical cancer.
2. CoQ10 is very useful to prevent cervical cancer also it is helpful to prevent multiple side effects of chemotherapy.
3. Folic acid appears to help prevent dysplasia from progressing; taking 5 mg. of folic acid helps the patient.

4. Flavonoids found in berries, are best to arrest further growth of cervical cancer.
5. Regular use of curcumin with cumin seed *(Cuminum cyminum)* had a much reduced incidence of cervical cancer development when exposed to known carcinogens like pesticides.
6. Mushroom extract, *Agaricus blazei* Murill Kyowa (ABMK), reduces chemotherapy associated side effects, including loss of appetite, hair loss, emotional instability, and general weakness.

Medication

It will help to relieve pain.

Treatment Follow-up

After treatment is completed, patients should be seen every one or two months for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lymph nodes and abdomen,
2. blood chemistry test every three to four months, and
3. imaging and histology.

Ovarian Cancer

Ovarian cancer is an important cause of morbidity and mortality, especially in the middle aged women. In India, during the period 2004-2005, proportion of ovarian cancer varied from 1.7% to 8.7% of all female cancers in various urban and rural population based registries operating under the network of the National Cancer Registry Programme (NCRP) of Indian Council Medical Research.

Ovarian tumours originate from the various types of cells of the ovaries and are named likewise; the epithelial tumours (most common malignant tumours of the ovary), germ cell tumours (rare type of ovarian cancers), and stromal tumours (originate from the connective tissue of ovaries). A small fraction of ovarian cancers cases are familial. These cancers are usually associated with inherited mutations of BRCA 1 and/or BRCA 2 genes. Ovarian cancer

usually spreads by local metastasis into the peritoneal cavity invading the organs like the bladder and colon. Lymph nodes are mostly involved in the advanced stage cancers and less commonly in the initial stages of the malignancy. The obstructed abdominal lymph vessels due to malignant invasion, impairs the lymphatic flow resulting in ascites.

Ovarian cancer presents with signs and symptoms usually in the advanced stages; only about 10 percent of ovarian cancer cases are diagnosed in the initial stage when it is most treatable. The prognosis of ovarian cancer is most favourable when diagnosed at a younger age, when the magnitude of the disease is less severe, and in those patients whose status of health at the time of diagnosis is good otherwise. Elevated level of tumour marker CA-125 at the time of diagnosis is not as significant in terms of prognosis.

Risk Factors

1. Advancing age is a risk factor as most of the ovarian cancers are observed in post menopausal age group women.
2. Family history of ovarian cancer increases the risk.
3. People with BRCA 1 and BRCA 2 gene mutation are at much higher risk for the development of cancers, particularly cancers of the breast and ovary. BRCA 2 is less of a risk factor than the BRCA 1 mutation and BRCA 2 mutation carriers have an improved survival over BRCA 1 mutation carriers. BRCA 1 and BRCA 2 genes mutation are inherited defects in genes that are necessary for cell repair.
4. Nullipara women.
5. Infertility.
6. History of breast cancer increases the risk.
7. Use of talcum powder in the genital area.

Signs and Symptoms

Since earlier stage ovarian cancer does not present with significant symptoms, therefore ovarian cancer is usually diagnosed in later stages. As the cancer progresses, symptoms can include:

1. Pain in abdomen, pelvis or lower back
2. Abnormal vaginal bleeding or discharge, between the menses or during

sexual intercourse
3. Dyspareunia
4. Ascites
5. Nausea, loss of appetite, bloating or flatulence, constipation or diarrhoea
6. Fatigue and unexplained weight loss
7. Change in urinary frequency or urgency.

Diagnosis

1. Physical examination may show an ovarian mass or ascites that are probed with further investigations.
2. Ultrasound detects the abnormality in size of ovary and also detects the tumour if it is solid or a fluid filled cyst.
3. Imaging techniques such as CT scan, MRI, or PET Scan are done to know the location and extent of tumours and metastasis. Barium enema, X-ray and colonoscopy are used to see the metastasis to the intestines or rectum; and chest X-rays for metastasis to the lungs.
4. Biopsy is done by CT scan guided needle to take a biopsy sample.
5. Blood test for tumour markers like CA-125. However, this is not a diagnostic test; if CA-125 normalises after treatment has begun, subsequent elevations are highly predictive of recurrent, active disease.

Conventional Treatment

It relies heavily on surgery, with radiation and chemotherapy used in recurrent and metastasised cases respectively.

Surgery

Surgery is the main treatment for most ovarian cancers; however, it is not curative treatment for all cases and additional approaches along with surgery are recommended. Surgery is done in almost all cases and usually includes a radical hysterectomy, bilateral salpingo oophorectomy and omentectomy depending upon the location, extent and severity of cancer. Surgery is also important for staging the ovarian cancer. In stage 1A and 1B when the malignancy is limited to the ovaries, surgery itself will suffice; chemotherapy is not required in these initial stages.

Chemotherapy

Chemotherapy is used pre-operatively to reduce the bulk of malignant tumour or post-operatively to destroy the remaining malignant cells in the body and reduce the risk of recurrence and metastasis. Chemotherapy combinations are often used and sometimes, with cancers that are confined to the peritoneal cavity, intra-peritoneal chemotherapy will be given. Chemotherapy medicines used are cisplatin, paclitaxel, carboplatin, docetaxel, and cyclophosphamide. Recurrent carcinomas are often treated with ifosfamide, etoposide, liposomal doxorubicin, gemcitabine, topotecan, 5FU, or altretamine.

Stem Cell Therapy

In recurrent advanced cases, when the high doses of chemotherapy lead to destruction of bone marrow, it is followed by stem cell support therapy. When the stem cells are obtained from a donor for treatment, the patient needs to be on immunosuppressant medications lifelong.

Hormonal Therapy

Additionally, hormonal therapy, such as tamoxifen, may play a role in reducing ovarian cancer recurrence.

Radiation

Radiation is used only in those cases where there is relapse of malignancy. Radiation may be used in combination with chemotherapy as whole abdominal radiation administered in between the rounds of chemotherapy. Pelvic radiation therapy is administered in localised malignancies. In cases with small residual tumours in the peritoneum, intra-peritoneal P-32 radiation is sometimes used.

Supportive Therapy

Psychosocial Support

It is to be given to maintain a positive attitude and will towards life and to aid in coping with cancer.

Lifestyle and Diet

Ovarian carcinoma can be prevented by positive changes in the lifestyle such as regular exercise which stimulates the immune system, normalises the hormonal balance, regulates glucose metabolism, and prevents obesity. Thus a lot of risk factors are taken care of with an active lifestyle.

Dietary habits have a significant role in the development of ovarian cancer. A diet with plenty of vegetables and limited amount of fat is recommended to lower the risk of developing ovarian cancer. In addition, regular intake of green and black tea are known to lower the risk of developing ovarian cancer.

Natural Supplements and Herbs

1. Application of activated vitamin D to ovarian cancer cells result in significant growth inhibition.
2. Vitamin A has a role in blocking the cell cycle progression of human ovarian carcinoma cells. The antioxidant effect of Vitamin A inhibits the growth of several ovarian tumour cell lines. When vitamin A binds to retinoic acid receptors on ovarian cancer cells, apoptosis or cell differentiation is induced, depending on the type and concentration of retinoid.
3. Antioxidants like Vitamins C and E, beta-carotene, and CoQ10 (along with a multivitamin-multimineral complex) were shown to improve the efficacy of chemotherapy.
4. Curcumin inhibits the growth of human ovarian cancer cells.
5. EGCG present in green tea inhibits the ovarian cancer cells and also sensitises them to chemotherapy with cisplatin.
6. A mushroom extract, *Agaricus blazei* Murill Kyowa has been shown to improve side effects of chemotherapy including loss of appetite, hair loss, emotional instability, and weakness.

Medications

It helps to relieve pain may be needed.

Treatment Follow-up

After treatment is completed patients should be seen every one or two months

for at least two years. Then it may be every four months for next two years and every six months for another two years. The follow-up should include:

1. physical examination of the lymph nodes and abdomen,
2. blood chemistry test every three to four months, and
3. imaging and histology.

Melanoma

Malignant melanomas are the cancers originating from the melanocytes of the skin cells. Since these cells are responsible for producing melanin pigment, so the malignant melanomas mostly appear as a dark brown or black discolouration on the skin. Cancers of the skin are by far the commonest forms of cancer; of which around one percent are melanomas. Other cancers of the skin are squamous cell carcinomas originating from the superficial epithelium of the skin, and basal cell carcinoma arising from the epidermis layer of the skin. Both of these are much more common than the malignant melanoma and are easily treatable, and have a much better prognosis as well. Melanoma is the most malignant of all skin cancers; though melanoma is the most dangerous type of skin cancer, if it is diagnosed and treated in its early stages, before it metastasises, it is almost always curable. When it is diagnosed after metastasis has occurred, it gets difficult to treat and is potentially fatal. Melanoma has a tendency to metastasise to nearly any organ or tissue of the body; lungs and liver being the most common sites. In such cases with distant metastasis, survival rate is very low. A melanoma can also spread from a mother to fetus. It is also one of the most common tumours to spread to the brain and spinal cord. Incidences of melanoma cancer are rising fast worldwide in recent years. About 132,000 new cases of melanoma are diagnosed worldwide each year, according to the World Health Organization.

Melanoma first appears as a malignant mole on the skin or eye, and occasionally on the gums, in the vagina, or in the anus. It is often curable by limited surgery. It is difficult to cure once the melanoma has penetrated and reached the lymphatic and the blood vessels in the dermis.

Aetiology

1. Intermittent episodes of intense sun exposure causing sunburns rather

than tanning is more commonly associated with melanoma than the sort of chronic exposure to sunlight associated with more benign skin cancers.
2. Some women are susceptible to develop melanoma or recurrent melanoma or there could be rapid progression of the disease during pregnancy.
3. Taking oral contraceptives, which contain mostly progestational agents, has also been associated with an increased incidence of superficial spreading melanomas.

Risk Factors

1. The incidence is highest in people living in tropical or subtropical climates. Exposure to ultraviolet light particularly during peak hours and at high altitudes, leading to sunburn, is strongly suspected as a cause. Depletion of the earth's ozone layer is the possible cause.
2. Workplace exposure to carcinogenic substances such as coal tar, pitch, kreosote, arsenic, or radium.
3. Most common in people in their forties to sixties and is rare before puberty.
4. Young adults with episodes of intense sunburns in their childhood.
5. A tumour known as clear cell sarcoma, arising in the soft tissues such as the muscle or tissue under the skin is made up of the same type of melanocytes as adult melanomas. Children and adults can have this form.
6. Eye melanomas are mostly common in fair-skinned people living in sunny climates; these people must wear dark glasses that completely block the ultraviolet rays.
7. Primary melanomas can occur even in dark-skinned people on the palms and soles, under the skin, and in the membrane lining the mouth, rectum, and the anus.
8. White people with a large number of atypical moles are at increased risk.
9. People with strong family history (familial dysplastic nevus syndrome) have an increased tendency to develop melanoma.

Types

Melanocyte is the only type of malignant cell composing all melanomas but there are few variants distinguished by their shapes, such as cuboidal or spindle-shaped. The behaviour of each is generally similar in skin melanomas; in eye melanomas the shape determines the behaviour to a significant degree. When melanomas spread, they often do not produce pigment and are said to be amelanotic, but the degree of malignancy of both amelanotic and melanotic melanomas seems to be the same. The most common types in the skin are called the superficial spreading melanoma and the nodular melanoma. Melanomas can arise in somewhat unusual locations, such as:

1. under the nail of a finger (it can be confused with fungal infection especially at the beginning of the disease) or toe.
2. the mucosa lining inside of the mouth, vagina, or anus.
3. the pigmented tissue covering the brain (the meninges).
4. the iris, ciliary body and the choroid.

Spread of Cancer

There are two phases of growth of melanomas; the radial and the vertical. Sometimes, superficial spreading melanomas can remain in a radial growth phase for over a year. Nodular melanomas grow vertically soon after their appearance. Detection in the biologically early phase is, therefore, more likely with superficial spreading melanomas, but these tumours do eventually enter a vertical growth phase. When they do, they are as dangerous as nodular melanomas. Most eye melanomas grow very slowly. The eye melanomas composed of spindle-shaped cells (called spindle A and spindle B) are almost non-malignant in their behaviour, with almost all patients surviving more than ten years after the tumour is detected. Other varieties, composed of cells shaped more like skin cells (epithelioid), are much more malignant. Melanomas can also spread through the lymphatic system and the blood to just about every organ in the body, with the lungs and liver being the most common sites.

Signs and Symptoms

1. Darkening of an existing mole, an increase in its size, irregularity of margins and elevation of the lesion.
2. Bleeding usually occurs after some minor injuries.
3. A further change in the colour of the mole, such as depigmentation of a portion of it or a reddish or bluish tinge, discharge, pain, tenderness on new or changing skin growth or changes in moles or other areas of the skin.
4. Itching is common, as is scaling or crusting of the lesion.

Diagnosis

1. There are no blood tests available for confirming the diagnosis of primary melanomas.
2. An excisional biopsy is necessary for diagnosis. Microscopic study reveals characteristic melanoma cells, which are typically plump and usually contain dust-like grains of melanin pigment.
3. Immunological staining procedures with special antibody-carrying dyes are used to confirm the diagnosis in cases that do not appear typical.

Staging of Skin Melanoma

1. **Clark's Level:** The following classification categorises primary melanomas into five levels of invasion.
   i. Level 1 is melanoma at the place of origin, in the basal layer of the epidermis at the dermo-epidermal junction, where the outer and underlying layers of the skin meet.
   ii. Level 2 is extension to the upper third layer of the dermis, the papillary dermis.
   iii. Level 3 melanoma extends to the border of the papillary and reticular dermis.
   iv. Level 4 involves the reticular dermis.
   v. Level 5 invades subcutaneous tissue, such as fat.

Table 4.1: AJCC Staging of Melanoma

Stage	Criteria
IA	Localised melanoma ≤ 0.75 mm or level 2* (T1, N0, M0)
IB	Localised melanoma 0.76 mm to 1.5 mm or level 3* (T2, N0, M0)
IIA	Localised melanoma > 1.6 mm to 4mm or level 4* (T3, N0, M0)
IIB	Localised melanoma > 4 mm or level 5* (T4, N0, M0)
III	Limited nodal metastasis involving only one regional lymph node area, or fewer than 5 in-transit metastasis but without nodal metastasis (any T, N1, M0)
IV	Advanced regional metastasis (any T, N2, M0) any patient with distant metastasis (any T, any N, M1 or M2)

*When the thickness and level of invasion criteria do not coincide with a T classification, thickness should take precedence.

Staging of Eye Melanomas

Melanomas of the eye are classified by direct observation and ultrasound measurements into small, medium, and large tumours, based on their diameter and elevation.

Conventional Treatment

Early stage melanomas that are localised are treated with surgical excision, for more advanced cases a multimodality treatment is used depending on the location, extent, and metastasis and the condition of the patient.

Surgery

Surgery is the curative treatment for most of the early stage melanomas. The goal of surgery is to remove the malignant tissue along with some part of surrounding healthy skin as as to minimise the chances of recurrence. The regional lymph nodes are checked for metastasis, when there is lymph node involvement, these are also surgically removed. A topical treatment of imiquimod, a drug that stimulates the body’s production of interferon and fluorouracil can be used to treat certain superficial skin cancers along with

the scraping off or surgical removal of the growth. Laser surgery or cryosurgery may also be done in some cases.

Chemotherapy

Chemotherapy is typically only used in advanced metastatic cases (stage IV). Chemotherapy has not been shown to cure late-stage melanoma; however, it may be used to control metastasis. Chemotherapy agents used with stage IV disease include dacarbazine and ternozolomide.

Immunotherapy

Biological immunotherapy agents are also important treatments. IL-2 is a commonly used treatment for stage IV melanoma. Interferon alpha: Flu-like side effects, fever, malaise, tachycardia, chills, headache and arthralgia, myalgias and drowsiness, lack of initiative, irritability, confusion, and apathy.

Radiation

As melanomas are largely resistant to radiation therapy, therefore radiation therapy is rarely used. However, radiation therapy is sometimes used as palliative therapy (where surgery is not appropriate) for stage III and IV melanoma patients, to shrink metastatic lesions, particularly in the central nervous system, to relieve symptoms and improve the quality of life.

Treatment by Location

1. Skin melanomas

Stage I:

Standard treatment: Curative surgery with a wide excision around the tumour.
Survival rate: 5 years (80 to 100 percent).
Stage II:
Standard treatment: Surgery, as in Stage I.
Survival rate: 5 years (Up to 65 percent).
Stage III:
Standard treatment: Removal of the superficial group of lymph nodes.

Interferon-alpha at high doses extended the average survival rate of patients with surgically removed stage III melanoma by approximately a year more than surgery alone. Interferon-alpha when used in the early phase of melanoma has proven effective in preventing the recurrence of melanoma after surgery.
Survival rate: 5 years (20 to 50 percent).
Stage IV:
Standard treatment: Systemic therapy using immunological or chemotherapy agents or regional therapy with radiation.
Survival rate: 5 years (less than 10 percent).

2. Eye melanomas

Standard treatment: Medium and large melanomas are treated either by removing the eye or by applying radioactive plaques. If the melanoma extends outside the eye to the surrounding bone, the prognosis is very poor. If the eye melanoma spreads to other parts of the body, it is usually handled in the same way as wide spread.

Supportive Therapy

Lifestyle

Exposure to harmful ultraviolet radiations of the sun has to be avoided. This may be done by the use of sun block, clothing, hat, and shade is the best way to prevent skin cancer and help ensure it doesn’t recur. Stress reduction techniques may be helpful and they are also beneficial in enhancing immunity.

Diet and Natural Supplements

Diet consisting of foods rich in vitamin D and carotenoids, coupled with low alcohol consumption, was associated with a reduced risk of melanoma. Drinking tea is associated with a reduced risk of developing squamous cell skin cancer. EGCG from green tea, grape seed extract, silymarin (from milk thistle), genistein (from soy), lycopene vitamin E, beta-carotene, and selenium, all are very useful. A diet high in antioxidant nutrients, such as vitamins A, C, and E and beta-carotene, may have a protective effect. A diet

rich in arachidonic acid has shown to increase risk of squamous cell skin cancer. This unsaturated fatty acid found in animal fats is a precursor to inflammation, which can promote carcinogenic events.

Other useful herbal supplements are:

1. Vitamin D suppresses melanoma cell proliferation by up to 50 percent.
2. CoQ10: Useful in order to reduce the risk of disease and its progression.
3. The Michigan Cancer Foundation found that modified citrus pectin inhibited melanoma in vivo.
4. The flavonoid quercetin has shown to inhibit the invasiveness of melanoma cells.
5. Panax ginseng inhibits the growth of melanoma cells as well as stimulates NK-cell-mediated melanoma tumour destruction.
6. Fermented wheat extract (Avemar) helps in preventing recurrences.
7. Carnosol, a phytochemical derived from rosemary; carnosol has been shown to restrict the invasive activity of melanoma cells.
8. Curcumin is very useful in inhibiting lung metastasis.
9. Mistletoe: Iscador therapy has been very useful in preventing metastasis and reducing the size of melanoma.

Treatment Follow-up

Any new symptom should be watched since melanoma can involve many parts of the body.

1. Organs like lung and liver should be watched carefully at three-month intervals after removal of the primary melanoma since they are the common sites for tumour cells to lodge and grow after travelling through the blood stream.
2. Liver function tests should be done.
3. CT scans of the abdomen with contrast material injected to show liver should be done every six months.
4. MRI of the pelvis.
5. CT scans of chest to detect any lung metastasis.
6. Lumps under the skin, usually colourless or reddish-purple and occasionally black if in the skin can be felt and seen by patients, often during a bath. Lymph nodes under the arms or in the groin can also be

felt and/or seen.

Recurrent Cancer

Treatment for recurrent cancer is similar to that for stage IV. Long disease free intervals are often achieved after the deep primary tumours are removed, and early melanomas are usually curable. If the disease comes back in a lymph node, it can be removed surgically. It comes back elsewhere; such as in the lungs or liver, a variety of treatments are available.

Bone Cancer

Cancers of the bones and joints are some of the rarest forms of cancer, constituting only about 3,500 cases of the estimated 3.6 million cancers diagnosed in 2010 in India. More often, bone cancers occur as a result of metastasis from cancers of other organs like breast, prostate or lungs; primary tumours of the bone being less common. Depending on the type of bone cells from which they originate, the most common malignant bone tumours are osteosarcoma, chondrosarcoma, Ewing's sarcoma, and undifferentiated pleomorphic sarcoma. Osteosarcoma, the most common type of bone cancer, consists of bony growths formed by malignant cells; mostly affecting children or adolescents, but can also occur in elderly people. There are other cancers that originate from bone marrow like leukaemia, multiple myeloma, and lymphoma, but these are considered to be cancers of haemopoetic system and not bones.

Risk Factors

The precise causes of bone cancer remain unknown, but risk factors include:

1. Exposure to radiation or chemotherapy especially in children increases the likelihood of developing bone cancers.
2. People with diseases of bone like paget's disease are at increased risk of developing this cancer.
3. Advancing age combined with other risk factors increases the risk.

Clinical Features

1. Bone cancers occur more commonly in first and second decade of life; osteosarcoma accounts for 5 percent of childhood tumours.
2. Osteosarcomas commonly occur in metaphyses of long bones; most of them in the distal end of femur; tibia, humerus, pelvis, mandible, fibula, and ribs being the other common sites.
3. At the time of diagnosis, osteosarcoma is localised to the bone in most of the cases. In those with metastatic disease, the malignancy usually spreads to the lungs or other bones. The most common symptoms of osteosarcoma are:
    a. Initially there is dull, aching pain at the site which is worse at night and after activity; as the disease progresses, the pain becomes persistent.
    b. Persistent or unusual pain or swelling in or near a bone, and stiffness in surrounding tissue. Few cases may be painless which are diagnosed as incidental findings on X-rays.
    c. Fracture of affected bone in rare cases.
    d. Fatigue, weight loss.
    e. Fever.

Diagnosis

1. The physical examination and clinical features raise the suspicion of bone cancer which is diagnosed by other investigations.
2. Imaging tests like X-rays, bone scans, CAT scans, MRIs are used for diagnosis, staging, and detecting metastasis or for a guided biopsy.
3. Needle biopsy or surgical biopsy confirms the diagnosis.
4. Blood tests may show raised alkaline phosphatase which is suggestive but not diagnostic of malignant bone disease.

Conventional Treatment

Depending on the stage and extent of the tumour, and the patient’s state, conventional treatment for bone cancer typically involves a combination of surgery, radiation and chemotherapy.

Surgery

Surgery is the primary treatment approach in most of the cases. Surgery is done with the goal of removing all malignant tissue and obtaining a clean surgical margin. Surgery may involve removal of surrounding healthy bone tissue in order to minimise the chances of recurrence. In few cases, amputation of an entire limb may be required which is followed by reconstructive surgery. Surgical removal of the primary tumour and all distant metastatic tumours improves the prognosis and long-term survival. However, recurrence is not uncommon in case of bone cancers.

Radiation and Chemotherapy

Large doses of external beam radiotherapy are required in cases of unresectable bone cancers. Radiation therapy may be used both pre-operatively and post-operatively. It is most often used for Ewing's sarcoma and less commonly for osteosarcomas. Even when metastasis has not been detected, osteosarcomas are known to be micro-metastasised at the time of diagnosis therefore radiotherapy or systemic chemotherapy is often used for preventing recurrences. Pre-operative chemotherapy with a combination of chemotherapy drugs is used to reduce the size of the tumour so that maximum part of the limb may be spared in the surgery. Post-surgery chemotherapy destroys any distant malignant cells. Common chemotherapy agents used include methotrexate, doxorubicin, cyclophosphamide, cisplatin, ifosfamide, etoposide, and carboplatin.

Supportive Therapy

Lifestyle

Exercise is contraindicated due to the fragility of bones with osteosarcoma, especially in children with femoral tumours.

Diet and Herbal Supplements

Diet should be rich in antioxidants and amino acids. Whole foods such as fruits, vegetables, whole grains, lean meats and fish are recommended. The patients should be advised to avoid or minimise consumption of processed foods and refined sugars.

1. Soy products may be beneficial, as one of its active ingredients isoflavone genistein, stimulates apoptosis of osteosarcoma cells.
2. Selenium found in oats, whole wheat and bran, as well as sesamin, a lignan found in sesame oil inhibit osteosarcoma tumour growth and induced apoptosis.

Lymphoma

Hodgkin's Disease

Hodgkin's lymphoma is a cancer of the lymphatic system. Hodgkin's disease is an important disease in spite of low incidence since it affects adolescents and young adults and has a substantial cure rate.

The malignant cell, characteristic of Hodgkin's disease is known as the Reed-Sternberg cell. Occasionally, it can be very difficult or impossible to diagnose single Reed-Sternberg cell, but Reed-Sternberg "variants" or atypical large cells are regularly identified in Hodgkin's disease.

Types

Hodgkin's disease is divided into subtypes according to the appearance of the affected lymph nodes under the microscope.

WHO's classification of Hodgkin's disease:

1. **Nodular Lymphocyte Predominance (NLP):** This subtype can be difficult to distinguish from non-Hodgkin's lymphoma. The malignant cells are distinct from Reed-Sternberg cells and are called L&H (lymphocytic and histiocytic) or "popcorn" cells due to their appearance. This sub-type accounts for 5 to 10 percent of cases and it affects men more frequently than women. Despite its great tendency for relapse than classical Hodgkin's disease, the prognosis is excellent.
2. **Classical Hodgkin's disease (CHL):** It is the main type of Hodgkin's lymphoma. It accounts for 90-95% of the cases. The Reed-Sternberg cells are usually an abnormal type of B-lymphocytes. Enlarged lymph nodes in people with CHL usually have a small number of Reed-Sternberg cells and a large number of surrounding normal immune cells.

CHL is classified into four sub-types:

a. **Nodular Sclerosis (NS):** The affected lymph node has nodules of normal lymphocytes and other reactive cells, together with Reed-Sternberg cells, separated by bands of scar like tissue. It is the most common type of Hodgkin's disease and the only type, which is more common in women than men. It is often found as a limited-stage disease involving the lymph nodes of lower neck, above the collar bone, and within the chest in adolescents and young adults. This type is unusual in people over the age of fifty.
b. **Mixed Cellularity (MC):** The affected lymph node contains a mixture of inflammatory cells in addition to abundant Reed-Sternberg cells. Adults with this type are often older and have widespread disease at the time of diagnosis. It is also seen in boys under the age of ten.
c. **Lymphocyte Depleted (LD):** This is the least common variant of HD. It is usually discovered at an advanced stage. There are two forms: one has abundant scar-like tissue (fibrosis) with sparse lymphocytes and Reed-Sternberg cells. The other has sheets of malignant cells of different sizes and shapes. It is important to distinguish this sub type from non-Hodgkin's lymphoma.
d. **Lymphocyte Rich (LR):** This is a newly proposed subtype of Hodgkin's disease that combines features of classical Hodgkin's disease and nodular lymphocyte predominance. It tends to be diagnosed at an early stage in somewhat older patients, and usually in men.

Spread of Cancer

Hodgkin's disease progresses from one lymph node group to the next group on the same side (ipsilateral) or the opposite side (contralateral). The most characteristic pattern of HD spread is extension of the disease from the cervical lymph nodes to the supraclavicular lymph nodes, then to the axillary lymph nodes and then the mediastinal and hilar lymph nodes. Hodgkin's disease often involves the spleen and may spread to the liver, bone, and bone marrow. Involvement of the central nervous system is extremely rare.

Risk Factors

The aetiology of the disease is unknown.

1. Age: There are two peaks of incidence of Hodgkin's disease, the first in young adults (ages fifteen to thirty-five), and the second after the age of fifty years.
2. Commonly, men are affected slightly more than women.
3. Mixed cellularity and lymphocyte depletion are more common in the elderly, in young children, in socio-economically under developed areas, and in people with AIDS.
4. Brothers and sisters of people with Hodgkin's disease have an incidence seven times higher than general population.

Signs and Symptoms

1. Persistent swelling of painless lymph nodes in the neck or underarms
2. The swellings may be accompanied by unexplained fever, chills, night sweat, weight loss, or itching.
3. Young people with limited disease usually feel well, but occasionally have a symptom such as itching.
4. Cough, shortness of breath, or chest discomfort can be the first symptom of Hodgkin's disease in the chest. A mass could be detected on a chest X-ray done for totally unrelated reasons.
5. Less commonly, Hodgkin's disease in the abdomen may be signalled by an enlarged spleen or enlarged lymph nodes in the groins.
6. Rarely, people will develop pain at the lymph node sites immediately after ingesting alcohol. This peculiar phenomenon seems specific to Hodgkin's disease.

Diagnosis

Physical Examination

1. Enlarged lymph nodes in the neck, above the clavicle, under the arms, or in the groin.
2. Skin breakdown from scratching (excoriation) over most of the body by itching.
3. Fluid around the lungs (pleural effusion).
4. Liver or spleen enlargement.

5. Abdominal mass.
6. Areas of bony tenderness.

Investigations

CBC, including ESR

There may be abnormal blood chemistry test levels because of tumour or because of involvement of the bone, kidneys, or liver.

Imaging

1. Chest X-ray may show masses within the chest, direct involvement of the lung, or a pleural effusion.
2. CT scan of the chest, abdomen, and pelvis may show enlarged lymph nodes or the involvement of the liver or spleen.
3. Bone X-rays and/or bone scan may be needed if there are any tender bony areas.

Biopsy

1. Bone marrow biopsy to look for the presence of Hodgkin's disease.
2. Biopsy of an enlarged lymph node.

Staging

The classification which is used for staging Hodgkin's disease is known as the Ann Arbor Staging system.

1. **Stage I:** Involvement of a single lymph node region or localised involvement of a single organ or site other than lymph nodes (IE).
2. **Stage II:** Involvement of two or more lymph node regions on the same side of diaphragm or localised involvement of a single associated organ or site other than lymph nodes (extra-lymphatics) and its nearby lymph nodes, with or without other lymph node regions on the same side of the diaphragm (IIE).
3. **Stage III:** Involvement of lymph node regions on both sides of the diaphragm that may also be accompanied by localised involvement of an extra-lymphatic organ or site (IIIE), involvement of the spleen (IIIS), or both (IIIS+E).
4. **Stage IV:** Widespread involvement of one or more sites other than

lymph node, with or without associated lymph node involvement, or isolated extra-lymphatic organ involvement with distant lymph node involvement.

A or B Classification: Each stage may be sub-divided into A or B according to the presence or absence of general symptoms. “A” means the absence of general symptoms, “B” means presence of general symptoms like unexplained fevers over 100.4°F, drenching night sweats, and the unexplained loss of more than 10 percent of body weight.

Treatment by Stage

1. **Stages IA and IIA:** ‘Favourable’, the disease is classified as favourable if there are no large masses and no systemic symptoms present.
   Standard treatment: Combined modality therapy (chemotherapy plus radiation) is a better alternative to just radiation alone.
   Survival rate: 5 years (Above 90 percent).
2. **Stages IA, IIA, IB, and IIB:** ‘Unfavourable’, the disease is classified as unfavourable if there is a large mass or “B” symptoms are present.
   Standard treatment: Combination chemotherapy regimens can be given with radiation therapy to the involved fields. If no bulk sites are present, chemotherapy alone is the option.
   Survival rate: 5 years (80 to 90 percent).
3. **Stage IIIB and Stage IV:** Advanced Hodgkin’s disease prognostic factors have been identified recently. Adverse prognostic factors are Stage IV, male sex, and age forty-five or older, as well as various laboratory tests that predict for poorer results of treatment, including low haemoglobin, high white blood cell count, low lymphocyte count, and low albumin. Each additional factor confers a small increase in risk of relapse.
   Standard treatment: Combination chemotherapy is the choice of treatment. The role of radiation therapy for advanced Hodgkin’s disease is controversial. It may be helpful when added to standard chemotherapy or Stage III patients or when given to sites of bulky disease.
   Survival rate: 5 years (50 to 85 percent, based on prognostic factors).

Treatment Follow-up

All patients must be followed up at regular intervals with physical examination, blood counts, and radiological studies. This is particularly important because of the young aged population and the ability to cure patients with secondary therapy.

For patients treated with limited radiation after clinical staging alone, annual abdominal CT scans are recommended. Sites of previous bulky disease should receive particular attention. All patients receiving radiation therapy to the thyroid should have annual thyroid function tests. In a significant percentage of patients, thyroid function may be low because of radiation treatments, and thyroid hormone must be taken by mouth indefinitely.

Complications of Therapy

Acute toxicities for the various chemotherapy drugs should be discussed before treatment. Depending on the acute toxicities of radiation therapy, area of the body is irradiated.

Late complications of the therapy include the following: Nearly universal sterility in males, and infertility and premature menopause in women over ages twenty-five who receive the equivalent of six cycles of MOPP *. MOPP is also associated with an increased risk of acute leukaemia, which is most common about four years after treatment.

Non-Hodgkin’s lymphomas are increased in HD patients treated by any method. Patients receiving radiotherapy are at increased risk of developing a second malignancy in the irradiated tissues, particularly skin cancer, breast cancer, stomach cancer, soft tissue, bone cancer, and lung cancer. Mammograms are recommended for women who received chest or axillary irradiation before the age of thirty years.

Recurrent Cancer

Combination chemotherapy with a standard regimen is used for patients who were initially treated with radiotherapy alone. Cancer that recurs more than one year after chemotherapy has been given as the initial treatment, may be treated with either same chemotherapy program, an alternative combination, or high-dose chemotherapy, or chemotherapy and radiation therapy followed by hematopoietic stem cell transplantation.

Progression on initial treatment with chemotherapy or relapse during the first year after chemotherapy may be treated with high-dose chemotherapy, and radiation therapy followed by hematopoietic stem cell transplantation.

Chemotherapy Drugs and Their Side-efFects

1. **Bleomycin:** Fatigue; reddening, darkening and thickening of skin and nails or dry peeling skin at finger tips; hair loss, loss of appetite, sore mouth, nausea, reduction in bone marrow function, harmful effects on foetus, and reduction in bone marrow function
2. **Adriamycin:** Fatigue, temporary affects functioning of bone marrow leading to increased risk of infections, nausea, hair loss, sore mouth and throat, increased sensitivity to sun, watery eyes, and loss of fertility.
3. **Prednisone:** Retention of salt and fluid, weight gain, high BP, worsening of diabetes mellitus, loss of potassium, headache, muscle weakness, glaucoma, cataract, obesity, depression, osteoporosis, retardation of growth in children, psychotic behaviour and insomnia.
4. **Etoposide:** Fatigue, bone marrow function temporarily affected, nausea, hair loss, metallic taste in the mouth, loss of appetite, harmful effect on the baby, loss of fertility, reddening of skin, sore mouth, and diarrhoea.
5. **Vinblastine:** Fatigue, reduction in bone marrow function, hair loss, nausea, mouth ulcers, sore mouth, loss of fertility, foetus, numbness and tingling, constipation, and diarrhoea.
6. **DTIC:** Fatigue, reduction in bone marrow function, nausea, loss of appetite, metallic taste of food, diarrhoea, hair loss, flu-like symptoms, increased sensitivity to sun, harmful effects on foetus, and loss of fertility.
7. **Vincristine:** Fatigue, abdominal cramps and constipation, temporary numbness and tingling, loss of fertility, nausea, hair loss, paralysis of the muscles of the wall of the bowels, temporary urinary bladder incontinence, loss of appetite, mouth ulcers, jaw pain, drop in function of bone marrow, cramps, staggering, bone marrow, blurred or double vision, hearing loss, or dizziness.
8. **Procarbazine:** Fatigue, bone marrow function reduction, nausea, loss of appetite, diarrhoea, hair loss, and sore mouth. It interacts with alcohol and some food causing nausea, headache, and difficulty in breathing, sweating, faintness or drowsiness, flu-like symptoms, bad effects on the

foetus, tingling and numbness, depression, and insomnia.

9. **Cyclophosphamide (Cytoxan):** Lowered activity of immune system, loss of appetite, nausea, vomiting, temporary hair loss, chances of development of secondary cancer, typically of bladder, lymph nodes, and bone marrow.
10. **Mechlorethamine:** Allergic reaction, blood in urine, black or tarry stools, increased levels of uric acid, jaundice, decreased WBC and platelets, nausea, vomiting or decreased appetite, sore mouth, diarrhoea and hair loss.

Non-Hodgkin's Lymphoma

Malignant lymphomas are the cancers that arise from lymphoid system. They may be found wherever normal lymphocytes go. They may occur in an isolated lymph node, a group of lymph nodes, in organs such as the stomach and the intestine, the sinuses, bone, skin, or any combination of these sites.

Non-Hodgkin's lymphoma is the second leading cause of cancer related deaths in patients aged fifteen to thirty-four.

WHO Classification

1. **B cell neoplasm:**
   i. Precursor B cell neoplasm
   ii. B lymphoblastic lymphoma/leukaemia
2. **Mature B cell neoplasm:**
   i. B cell chronic lymphocytic leukaemia/ small lymphocytic lymphoma
   ii. B cell prolymphocytic leukaemia
   iii. Lymphoplasmacytoid lymphoma
   iv. Splenic marginal zone lymphoma
   v. Hairy-cell leukaemia
   vi. Plasma cell myeloma/ plasmacytoma
   vii. Extranodal marginal-zone B cell lymphoma

viii. Mantle cell lymphoma
ix. Follicular lymphoma
x. Diffuse-large cell lymphoma
xi. Burkitt's lymphoma

3. **T cell and Natural killer (NK) cell neoplasm:**
   i. Precursor T cell neoplasms
   ii. T lymphoblastic lymphoma/leukaemia
4. **Peripheral T cell and NK cell neoplasm:**
   i. T cell prolymphocytic leukaemia
   ii. T cell granular lymphocytic leukaemia
   iii. Aggressive NK cell leukaemia
   iv. Adult T cell lymphoma/leukaemia
   v. Extra nodal NK/T cell lymphoma, nasal type
   vi. Enteropathy-type T cell lymphoma
   vii. Hepatosplenic g/d T cell lymphoma
   viii. Subcutaneous panniculitis-like T cell lymphoma
   ix. Mycosis fungoides
   x. Anaplastic large-cell lymphoma, primary cutaneous type
   xi. Peripheral T cell lymphoma
   xii. Angioimmunoblastic T cell lymphoma
   xiii. Angiocentric lymphoma
   xiv. Anaplastic large-cell lymphoma, primary systemic type.

Major Subtypes of non-Hodgkin's Lymphomas

1. **Indolent:**
   i. Follicular lymphoma
   ii. Small-lymphocytic lymphoma

iii. Extranodal marginal zone lymphoma
iv. Marginal zone lymphoma
v. Lymphoplasmacytoid lymphoma

2. **Moderately aggressive:**
   i. Mantle cell lymphoma
   ii. Diffuse large-cell lymphoma
   iii. Peripheral T-cell lymphoma
   iv. Anaplastic large-cell lymphoma
3. **Highly aggressive:**
   i. Lymphoblastic lymphoma
   ii. Burkitt's lymphoma

Spread of Cancer

Since lymphocytes travel throughout the body via the blood and the lymphatic system, malignant lymphomas either start in or spread to virtually any organ.

Indolent lymphomas most often involve lymph nodes, bone marrow, and the spleen when they are diagnosed.

Aggressive lymphomas are most commonly found in lymph nodes, but a significant number of cases primarily involve organs separate from lymph nodes and are called extra-nodal.

Aetiology

The immune system is so complex and dynamic that there are many opportunities for errors in regulation. Many lymphomas are thought to result from such errors or "accidents," which are statistically more probable when the immune system is continuously stimulated.

1. Chronic disorders of the immune system, or
2. Chronic administration of drugs to suppress the immune system (such as those used after an organ transplant) predisposes a person to lymphoma.
3. The Epstein-Barr virus, which causes infectious mononucleosis, is

associated with African Burkitt's lymphoma.
4. A T cell virus related to HIV has been linked to adult T cell lymphoma/ leukaemia.

Risk Factors

1. The incidence of lymphoma increases with age and is more common in men. Most lymphomas occur in people who were previously healthy.
2. Occupational exposure in the flour and agricultural industries increase the risk of developing certain types of aggressive lymphoma.
3. People with congenital or acquired abnormalities of their immune systems or those who are on medication to suppress their immune system have a high risk of developing aggressive lymphoma.
4. There is an increased incidence of aggressive lymphomas in people infected with HIV for four or more years.
5. Exposure to radiation or chemotherapy is associated with increased risk.

Signs and Symptoms

Patients may come with a variety of symptoms related to the site and extent of tumour involvement.

1. One or more enlarged lymph nodes in the body.
2. Enlarged lymph nodes in association with a variety of non-specific symptoms such as fatigue, fevers, chills, night sweats, decreased appetite, and weight loss.
3. Shortness of breath or cough because of chest disease.
4. Abdominal pain or fullness because of abdominal mass.
5. Ulcers or bleeding or change in bowel habits because of stomach or intestinal involvement.
6. Nasal stuffiness or sore throat or difficult swallowing because of lymphoma involving the sinus, upper airway, or throat.
7. If brain is involved, there could be headaches, change in vision, or seizures.
8. If bone marrow is involved, there could be recurrent or persistent infections, bleeding, or profound fatigue.

Disease outside the lymphatic system is more common in intermediate and high-grade lymphomas.

Diagnosis

Physical Examination

1. Enlarged lymph nodes in the neck above the clavicle, under the arms, or in the groin.
2. Swelling in the area of the tonsils, throat, or upper airway.
3. Pleural effusion.
4. Liver or spleen enlargement.
5. Abdominal mass.
6. Soft tissue swelling.
7. Tenderness when pressure is applied to the areas of the skeleton.
8. Numbness and muscle weakness.

Investigations

1. CBC may show circulating lymphoma cells or other blood abnormalities because of lymphoma in bone marrow.
2. Blood chemistries may be abnormal because of the tumour, or because of the involvement of the bone, lung, liver, or kidneys.
3. HIV test.

Imaging

1. Chest X-ray may show masses in the mediastinum or hilum, involvement of the lungs, or fluid around the heart or lungs.
2. CT scan of the chest, abdomen, and pelvis may show enlargement of the lymph nodes, spleen, or liver, or the involvement of the lungs, or other organs.
3. Positron-emission tomography (PET) by using the radioactive isotope gallium may show “hot spots” in areas involved with lymphoma. It can also be helpful in assessing the completeness of response at the conclusion of treatment.
4. Lymphangiogram is usually of use in low-grade lymphomas only.
5. CT or MRI scan of the brain may be done if central nervous system involvement is suspected. MRI gives more accurate assessment of the tumour, particularly in the spinal cord and vertebrae.

Biopsy

1. The diagnosis is usually made in a lymph node, but a biopsy of other involved tissues may be performed.
2. Bone marrow biopsy may detect the presence of lymphoma.
3. Lumbar puncture may be necessary for certain patients with aggressive lymphomas who are at a high risk of CNS involvement.

Staging

1. **Stage I:** Involvement of the single lymph node region (I) or localised involvement of a single organ or site other than lymph nodes (IE).
2. **Stage II:** Involvement of two or more lymph node regions on the same side of the diaphragm (Stage II) or localised involvement of single associated organ or site other than lymph nodes (extra-nodal) and its nearby lymph nodes, with or without other lymph node regions on the same side of diaphragm (IIE).
3. **Stage III:** Involvement of the lymph node regions on both the sides of the diaphragm (Stage III) that may also be accompanied by localised involvement of an extra-nodal organ or site (IIE), involvement of the spleen (IIIS), or both (IIIS+E).
4. **Stage IV:** Widespread involvement of one or more extra-nodal sites, with or without associated lymph node involvement, or isolated extra-nodal organ involvement with distant lymph node involvement.
5. **A or B classification:** Each stage may be subdivided into A or B depending on the presence or absence of the general symptoms. “A” means absence of general symptoms. “B” means presence of following general symptoms: Fever over 100.4°F, drenching night sweats, unexplained loss of more than 10 percent of body weight.

Treatment by Grade and Stage

Indolent lymphoma

1. **Stage I and Stage II:**
   Standard treatment: True early-stage patients with indolent lymphomas are rare. Radiation therapy is the standard treatment, as in some patients treated by this method, complaints will not relapse. Total lymphoid

irradiation gives longer disease-free survival.

2. **Stage III and Stage IV:**
   Standard treatment: Single-drug therapy or combination chemotherapy could be the choice of treatment.
   Survival rate: 5 years (90 percent for Stages I and II; 80 percent for Stages III and IV).

Therapy for recurrent disease: The treatment used initially is often successful when used again after a relapse in low-grade lymphomas. Rituximab is effective for relapsed disease. High-dose chemotherapy and bone-marrow transplantation have been associated with long remissions, but carry a risk of secondary leukaemia. Radiotherapy may be useful to reduce bulky or painful disease sites.

Moderately Aggressive Lymphomas

1. **Stage I and Stage II:**
   Standard treatment: A full course of chemotherapy with CAOP (Cyclophosphamide + Adriamycin + Oncovin + Prednisone) usually six to eight cycles. Limited radiation therapy, particularly to bulky sites may be added for better results. Abbreviated combination chemotherapy with CAOP (three cycles) plus limited radiation therapy is given.
   Survival rate: 5 years (80 to 90 percent for Stage I; 70 to 80 percent for stage II).
2. **Stage III and Stage IV:**
   Standard treatment: CAOP therapy is the treatment of choice since it is easy to administer and relatively non-toxic.
   Survival rate: 5 years (40 to 70 percent).

Highly Aggressive Lymphomas

1. **Lymphoblastic Lymphoma**
   Standard treatment: Multi-agent chemotherapy is given together with central nervous system prophylactic therapy. Maintenance chemotherapy is often continued for up to six months after the completion of standard treatment. Patients with extensive disease- usually stage IV on the basis of bone marrow and/ or central nervous system involvement and a high serum lactate dehydrogenase (LDH)

have generally done poorly with conventional therapy.
Survival rate: 5 years (80 percent for the limited disease, 20 percent for extensive disease with bone marrow and central nervous system involvement).
Therapy for relapsed disease: Secondary chemotherapy and bone marrow transplantation do have some anti-tumour activity, but have most often failed to cure this rapidly fatal condition.

2. **Burkitt's lymphoma**
Standard treatment: The most successful therapies for this lymphoma are based on treatments for childhood lymphoma. Multi-agent chemotherapy together with central nervous system prophylactic therapy is the treatment of choice. Patient with extensive disease-usually stage IV on the basis of bone marrow and especially central nervous system involvement, and a high serum lactate dehydrogenase (LDH) requires more intensive therapy.
AIDS-associated lymphomas: These tumours can be highly aggressive. It is often a challenge to manage these patients because their immune systems are already compromised by the HIV infection. These patients can be extremely sensitive to the bone marrow suppressive effects of chemotherapy and are more likely to develop infectious complications than other lymphoma patients. The best chemotherapeutic regime is yet to be identified. Infectious prophylaxis and haematopoetic growth factors are incorporated in the growth regimen.

Treatment Follow-up

Patients with indolent lymphomas require life-long follow-up because of the strong chances that the disease will recur and/or will transform into a more aggressive lymphoma. Recurrences of moderately aggressive or highly aggressive lymphomas usually occur within one to three years after treatment. Relapse is hard to find. All patients should be seen at regular intervals for physical examination, complete blood counts, and radiological studies.

Chemotherapy Drugs with their Side-effects

1. **Oral-chlorambucil:** Nausea, vomiting, blood in urine or stools, rash, sore mouth and lip, fever, chills, easy bruising or bleeding, and joint

pain.

2. **Fludarabine:** Fatigue, decreased in bone marrow function, nausea, diarrhoea, numbness and tingling, loss of fertility, sore mouth and rash.
3. **Novantrone:** Nausea, hair thinning, loss of menstrual period, bladder infections, mouth sore and decreased white blood cell count.
4. **Dexamethasone:** Thinning of skin, glaucoma, weight gain, irregular menstrual cycle, decreased functioning of adrenal gland, osteoporosis, ulceration of stomach or intestine, hirsutism, change in mood, muscle weakness.
5. **Rituxan:** Nausea, vomiting, mouth sore, change in taste, fatigue, hair loss, peripheral neuropathy, neutropenia, thrombocytopenia, anaemia.
6. **Leucovorin:** Allergic reactions – rash, itching, facial flushing, nausea and vomiting.
7. **Mesna:** Bad taste, vomiting, skin rash or itching.
8. **Solumedrol:** Allergic reaction, increased blood pressure, weight gain, insomnia, nausea, vomiting, fatigue, dizziness, muscle weakness or joint pain, problems with control of diabetes, increased hunger and thirst.
9. **Cyclophosphamide (Cytoxan):** Lowers activity of immune system, loss of appetite, nausea and vomiting, temporary hair loss, chances of development of secondary cancer, typically of bladder, lymph nodes, and bone marrow.
10. **Oncovin:** Numbness and tingling, constipation, nausea, vomiting, blurry or double vision, tiredness, drowsiness, confusion, hypotension and mouth sores.
11. **Prednisone:** Retention of salt and fluid, weight gain, high BP, worsening of diabetes mellitus, loss of potassium, headache, muscle weakness, glaucoma, cataract, obesity, depression, osteoporosis, retardation of growth in children, psychotic behaviour and insomnia.
12. **Adriamycin:** Fatigue, temporary affects functioning of bone marrow leading to increased risk of infections, nausea, hair loss, sore mouth and throat, increased sensitivity to sun, watery eyes and loss of fertility.
13. **Procarbazine:** Fatigue, bone marrow function reduction, nausea and loss of appetite, diarrhoea, hair loss and sore mouth. It interacts with alcohol and some foods causing nausea, headache, difficulty in breathing, sweating, faintness or drowsiness, flu-like symptoms, bad effects on the foetus, tingling and numbness, depression, and insomnia.
14. **Mechlorethamine:** Allergic reaction, blood in urine, black and tarry

stools, increased levels of uric acid, jaundice, decreased WBC and platelet count, nausea, vomiting or decreased appetite, mouth sore, diarrhoea, thinning of hair.

15. **Bleomycin:** Fatigue; reddening, darkening and thickening of skin and nails or dry peeling skin at finger tips; hair loss, loss of appetite, sore mouth, nausea, reduction in bone marrow function, harmful effects on foetus, and reduction in bone marrow function.
16. **Methotrexate:** Fatigue, reduced bone marrow function, change of taste, mouth sore, diarrhoea, gritty eyes, hair loss, nausea, increased sensitivity to sunlight, skin rash with itching, and loss of fertility.
17. **Cytosin arabinoside (ARA-C):** Mucositis, nausea, cytopenia, and depression.
18. **Ifosfamide:** Fatigue, reduction in bone marrow function, nausea, hair loss, irritation of the bladder and kidney, and loss of fertility.
19. **Cisplastin:** Fatigue, nausea, reduction in the function of bone marrow, harmful effects on a developing baby, loss of fertility, loss of appetite, numbness or tingling, tinnitus, metallic taste or loss of taste in the mouth, and blurred vision.

AIDS Associated Lymphoma

Lymphoma is a cancer of lymphocytes, an extremely important cell in the immune system. In lymphoma, the lymphocytes start to grow for no known reason and continue to grow and expand, unable to stop. The result is enlargement of lymph glands or other organs in which lymphocytes normally grow and the development of “lumps and bumps” on the body. Dysfunction of various organs may also develop as the abnormal lymphocytes grow, taking up so much space that normal cells don’t have room to function.

Types

The lymphomas occur in people infected with the HIV are high-grade B cell lymphomas. These are tumours that grow very rapidly. They usually consist of either of the following:

1. Small non-cleaved lymphoma
2. Diffuse large cell lymphoma
3. Immunoblastic lymphoma

Aetiology

All the people with HIV infection are at increased risk for developing lymphoma. The chance of developing lymphoma is about 20 percent approximately three years after the diagnosis of AIDS.

Signs and Symptoms

1. Abnormal lumps and bumps (enlarged lymph gland or an enlarged lump) anywhere in the body, including the jaw, stomach cavity, skin, and liver.
2. Lymphoma in the stomach – Belly pain or bloating or an enlargement of the abdominal area.
3. Lymphoma in the bone marrow – Bone pain or anaemia (causing weakness and fatigue).
4. Systemic symptoms include:

    i. persistent fever,

    ii. drenching night sweats,

    iii. loss of more than 10 percent of normal body weight,

    iv. generalised itching.

Diagnosis

The diagnosis of lymphoma can be made only after biopsy of the enlarged lymph gland or the mass.

Conventional Treatment

Several factors affect the prognosis and, therefore, the choice of treatment. Factors associated with poorer prognosis include:

1. A history of AIDS before the diagnosis of lymphoma
2. T4 cells less than 100
3. Age over 35 years
4. A low performance status
5. Elevated LDH levels in the blood
6. Stage IV lymphoma (which has travelled from lymph glands to various

organs in the body)
7. Presence of primary central nervous lymphoma

Chemotherapy: Multiple chemotherapy drugs are given usually once each month for 4 to 6 months. Chemotherapy and HAART (highly active antiretroviral therapy) can be given along with additional chemotherapy into the spinal fluid to prevent relapse in this important site.

Radiation: The therapy is given if the brain is involved by lymphoma. Local radiation therapy alone is not expected to be effective in the long run except in primary central nervous system lymphoma, where only the brain is involved.

Supportive Therapy

1. Medicines to prevent nausea and vomiting should be given routinely.
2. Neupogen (G-CSF) is an important medicine that can limit the decrease of normal white blood cells caused by chemotherapy.
3. If the red blood cell count becomes low because of chemotherapy, erythropoietin can be given either once or three times a week by injection under the skin.
4. Anti-HIV drugs should also be used along with chemotherapy.

Treatment follow-up

A CT or PET scan is repeated after about two to four months of chemotherapy to be sure that all the sites of lymphoma have responded well to the chemotherapy. When complete remission is achieved, an additional two cycles of chemotherapy will be given in an attempt to prevent the lymphoma from coming back.

After chemotherapy has been completed, patient should visit the physician once a month, or more frequently, depending on other illnesses or conditions.

1. Routine blood tests including a chemistry panel and a complete blood count.
2. An elevation of the LDH is an important indication that the lymphoma might have relapsed; so this test should be routinely ordered during follow-up.
3. The CT or PET scan should be repeated in six months and yearly

thereafter. A CT scan should also be repeated if any new symptoms or findings on physical examination develop or if the LDH is elevated.

Chemotherapy Drugs and their Side-effects

1. **Methotrexate:** Fatigue, reduced bone marrow function, change of taste, mouth sore, diarrhoea, gritty eyes, hair loss, nausea, sensitivity to sunlight increased, skin rash with itching, and loss of fertility.
2. **Decadron:** Anaphylaxis, angioedema, bradycardia, congestive heart failure, fat embolism, tachycardia, myocardial infarction, dermatitis, rash, urticaria, hyperglycaemia, hirsutism, menstrual irregularities, fluid and electrolytes disturbances, increased liver enzymes, hepatomegaly, nausea, pancreatitis, osteoporosis, vertebral compression fracture, headache, and depression.
3. **Cytosin arabinoside (ARA-C):** Mucositis, nausea, cytopenia, and depression.
4. **Bleomycin:** Fatigue; reddening, darkening and thickening of skin and nails or dry peeling skin at finger tips; hair loss, loss of appetite, sore mouth, nausea, reduction in bone marrow function, harmful effects on foetus, and reduction in bone marrow function.
5. **Adriamycin:** Fatigue, temporary affects functioning of bone marrow leading to increased risk of infections, nausea, hair loss, sore mouth and throat, increased sensitivity to sun, watery eyes, and loss of fertility.
6. **Cyclophosphamide (Cytoxan):** Lowers activity of immune system, loss of appetite, nausea, vomiting, temporary hair loss, chances of development of secondary cancer typically of bladder, lymph nodes, and bone marrow.
7. **Oncovin:** Numbness and tingling, constipation, nausea, vomiting, blurry or double vision, tiredness, drowsiness, confusion, hypotension, and mouth sores.
8. **Prednisone:** Retention of salt and fluid, weight gain, high BP, worsening of diabetes mellitus, loss of potassium, headache, muscle weakness, glaucoma, cataract, obesity, depression, osteoporosis, retardation of growth in children, psychotic behaviour, and insomnia.
9. **Etoposide:** Fatigue, bone marrow function temporarily affected, nausea, hair loss, metallic taste in the mouth, loss of appetite, harmful effects on the baby, loss of fertility, reddening of skin, sore mouth, and diarrhoea.

Soft Tissue Sarcoma

Sarcomas are malignant tumours that develop in the connective tissues like bones, muscles, tendons, cartilage, nerves, fat, and blood vessels. Those arising in the bone are osteosarcoma, discussed under bone cancers. Soft tissue sarcomas are fairly rare cancers with about 20,000 cases diagnosed in 2010, which includes both adults and children. Soft tissue sarcomas commonly occur in the tissues of extremities, hands or feet, and less commonly in the chest and abdomen. There are about 50 different types of soft tissue sarcomas. Leiomyosarcomas are the most common abdominal sarcomas and liposarcomas are the most common type of sarcomas found in the legs. Initial stage soft tissue sarcomas are very treatable and have a good prognosis; five-year survival after surgical treatment is 85 percent.

Risk Factors

1. Family history of cancer increases the risk for soft tissue sarcomas.
2. Exposure to radiation therapy for treatment of other cancers.
3. Occupational exposure to certain chemicals, including vinyl chloride, arsenic, herbicides, and wood preservatives.

Clinical Features

1. During the initial stages, there are no symptoms or signs that point towards the tumour growth. A painless lump or swelling that’s growing in size may be the first physical sign of a sarcoma.
2. Pain may present when the tumour grows and presses upon the nerves or muscles.
3. If the tumour is located in the abdomen there may be abdominal pain, or bleeding that may present as haematemesis or malena.

Diagnosis

1. Patient’s history and examination reveals the signs and symptoms that point towards soft tissue sarcomas.
2. Imaging tests like Ultrasound, X-rays, CT scan, or MRI are used to

detect the sarcoma, and see its location and extent. PET scan is used to detect distant metastasis.
3. Biopsy of the suspected tissue confirms the diagnosis.

Conventional Treatment

The treatment of soft tissue sarcomas is aimed to cure the cancer and preserve the maximum possible function of the affected area. The treatment approach depends upon the patient's age and health status, the type, size and location and stage of the malignancy, and metastasis.

Surgery

Surgery is the common approach used to remove soft tissue sarcomas; in most of the cases, surgery is able to remove the cancer if it has not advanced. The surrounding affected lymph nodes may also be removed. The tissue excised is used to take a tissue sample for biopsy as well. With surgical removal of sarcoma, the prognosis is good and the five-year survival rate is 85 percent.

Radiation and Chemotherapy

In advanced cases, a multimodality approach is used where both radiation therapy and chemotherapy may be used to destroy the cancer and reduce the chances of recurrence. Pre-operative radiation therapy may be used to shrink the tumour. Chemotherapy drugs used to treat sarcomas may include mesna, ifosfamide, adriamycin, and dacarbazine.

Targeted therapies may be used in some sarcomas, such as gastrointestinal stromal tumour using imatinib.

Supportive Therapy

Medicines to prevent pain if any, should be given routinely.

Nutrient Supplements

1. Vitamin A as retinoic acid, arrests the growth of malignant cells and encourages the differentiation of human Rhabdomyosarcoma cells

(cancer of skeletal muscles).
2. Melatonin hormone induces rapid regression of implanted human Leiomyosarcomas.
3. N-acetylcysteine (NAC) inhibits invasion and metastasis of malignant cells, such as Kaposi's sarcoma cells.

Mesothelioma

It is a malignant tumour in the lining of the chest and abdominal cavities. Most people who develop this cancer have a history of exposure to the widely found carcinogen asbestos.

It is usually not curable, although surgical cures have been reported in a very few patients with much localised tumours. Most patients, however, have widespread disease at the time of diagnosis, with chest pain and accumulation of fluid in the chest, and abdominal cavities causing shortness of breath or abdominal swelling. Treatment at this stage is usually directed towards relieving these symptoms.

Types

This tumour can have both fibrous and epithelial elements. Epithelial cancers that develop in the tissues that cover the surface of or line the internal organs are carcinomas; so the epithelial form of mesothelioma is sometimes confused with adenocarcinomas of the lung or metastatic carcinomas. Epithelial mesotheliomas seem to have a better prognosis than other types.

Spread of Cancer

Mesotheliomas start in the pleural cavity or in the peritoneum. They can spread via the lymphatic channels to the lymph nodes of the middle of the chest. They can also spread via the blood stream within and beyond the cavity of origin and metastasise to other organs such as lungs and chest wall and to abdominal organs such as the bowel.

Aetiology

Inhalation of asbestos fibres is a primary cause. Asbestos is used in cement, brake linings, roof shingles, insulation, flooring products, and packing materials. Asbestos has also been found as a contaminant in talc, which is also associated with ovarian cancer.

Risk Factors

1. Anyone exposed to asbestos fibres, even for a few months.
2. Miners and millers in contact with asbestos.
3. Producers of asbestos products.
4. Labourers who install plumbing, boilers, and heating equipments in ships, factories, and homes.
5. Workers who are near the material but do not handle it directly for example carpenters, electricians, and shipyard welders.
6. Heating, insulation, and construction trade people.
7. People living near asbestos mines, which have an increased chance of developing asbestosis, the associated scarring of the lung, as well as mesothelioma.

Signs and Symptoms

1. Patients with mesothelioma may have shadows on their chest X-rays related to asbestosis.
2. Chest pain, significant shortness of breath, and especially fluid around one lung or in the abdomen suggests a diagnosis of mesothelioma.
3. Peritoneal mesothelioma usually has signs of advanced disease, including as abdominal mass, pain, ascitis and weight loss.
4. If the tumour has extended to the ribs, bones, nerves, and superior vena cava, common symptoms include pain, trouble swallowing, nerve compression syndromes, and swelling of the neck or face.
5. Involvement of the pericardium may cause heart rhythm disturbances.
6. Tumours in the lining of the peritoneum may extend to produce bowel obstruction. Also the patient may come with fever, clotting abnormalities, thrombophlebitis, and anaemia.

Diagnosis

Physical Examination

1. Swelling of the neck and face
2. Abdominal mass
3. Lump on chest wall

Investigations

1. Lung function tests usually show a smaller amount of normal lung tissue available for breathing.
2. Elevated levels of CEA in the blood may help distinguish an adenocarcinoma from mesothelioma, with a markedly elevated level suggesting an adenocarcinoma.
3. Patient with peritoneal mesothelioma may have elevated platelet counts and clotting abnormalities.

Imaging

1. CT scan to assess the extent of the disease and to assist decision making on therapy.
2. Chest X-rays will often reveal thickening of the pleural membranes in half the patients with peritoneal mesothelioma.

Endoscopy and Biopsy

1. A needle biopsy can be done. Sometimes fluid removed during a chest “tap” may be examined for tumour cells in a way similar to a Pap test.
2. Most cases require an open surgical biopsy, since needle biopsies seldom produce enough diagnostic material.
3. A specimen is often processed by special methods, electron microscopy and special stains to help distinguish adenocarcinoma of the lung from mesothelioma.
4. Patients with peritoneal mesothelioma eventually have laparotomy, with an open directed biopsy. Sometimes peritoneoscopy may yield enough tissue for diagnosis.

Treatment by Stage

Localised Malignant Mesothelioma

They are either solitary tumours or tumours that have spread within the cavity involved, but are confined to the serosal surfaces where they started.

Standard treatment: Occasionally patients with this stage of disease can be cured by aggressive surgery. Standard surgery for intra-cavitary mesothelioma will also involve the removal of portions of the lung and diaphragm in selected patients.

To relieve the symptoms of disease, collection of fluid in the cavity is drained. A chemical irritant can then be introduced into the chest to make the layers of the membrane adhere to one another. This may prevent further fluid accumulations.

Radiotherapy is also sometimes given to the lung involved to eliminate blood flow in the area and improve breathing.

Survival rate: 5 years (Average survival for localised chest disease is about sixteen months).

Advanced Malignant Mesothelioma

In this stage, the tumour has spread beyond the cavity of origin, with metastasis outside the serosal surface. This extension can include the lung and chest wall, as well as the abdominal organs such as the bowel.

Standard treatment: Surgical removal of the tumour may be done as a palliative measure.

Radiation therapy may also be given in an attempt to control the growth of the malignancy and reduce symptoms in the lung.

As for the localised disease, chemical irritants are used to control collections of fluid caused irritation from the tumour.

Survival rate: 5 years (less than 10 percent), the average survival is six to nine months.

Peritoneal Mesothelioma

Standard treatment: Therapy for peritoneal mesothelioma is difficult;

especially as it is usually widespread by the time it is diagnosed.

The role of surgery is generally confined to relief of bowel obstruction, relief of ascites by placing shunts for drainage, or the palliative removal of large tumours.

Radiation therapy has often been used, but its role has not yet been defined.

Chemotherapy in cases of peritoneal mesothelioma is given via a catheter directly into the abdominal cavity.

Survival rate: 5 years (beyond one year is unusual).

Treatment Follow-up

1. Mesotheliomas usually progress rapidly, and frequent follow-ups are needed.
2. A physical examination every six to twelve weeks.
3. Chest or abdominal X-rays or CT scans every three to six months.
4. Blood counts and chemistry panel every three to six months.
5. Lung function tests, depending on symptoms.

Chemotherapy Drugs Used and their Side-effects

1. **Adriamycin:** Fatigue, temporary affects functioning of bone marrow leading to increased risk of infections, nausea, hair loss, sore mouth and throat, increased sensitivity to sun, watery eyes, and loss of fertility.
2. **Cyclophosphamide (Cytoxan):** Lowers activity of immune system, loss of appetite, nausea, vomiting, temporary hair loss, chances of development of secondary cancer typically of bladder, lymph nodes, bone marrow.
3. **Cisplastin:** Fatigue, nausea, reduction in the function of bone marrow, harmful effects on a developing baby, loss of fertility, loss of appetite, numbness or tingling, tinnitus, metallic taste or loss of taste in the mouth, and blurred vision.
4. **Methotrexate:** Fatigue, bone marrow function reduced, change of taste, mouth sore, diarrhoea, gritty eyes, hair loss, nausea, sensitivity to sunlight increased, skin rash with itching, and loss of fertility.

5. **Leucovorin:** Allergic reaction – rash, itching, facial flushing, nausea and vomiting.
6. **5FU:** Fatigue, nausea, mouth sore, diarrhoea, temporarily affected bone marrow function, hair thinning, brittle, chipped, and ridged nails, sensitivity to sunlight, itchy skin rashes, and loss of appetite.
7. **Vinorelbine (Navelbine):** Fatigue, constipation, nausea, reduction in bone marrow function, diarrhoea, loss of fertility, harmful effects on foetus, sore mouth, hair loss, numbness, and tingling.
8. **Gemcitabine (Gemzar):** Flu-like symptoms, vomiting, constipation, diarrhoea, loss of appetite, headache, muscle pain, fatigue, blood in urine and stools, skin rash, insomnia, cough or hoarseness, low back pain, high blood pressure, alopecia, itching, numbness, and tingling.
9. **5-azacytidine:** Decreased platelet count, decreased red blood cells, nausea, vomiting, fever, decreased white blood cell count, diarrhoea, constipation, loss of appetite, and tiredness.

Trophoblastic Disease

Gestational trophoblastic diseases (GTD) are disorders of abnormal growth of the placenta. They are always associated with pregnancy. The human chorionic gonadotropin (a protein hormone produced by the placenta) has been a key to understand and manage patients with GTD. It is measured often during both therapy and follow-up to monitor the response to treatment and to detect recurrent disease.

Types

There are four types of gestational trophoblastic disease:

1. **Hydatidiform mole (also called a molar pregnancy)**
   A hydatidiform mole results from an abnormal embryo. There are two types of hydatidiform moles – complete and incomplete (partial). A complete mole usually has little or no fetal development and a large overgrowth of the placenta in the form of cysts (hydatids). The diagnosis of a complete hydatidiform mole is usually made during the first half of a pregnancy.
   In contrast, a partial mole is associated with fetus, placental tissue, umbilical cord, and membranes. The fetus usually dies within nine

weeks after the last menstrual period, although occasionally it can survive to term.

Hydatidiform moles are sometimes associated with multiple ovarian cysts (theca-lutein cysts), high HCG titers, and pregnancy-induced hypertension. There is also the risk of the abnormal placental tissue persisting in the uterus or elsewhere in the body. These risks are greater for women with complete moles (10 to 20 percent) than for those with partial moles (5 to 10 percent).

2. **Invasive mole (chorio-adenoma destruens)**
   An invasive mole (chorio-adenoma destruens) is defined as a hydatidiform mole that persists and invades the uterine wall. It develops in 10 to 20 percent of all molar pregnancies.
3. **Gestational chorio-carcinoma**
   Chorio-carcinoma is a cancer composed of only the cells that cover the placenta (trophoblastic cells). It differs from invasive mole, which is made up of all the placental tissues. Chorio-carcinoma can follow any type of pregnancy. About 50 percent of all cases of gestational chorio-carcinoma follow a hydatidiform mole, 25 percent follow a spontaneous abortion or tubal pregnancy, and 25 percent follow a normal term pregnancy. GTD after a normal pregnancy is always a chorio-carcinoma, never a mole or an invasive mole.
4. **Placental site trophoblastic disease:** It is a very rare and unique form of gestational trophoblastic disease (GTD). This tumour represents a neoplastic transformation of intermediate trophoblastic cells that normally play a critical role in implantation. The tumour develops from the cells that grow to form the placenta. It happens after pregnancy.

Aetiology

A hydatidiform or invasive mole occurs when a single sperm fertilises an egg without a nucleus. The chromosomes in the sperm duplicate, resulting in an abnormal embryo that has only male genetic material. A mole can also occur when two sperms fertilise a single egg without a nucleus. A mole develops from the abnormally fertilised egg and is characterised by lack of normal fetus and by many small fluid-filled cysts.

The cause of chorio-carcinoma is uncertain. It can arise from a normal

pregnancy, a miscarriage, or a tubal pregnancy, or from either type of mole.

Spread of Cancer

Hydatidiform moles generally stay confined to the uterus. When they invade the wall of the uterus, they are called invasive moles.

An invasive mole can penetrate the full thickness of the uterine wall and rupture, resulting in severe internal or vaginal bleeding. Invasive moles can also spread to other organs, most commonly to the vagina and the lung.

Chorio-carcinoma can spread virtually anywhere in the body, but most commonly spreads to the lung, the lower genital tract (cervix, vagina, and vulva), the brain, liver, and kidney, and the gastrointestinal tract.

Risk factors

At significantly higher risk:

Risk for the development of a hydatidiform mole, invasive mole, or chorio-carcinoma include:

1. a prior mole (30 times the risk),
2. maternal age greater than forty years (5 times) or less than twenty years, and
3. a previous spontaneous abortion.

At slightly lower risk:

Eating a diet high in vitamin A and having one or more children without having a previous abortion.

At risk for developing an invasive mole or chorio-carcinoma - For a woman with a molar pregnancy, there are several risk factors associated with the subsequent development of an invasive mole or chorio-carcinoma. These include:

1. delayed haemorrhage after removal of the mole (D&C),
2. large ovarian (theca-leutin) cysts,
3. acute respiratory failure at the time of D&C,

4. a large uterus before the D&C,
5. a serum HCG level greater than 40,000 mIU/ml,
6. a history of previous mole,
7. maternal age over forty.

Signs and Symptoms

A molar pregnancy is often associated with:

1. absence of menses
2. symptoms of pregnancy
3. bleeding in first half of pregnancy
4. pain in the lower abdomen
5. high blood pressure before twenty-four weeks of pregnancy
6. excessive nausea or vomiting
7. a uterus larger than normal for gestational age
8. absent foetal heart-beat
9. expulsion of cysts.

Women with partial moles have:

1. Abnormal uterine bleeding.
2. Signs and symptoms of a spontaneous abortion.
3. A smaller than expected uterus for gestational age of the pregnancy.

Symptoms of Chorio-carcinoma

1. Lack of menstrual period.
2. Symptoms of pregnancy.
3. Abnormal vaginal bleeding.
4. Pelvic pain.
5. Women with liver metastasis may have bleeding within the abdomen because of a ruptured liver.
6. Metastasis to the lung may have a dry cough, cough up blood, and have chest pain or shortness of breath.
7. Metastasis to the intestinal tract may cause chronic blood loss and anaemia.
8. Brain metastasis is associated with symptoms that suggest a brain tumour or stroke.

Diagnosis

Removing cells for pathological analysis in case of chorio-carcinoma may be hazardous, since this tumour bleeds easily.

1. **Physical examination:** It should pay particular attention to the pelvis, the abdomen (specifically the liver), lungs, and brain.
2. **Blood and other tests:**
   i. Complete blood count.
   ii. Tests for liver enzymes and kidney function.
   iii. Serum chemistries.
   iv. Serum beta HCG: A serum HCG level far in excess of that of a normal pregnancy would support the diagnosis of a hydatidiform mole. An invasive mole is rarely diagnosed definitively without a hysterectomy. The diagnosis is usually suggested after a hydatidiform mole is removed and the HCG titers remain persistently elevated and there is no evidence of metastasis. It is mostly referred to as non-metastatic (confined to the uterus) trophoblastic disease (NMTD). Metastasis and an elevated HCG level in a recently pregnant woman indicate choriocarcinoma. Metastasis and an elevated HCG level following a hydatidiform mole can either be choriocarcinoma or invasive mole.
3. **Imaging:**
   i. Pelvic ultrasound: It is usually made after an ultrasound examination of the uterus is done but a definite diagnosis of

      a mole is made only after microscopic examination of the cysts.
   ii. Chest X-rays.

Treatment by Type and Stage

Hydatidiform mole (HM; Molar Pregnancy)

Complications associated with a molar pregnancy include anaemia because of blood loss, severe high blood pressure, an overactive thyroid gland, heart failure, haemorrhage, infection, and acute respiratory failure.

Standard treatment: As soon as the diagnosis is made, the HM is removed by a dilatation and curettage. For women who have completed childbearing, hysterectomy is also an option. Rh-immunoglobulin is given to women with Rh-negative blood to prevent Rh sensitization. In about one third of women with molar pregnancy, there may be enlargement of one or both ovaries because of multiple (theca-leutin) cysts caused by high levels of HCG. Occasionally the cysts can rupture, bleed, or become infected. In vast majority of cases, these cysts do not have to be removed because they resolve with time, although sometimes it takes several weeks or months for them to disappear completely.

Chemotherapy may be given after the removal of mole if the serum HCG rises for two successive weeks or plateaus for three weeks or more, if the serum HCG rises again after reaching a normal level, or if there is a haemorrhage not related to an incomplete D&C. These are cases presumed to be NMTD. If metastasis are found, it is called MTD.

Non-metastatic GTD

Non-metastatic disease may be either an invasive mole or choriocarcinoma and is defined as having no disease outside the uterus.

Standard treatment: Chemotherapy treatment for an invasive mole and non-metastatic choriocarcinoma is the same. All cases of non-metastatic GTD are considered curable, even if there is extensive local disease. If chemotherapy fails, a hysterectomy is usually performed.

The standard treatment is with a single chemotherapy drug. Methotrexate is used if the liver tests are normal or actinomycin-D if they are not.

Survival rate: 5 years [100 percent for both invasive mole and non-metastatic choriocarcinoma (NMTD)].

Low-risk Metastatic GTD

Metastatic choriocarcinoma is considered low risk when it is diagnosed less than 4 months after the onset of the pregnancy, when the HCG titer is less than 40,000 mIU/ml, when there are no liver or brain metastasis, and when there has been no previous treatment with chemotherapy.

Standard treatment: Therapy for women with low-risk metastatic GTD is

often with a single chemotherapeutic is as for non-metastatic disease. Single-agent chemotherapy is used for women who have an abnormal post molar HCG titer. All other cases with good prognostic features are treated with a combination of methotrexate + actinomycin-D with or without cyclophophamide (Cytoxin) (MAC or MA).

Those who fail chemotherapy with methotrexate alone are then treated with actinomycin-D or with MAC.

Survival rate: 5 years (97 to 100 percent).

High-risk Metastatic Disease

Metastatic choriocarcinoma is considered high risk when it is diagnosed more than 4 months after the onset of pregnancy, the serum HCG titer is greater than 40,000 mIU/ml, and there is liver or brain metastasis, or there is history of chemotherapy, or if it occurs after full-term pregnancy.

Standard treatment: It should be treated as soon as possible with aggressive chemotherapy. Women with brain or liver metastasis are often treated with radiation therapy to the brain or liver.

Survival rate: 5 years (75 percent).

Treatment follow-up

A gynaecologic examination and careful physical examination is done one week after the D&C for NMTD and then every four weeks until the HCG titer returns to normal, or unless symptoms develop.

A regular measurement of the serum HCG levels is very important for GTD. The levels should be monitored weekly until normal-usually, the level progressively declines to normal within fourteen weeks after the D&C for NMTD. After normalisation of the titers, the HCG is followed monthly for six to twelve months and for metastatic GTD every month for two to three years.

Contraception (preferably oral contraceptives) should be used until pregnancy is permitted.

Pregnancy after GTD Treatment

It is advisable to avoid pregnancy for the first year after a hydatidiform mole is treated. Side effects from chemotherapy for GTD may affect future pregnancies. There may be a slightly higher infertility rate, a lower chance for a successful term pregnancy, or a higher rate of spontaneous abortion. There is a higher incidence of subsequent GTD. An ultrasound, an HCG titer, and chest X-rays are usually obtained in subsequent pregnancies to check for GTD.

Recurrence GTD

Almost all recurrences take place within thirty-six months of remission, with 85 percent before eighteen months. Sometimes a recurrence can appear after an intervening normal pregnancy. Recurrent disease is usually treated with chemotherapy or occasionally surgery may be required if the metastasis are isolated. Cure rates vary, depending on the site of metastasis.

Chemotherapy Drugs and their Side-effects

1. **Methotrexate:** Fatigue, reduced bone marrow function, change of taste, mouth sore, diarrhoea, gritty eyes, hair loss, nausea, increased sensitivity to sunlight, skin rash with itching, and loss of fertility.
2. **Cyclophosphamide (Cytoxan):** Lowered activity of immune system, loss of appetite, nausea, vomiting, temporary hair loss, chances of development of secondary cancer typically of bladder, lymph nodes, and bone marrow.
3. **Dactinomycin:** Fatigue, bone marrow function reduction, nausea, loss of appetite, hair loss, mouth sore, diarrhoea, harmful effects on foetus, fever, chills, abdominal cramps, depression, and difficulty in swallowing. Do not have immunisation with live vaccines (rubella, mumps, BCG, yellow fever, typhoid, and polio) while having chemotherapy or for 6 months afterwards.

Metastatic Cancer

When a cancer spreads from its original site to another area of the body, it is

termed as metastatic cancer. Whether metastasis develops or not, it depends on the complex interaction of many tumour cell factors, including type of cancer, the degree of maturity of the tumour cells, the location and how long the cancer has been present, as well as other incompletely understood factors.

The treatment of metastatic cancer depends on where the cancer started. About 5 percent of the times, metastasis is discovered, but the primary tumour cannot be identified. The treatment of these metastasis is dictated by their location rather than their origin.

Although the presence of metastasis generally implies a poor prognosis, some metastatic cancers can be cured with conventional therapy.

Spread of Cancer

Metastasis spread in three ways – by local extension from the tumour to the surrounding tissues, through the bloodstream to distant sites and through the lymphatic system to neighbouring or distant lymph nodes.

Signs and Symptoms

Many patients have no or minimal symptoms related to the tumour and their metastasis, which are found during a routine medical evaluation. If there are symptoms, they depend on the site involved.

1. Brain metastasis may cause headaches, dizziness, blurred vision, nausea, or other symptoms related to the nervous system.
2. Bone metastasis may be evident because of pain, although they frequently cause no symptoms. The first sign of a bone metastasis may be when the affected bone breaks, often after a minor injury or no injury at all.
3. Lung metastasis may cause a non-productive cough or a cough producing bloody sputum, chest pain, or shortness of breath.
4. Liver metastasis may cause weight loss, fever, nausea, loss of appetite, abdominal pain, and fluid in the abdomen or jaundice.

Diagnosis

Physical Examination

There may be:

1. Fever
2. Tenderness of the bone, tumours under the skin
3. Enlarged liver and spleen
4. Enlarged, hard lymph nodes
5. Ascites
6. Jaundice
7. Swelling of the legs

Blood Tests

1. Routine liver function studies: Blood tests for serum bilirubin and liver enzymes, may be abnormal. They can, however, be completely normal even in advanced stages of metastatic cancer.
2. There may be serum blood tests that are abnormal. Metastatic colon cancer, for example, may be associated with an elevated carcinoembryonic antigen (CEA), testicular cancer with a high alpha fetoprotein (AFP) or human chorionic gonadotropins (HCG) and ovarian cancer with an elevated CA-125.

Imaging

1. Abdominal ultrasound helps to evaluate the abdomen if a mass is suspected. It can reveal the presence of fluid in the abdomen and is particularly useful in distinguishing a solid mass from a non-cancerous accumulation of fluid within the pelvis or liver.
2. A bone scan will identify most tumours spread to the bones. But abnormal areas on a bone scan almost always have to be evaluated further with plain X-rays of the suspicious area.
3. A CT scan is useful for determining the extent of a tumour within the head, chest, or abdomen and for evaluating the possible spread of tumour tissue into lymph nodes or other structures in the abdomen.
4. MRI may help to determine if the cancer can be surgically removed especially in situations such as tumours of the spinal cord.
5. If metastasis have been found on biopsy, a chest X-ray should be done because the lungs are a very common site of metastasis.

Biopsy

A biopsy, either with a fine needle or regular needle, is often necessary. The biopsy sample can be used to distinguish between types of malignancy because the tumour cells of different cancers have characteristic features under the microscope.

Treatment by Type

Brain Metastasis

Any cancer may spread to the brain, although the most common to do so are the lung and breast cancers. The treatment of brain metastasis depends on many factors, such as origin of tumour, the number and location of lesions within the brain, and the extent of cancer in places other than the brain.

Standard treatment: Most patients are placed on steroids to relieve brain swelling that can cause severe symptoms. Many patients will also be given anti-seizure medicine, since seizures are a common complication.

Patients with brain metastasis from lymphoma, leukaemia or small cell cancer should generally be given radiation therapy to the entire brain, although these tumours may also be treated with systemic chemotherapy.

The standard approach with brain metastasis of any other origin is to decide if the tumour can be removed. A CT scan or a MRI should be done to discover whether there is more than one tumour and to define the specific site in the brain where the tumour or tumours are located.

1. If there is only one tumour and the patient’s general health is good, surgical removal of the tumour can be attempted. An alternative to conventional surgery on a single or a small number of brain metastasis is the “gamma knife.” After the tumour is removed, radiation therapy can be given to the entire brain.
2. In patients with more than one brain metastasis, radiation is delivered to the entire brain.

Lung Metastasis

Metastasis to the lung is common for many types of cancer. Patients may

have no symptoms or they may have symptoms such as shortness of breath and coughing up blood.

Standard treatment: Lung metastases are generally treated with chemotherapy directed against the primary tumour type.

If the CT scan and MRI suggest that the tumour is isolated, it may be surgically removed without causing significant loss of lung function.

Metastasis to the lung may cause pleural effusion, which may lead to lung collapse, creating breathing difficulties. The fluid can be tapped and an irritant is injected into the cavity to cause scarring of the tissues and prevent the re-accumulation of fluid. If a metastatic tumour causes bleeding into the lungs, a patient may begin coughing up blood. Radiation therapy directed precisely at the tumour may alleviate the problem.

Bone Metastasis

Most common cancers that spread to the bones are prostate, lung, and breast cancers. Bone metastasis may be discovered on a routine X-ray or bone scan or may be found because of pain, swelling, or a fracture of the weakened bone.

Standard treatment: Bone metastasis that do not produce symptoms and involve bones that are not weight bearing may be treated with the chemotherapy appropriate for the primary tumour.

Bone metastasis that cause symptoms can also be treated with systemic therapy. A patient with prostate cancer involving the bones is likely to respond to hormonal therapy.

If the tumour is not likely to respond to chemotherapy or if the bone involved is a weight-bearing one, the best option is to give radiation focused only on the involved area. The symptomatic relief is usually rapid and complete.

Bone metastases to the spine are a particular concern because a fractured vertebra can result in the loss of function of the limbs or bowel and bladder.

Liver Metastasis

Treatment of liver metastasis depends on the organ where the cancer

originated. The most common one that metastasises to the liver are colon and other gastro-intestinal cancers.

Standard treatment: For most metastatic tumours to the liver, systemic chemotherapy directed at the tumour type should be offered.

Tumours that are localised in one part of the liver or exist as solitary masses may be surgically removed, particularly those with metastasis from colon and kidney cancers or sarcoma. Liver metastasis from colon cancer may be treated with combination chemotherapy.

Treatment Follow-up

Careful follow-up is necessary after treatment of metastasis. Depending upon the organs involved, diagnostic tests will be done to identify new areas of tumour involvement that may cause problems and to look for tumour recurrences.

Chemotherapy Drugs Used and their Side-effects

1. **Leucovorin:** Allergic reaction – rash, itching, facial flushing, nausea, and vomiting.
2. **5FU:** Fatigue, nausea, mouth sore, diarrhoea, bone marrow function is temporarily affected, hair thinning, brittle chipped and ridge nails, sensitive to sunlight, itchy skin rash, and loss of appetite.
3. **Decadron:** Anaphylaxis, angioedema, bradycardia, congestive heart failure, fat embolism, tachycardia, myocardial infarction, dermatitis, rash, urticaria, hyperglycaemia, hirsutism, menstrual irregularities, fluid and electrolytes disturbances, increase in liver enzymes, hepatomegaly, nausea, pancreatitis, osteoporosis, vertebral compression fracture, headache, and depression.
4. **Irinotecan:** Increased sweating, increased salivation, watery eyes, abdominal cramps, diarrhoea, fatigue, nausea, loss of appetite, reduction in bone marrow function, hair loss and thinning, and bad effects on foetus.

*MOPP is derived from the component drugs of the regimen:

- Mustargen (also known as mechlorethmine, chlormethine, mustine, nitrogen mustard or MSD)
- Oncovin (also known as Vincristine or VCR)
- Procarbazine (also known as Matulance or Natulan)
- Prednisone (also known as Deltasone or Orasone)

Conventional Treatment of Cancer

Surgery

Surgery plays a very crucial role in treating cancer and removing the cancer, if at all possible, it is considered paramount. It is the oldest and the most effective form of treatment. Better understanding of the natural history of many tumours, safe anaesthetic techniques, and improved pre and post-operative care have led to fewer post-operative complications and better long term survival rates. Surgeries can be planned more effectively if a tumour's size and location can be determined more precisely with modern imaging techniques. Once the malignant tissue is removed, a proactive plan can be developed to prevent a recurrence. In some cases, surgery is not the entire treatment but is the first part of an overall plan that may later include chemotherapy, radiation or other treatments. For most people with cancer, surgery starts with a biopsy; if surgical removal of the cancerous tissue is possible, more extensive surgery will be recommended. The surgery can range from simple removal of a protruding lump, with a short recovery period, to extensive removal of cancerous tumours along with other tissues, requiring a long recovery time, possible rehabilitation, or even plastic surgery. Surgery to remove particular organs can affect the health and well-being of the person long after the person has recovered from surgery. While

surgery is a common intervention among people with cancer, it remains frightening to most patients. The best way to ease fears associated with surgery is to develop a high level of comfort regarding the procedure, the surgeon of questions prior to the surgery and understanding the possible risks would bring lot of peace to the mind of the patient. The following are some reasons when a surgery might be recommended:

1. **To prevent or lower the risk of developing cancer:** Some benign diseases are associated with high risk of developing cancer. To avoid this risk, therefore, it may be beneficial to remove an organ affected by one of these diseases. For example ulcerative colitis is a benign inflammatory condition of the large bowel. Colon cancer develops in about 40 percent of people whose large bowel has been affected by this disease for over twenty years. If a young person has ulcerative colitis affecting the entire colon, then it may be appropriate (according to conventional approach) to remove the colon before cancer appears. This is called a prophylactic surgery wherein an operation is performed to prevent cancer. But before surgery one must weigh the risk of developing cancer against the risk of surgery itself and the permanent changes that the surgery will cause.
2. **To diagnose or stage the disease:** When a tissue obtained from the FNAC or from core needle aspiration is not enough, a small operation - incisional biopsy may be performed. When the tumour is small, the surgeon might perform an excisional biopsy, meaning that the entire lesion is removed. To stage the disease properly, a more formal operation is needed to obtain tissues from several areas of the body. This is sometimes done for lymphomas, where a staging laparotomy - opening and examining the abdomen may be required to remove sample tissues from the liver and lymph nodes and to remove the spleen. Video endoscopic surgery is now frequently used to stage cancers in the abdomen and chest cavity.
3. **To remove the primary tumour:** In some cancer patients removal of the tumour itself is the best form of treatment. This is only possible if the tumour is localised in an organ or area of the body, so that it can be safely removed. Along with the affected organ the surgeon also removes the adjacent area - called the margins of the normal looking tissue and the lymph nodes connected to the organ. Removing the nodes along with the tumour improves the chance of removing all the cancer, thereby

increasing the chance of cure. The entire specimen is then sent for microscopic examination. The extent of the tumour will determine the prognosis and the need for additional forms of therapy.

4. **To remove other tumours:** Besides removing the primary tumour, surgery may also be performed for residual, metastatic, or recurrent lesions. Surgery for 'residual tumours' means that the surgeon removes the rest of the affected organ after the patient has received chemotherapy or radiation therapy and the tumour has either shrunk or disappeared. After the original tumour has been removed the surgeon may operate to remove the metastasis. Finally, if the tumour has returned to the original site the surgeon may attempt a second removal of the tumour.
5. **To relieve symptoms:** Some tumours produce symptoms such as pain and bleeding or cause other problems, such as obstruction and bowel perforation. In some patients, surgery can help relieve these symptoms. In the stomach and intestines, for example, a tumour may become large enough to cause blockage, preventing food from moving properly through the system. Tumours can also block the biliary tract, causing jaundice. In these situations, it may be useful to operate and remove the tumour or bypass the blockage, even if cure is not possible. This kind of surgery is referred to as palliative.
6. **To construct or to rehabilitate:** Removing an organ or tumour can sometimes produce some deformity or functional problem. When that happens, surgery can often improve appearance, function, and the quality of life. Excellent techniques are there that provide reconstruction for women who have had a radical mastectomy. There are also ways to restore appearance and function after head and neck surgery.
7. **To support chemotherapy and radiation therapy:** Surgery is often used to support other forms of cancer therapy. If a patient needs to have drugs administered intravenously, for example, a port, catheter or pump may be surgically implanted. To support radiation therapy, an operation can be performed to implant catheters that are subsequently loaded with a radiometer.

   Surgery is also used to expose a tumour so that a large dose of radiation can be given directly to the tumour or the tumour bed.
8. **To treat complications:** Tumours or their treatments often suppress the immune system. This can lead to infections or obstructions that may require surgical treatment.

Precautions Before Surgery

It is important for a homoeopath to diagnose and correct any associated disease in a cancer patient before he undergoes surgery. The homoeopath should be aware if the patient is diabetic or suffering from hypertension, or if he is on some medication. Look for history of any bleeding problems. CBC, clotting time, bleeding time should be checked. Chest X-ray and ECG should be done to evaluate the state of lungs and heart. These will not only help evaluate the overall risk of surgery but also help determine the kind of anaesthetic and other drugs that the patient may need. Hypertension should be treated before the operation, blood can be replenished if blood counts are not high enough and pulmonary function could be improved. Also it is very important that the patient is well nourished before the surgery so that he has the strength to get through the trauma of the operation and heal properly.

Anaesthesia

For the different surgeries, different forms of anaesthetics may be required like local, regional, and general. Local anaesthesia is used for procedures that are short and superficial, in other words near the skin. E.g. a biopsy or catheter placement can be done under local anaesthetic. The surgeon injects the drug such as Lidocaine that numbs the site.

Regional anaesthesia involves giving anaesthetic agent near the spinal cord. The drug may be given by a single injection called epidural or continuously by a small catheter tube placed directly in or near the spinal canal (peridural). It is an excellent form of administrating anaesthesia for operations in the lower part of the body (lower extremities and the pelvis).

General anaesthesia is used in most major operations of cancer. It is given by intravenous injections or through breathing mask or both. They act directly on the brain producing temporary loss of consciousness. In most cases, the anaesthetist will also use muscle relaxants to produce a profound relaxation of the body. To help breathing, a tube will be placed in the trachea and connected to a ventilator that will deliver air to the patient’s lungs every few seconds. The anaesthetist monitors breathing by periodically checking the concentration of oxygen in the blood. Administration of intravenous fluids and blood is done as and when needed. Adequate blood pressure and blood flow to the body’s organs is to be maintained.

Risk of anaesthesia is related to the age, the magnitude of the operation, and the presence of the associated disease. The American Society of Anesthesiology has devised a formula to classify the status of patients, by dividing into five classes:

1. Class 1 patients: young to middle aged with no significant associated disease that has a localised process requiring a limited operation.
2. Class 2 patients: have a mild associated disease that does not limit their activities.
3. Class 3 patients: have severe systemic disturbance from other diseases, such as low pulmonary function, vascular complications, or heart disease.
4. Class 4 patients: have severe disorder that threatens life.
5. Class 5 patients: are critically ill and are not expected to survive without surgery. The overall risk of anaesthesia is very small, especially for Class 1 and 2 patients.

Risks of Surgery

It varies greatly with the kind of operation performed. They are usually divided into immediate risk occurring within a few days or weeks after surgery and late risks occurring months or years after the surgery.

1. **Immediate risks:** Most common complications are pulmonary and usually result from earlier lung disease, a history of smoking or the fact that post-operative pain and being in bed prevent the lung from expanding. These complications can be prevented by vigorous coughing and early mobility. Other complications are bleeding, infection, and pulmonary embolism.
2. **Late complications:** Scarring is an inevitable part of healing process. Scarring in the abdomen can occasionally lead to a bowel obstruction or some other form of mechanical blockage.

Radiation Therapy

Most of the cancer patients need radiation therapy as a part of their overall treatment plan. At some point of their illness, it is often recommended as a primary treatment, but it can also be used along with chemotherapy or

surgery. Radiotherapy uses high-energy x-rays, electron beams, or radioactive isotopes to kill cancer cells without exceeding safe doses to normal tissue. It accomplishes its purpose by penetrating cells and kills them by activating the process of programmed cell death, known as apoptosis. Some cells die immediately after radiation because of direct effect on, and damages to the chromosomes and DNA. They are destroyed in such a way that they can no longer divide.

There are several technical ways of giving radiation. The most common way is by external radiation in which a radiation beam is directed at the tumour from a machine. Internal or systemic radiotherapy delivers radiation by giving a radioactive source intravenously or by injection, e.g. intravenous radioactive iodine or radioactive gold into abdominal cavity. With intra-cavitary radiotherapy, an applicator containing radiation seeds is placed in an organ such as uterus. In interstitial radiotherapy, the sources are placed directly in the tumour. Radiation can also be administered during surgery in a technique termed intra-operative radiation therapy (IORT). These methods are usually used in combination with external radiation. Ionising radiation produces ions after interacting with cellular material. This process transforms cellular material into electrified particles that are unstable and reactive, making the cells susceptible to destruction. Radiation penetrates the cells and kills them by activating the process of programmed cell death, known as apoptosis. Radiation damages cellular DNA in both cancer cells and healthy cells, although healthy cells are more resistant to radiation damage and they can repair themselves more effectively than cancer cells. Radiation therapy can also destroy metastatic tumours when those tumours are causing pain or significant organ dysfunction. The equipment and methods used to deliver radiation therapy have become more sophisticated over the years. While external beam radiation is the most common form, brachytherapy can provide an even more tightly focused radio therapeutic effect. Brachytherapy delivers radiation into or near the tumour via a radioactive pellet (seed) or through a radioactive tube placed into the tissue. The goal with some of the newer methods of delivering radiation is to target the cancer cells even more narrowly and avoid exposing nearby healthy cells to the destructive doses of radiation.

Administration of Radiotherapy

If external radiation is going to be used, the first step is called ‘stimulation’, performed on a special x-ray machine built to resemble the machine that ultimately will be used. Certain contrast agents or probes may be used to aid in stimulation. It is done to make all the necessary measurements to fix, the precise location of the tumour. Marks are made on the skin with a coloured ink to outline the target of the radiation; oncologist aims for the “radiation port”, which has to be the same every day.

The term ‘dosage’ is used to measure in units the amount of radiation received is ‘centigray (cGy)’, but since one gray equals 100 rads, the two terms are interchangeable.

Careful planning allows the radiation oncologist to deliver the maximum effective dose to the visible tumour and any invisible tumour cells that might be nearby, while protecting the surrounding normal tissue as much as possible. Calculating a dose figure that balances these two goals can be complex, since the size and stage of the tumour have to be taken into account and since different tissues tolerate different levels of radiation.

The liver will tolerate 3,000 cGY, the lung 2,000 cGY and the kidney 1,800 cGY. Higher doses can be delivered to small parts of one of these organs, but if the entire organ is given in higher doses, then normal tissues can be harmed.

The oncologist prescribes the total dose necessary to destroy the tumour and then calculates a daily dose over a specific period, called the fraction schedule. Throughout, the radiation oncologist works with a figure called the therapeutic ratio, which is defined as a comparison of the damaged tumour cells with normal cells. The therapeutic ratio can be enhanced in a number of ways, like - using altered time fraction schedules, careful treatment planning, selection of the optimum radiation energy for the specific problem and by the use of experimental techniques such as high linear energy transfer (LET) radiation or chemical modifiers that either make the tumour cells more sensitive to radiation or better protect normal tissues.

Radiation is usually given daily, 5 days a week. That schedule can continue for two to eight weeks depending on the tumour, the kind of treatment being used and the dosage required. The point of using multiple treatments instead of single treatment is to give normal cells a chance to recover and repair

themselves.

The method used to deliver radiation is based on many factors, including biology of the tumour involved, the possibility of the side effects or complications, the physical characteristics of the various sources of radiation and how these different sources affect the body's different cells, tissues, and organ systems. The method can be divided into external and internal radiation.

Radiation Therapy: Methods

1. **External Radiation Therapy**
    a. High and Low Energy Radiation
    b. Intra-Operative Radiation Therapy (IORT)
    c. Stereotaxic (Stereotactic) Radiosurgery or Gamma knife
2. **Internal (Systemic) Radiation Therapy**
    a. Treatment with radioactive compounds
    b. Interstitial radiation therapy
    c. Intra-cavitary radiation
    d. Intra-luminal radiation therapy

1. **External Radiation Therapy**
   The delivery of the dosage from the source outside the body can vary according to the photon energy of the machines involved, the type of beams produced (electrons, X-rays, gamma rays) when the treatment is given, and the number of beams involved in the treatment procedure.
    a. **High and Low Energy Radiation:** External beam treatment uses special equipment which uses either low energy (orthovoltage machines) or high energy (megavoltage machines). All the machines used today are quite precise about where they deliver the radiation dose.
    b. **Intra-Operative Radiation Therapy (IORT):** People with localised tumours that can't be completely removed or have a high risk for local recurrence may be candidates for IORT. The organ containing the tumour is localised and the surgeon removes as much of the tumour as possible. Then the normal tissue is moved out of the path of the radiation beam. A treatment cone connected to a Linear Accelerator is placed directly over the tumour, which is then treated

with a single high dose. Normal tissues are spared, since they are outside the range of the beam.

c. **Stereotaxic (Stereotactic) Radiosurgery or Gamma knife:** Here a number of cobalt sources are used to treat deep-seated blood vessel malformations within the brain. Technical information from the CT, MRI scan, or angiogram is fed into treatment planning computer, and a dose distribution is calculated for the Linear Accelerator. The computer revolution and the availability of Linear Accelerators have made this form of treatment especially useful for vascular malformation, meningiomas, acoustic neuromas, and some malignant brain tumours.

2. **Internal (Systemic) Radiation Therapy**

In this method of treatment, radiation is delivered by being inserted directly into or around the tumour. Radioactive sources can be injected, housed in special applicators or implanted in the form of needles or seeds.

a. **Treatment with Radioactive Compounds:** The use of radioactive tracers to treat tumours are unique in their ability to target specific tumours by being incorporated into their metabolism (e.g., thyroid cancer), finding antibody on tumour sites (e.g., lymphoma), localising to tumour receptor sites (e.g., neuroendocrine tumours), or body's own response to the tumour to deliver a treatment dose (e.g., strontium 89). The membrane of tumours may have specific antibody sites where antibodies (monoclonal antibodies) can react or may have non-specific receptors (neuroendocrine tumours).

b. **Interstitial Radiation Therapy:** Also called brachytherapy, it places the sources of radiation directly in the tumour and surrounding structures. It is most commonly used in tumours of the head, neck, prostate, and breast. It is also usually used in combination with external radiation.

c. **Intra-cavitary Radiation:** The most common use of this method is in gynaecologic tumours, such as carcinoma of the uterus. Specially designed hollow applicators are placed in the uterus under general or spinal anaesthesia. A small plastic tube containing the required number of sources of radioactive isotope of a specific strength are inserted into the hollow applicators. The sources and applicators are left in place for forty-eight to seventy-two hours. The seeds deliver

the dose over the specified time and once the dose is reached, the applicators and the sources are removed. The advantage of this method is that a very high dose of radiation can be delivered to the tumour, while the rapid fall off in the dose gives maximum protection to the surrounding structures.

d. **Intra-luminal Radiation Therapy:** This method has limited use with some tumours in hollow organs like the oesophagus and biliary tract. In oesophagus carcinoma, for example, a specially designed tube is placed into the opening (lumen) of the oesophagus. Then under X-ray visualisation fluoroscopy, several small radioactive sources are placed into the tube opposite the tumour. The tumour receives a high dose of radiation, while the dose to the surrounding structures is minimised.

Side Effects of Radiotherapy

The common side effects of radiotherapy are divided into generalised (systemic) and local effects. The type of effects and how severe they become generally depends on the area treated, the size of the radiation port, the daily dose rate, and the total dosage delivered. Not everyone taking radiotherapy suffers from side effects. Radiation can also result in more serious side effects, including stiffening of lung tissue (fibrosis), secondary cancers, and the possibility of weakened bone strength or damage to the bone marrow, where red blood cells, platelets, and white blood cells are produced. Some of the most common side effects are as follows:

Systemic Side Effects

1. One of the most common systemic side effects is fatigue or malaise. This is especially common among patients receiving treatments to large areas, such as the whole abdomen and in total lymph node radiation.
2. Anaemia (low red blood cell count).
3. Sterility.

Localised Side Effects

1. **Skin:** Most skin reactions appear as redness called erythema. It is similar to sunburn and goes through the same stages - redness, gradual

tanning, and then peeling. If the dose has been high, late skin changes may appear in the form of increased pigmentation.

2. **Head and neck:** The most significant side effect is irritation of the membrane lining or mucosa of the mouth. The mucous membrane surrounding the tumour may become red. As the treatment progresses, quite a few small superficial ulcers may develop. This can cause a lot of discomfort and will probably interfere with the swallowing and nutrition. The taste sensation may be affected if the tongue happens to be in the primary radiation beam. Also, the amount of saliva produced can be significantly reduced if the salivary glands happen to be in the treatment beam.
3. **Chest:** The mucosal lining of the oesophagus may get involved and the patient may develop heartburn type symptoms.
4. **Abdomen:** Radiation to the upper abdomen can cause nausea and vomiting, usually during the first few days of treatment. As the treatment progresses, the symptoms often diminish.
5. **Pelvis:** Treatment to the pelvis can bring about cramps, perhaps followed by diarrhoea during the second and third week of treatment. Patient may have urine frequency, urgency to urinate, or dysuria. All these symptoms are temporary and will disappear soon after the treatment is completed.
6. **Hair loss:** Only hair within the radiation port will be affected by treatment. So patients will lose scalp hair only if receiving radiation to the head, usually for brain tumours. Whether the hair loss is temporary or permanent will depend on the dosage.

Radiation Therapy speeds up Prostate Cancer Doubling Time - Media Ignores Facts

According to the Cancer Communication Newsletter, mainstream media are dangerously misrepresenting conventional medical procedures for prostate cancer, including radiation, by not disclosing the serious side effects. Implanting radiation seeds in the prostate gland-routinely given for early signs of prostate cancer can actually hasten the development of that cancer. Prostate cancer cells can double within a short duration of 1-2 months after radiation treatment, while irradiated prostate cancer cells may take an average of four years to double. Similarly, it will take up to 20 years for the average

untreated prostate cell to double five times, but if treated with radiation therapy, it can double five times in only six months – 40 times faster, said Cancer Communication Newsletter.

Meanwhile, thousands of patients with suspected prostate cancer are sent to radiation therapists. About 30-40% of men in their fifties have signs of prostate cancer, but only about 8% will ever feel the effect of this disease in their lifetime and less than 3% will die from it. Yet if a man in his fifties has an elevated prostate specific antigen and undergoes prostate surgery, he has a 20% risk that the surgery can actually release cancer cells into the blood, and from six months to five years, later, he will again have an elevated PSA, indicating cancer.

The man who initially had a 92% likelihood of having no ill effects from latent prostate cancer, now, as a result of surgery or radiation treatment, is likely to become incontinent or impotent and have to deal with a rapidly growing cancer. In light of this evidence, all the medical options should be carefully considered before undertaking radiation therapy for prostate cancer. Men are further encouraged to demand of their conventional physicians that they investigate these research results and take them into consideration in designing a treatment program.

Chemotherapy

With greater understanding of the nature of cancer and of how chemicals interact, chemotherapy has become a standard therapy. Chemotherapy alone or in combination with other treatments can now cure some cancers like testis cancer, leukaemia, choriocarcinoma, many cases of Hodgkin’s disease and Non-Hodgkin’s lymphomas, and some cases of ovarian cancer. Chemotherapy involves giving the patient chemical agents that are toxic to cells. After being administered orally, intravenously, or by injection, these chemical agents circulate throughout the body. The goal with chemotherapy is to halt cell reproduction and growth, which leads to cell death. Most chemotherapy drugs are designed to attack rapidly dividing cells. Cancer cells are among some of the most rapidly dividing cells in the body. Chemotherapy can be recommended for the following reasons:

1. cure a specific cancer,
2. control tumour growth when cure is not possible,

3. relieve a symptom such as pain,
4. shrink tumour before surgery or radiation therapy, and
5. destroy microscopic metastasis after tumours are removed surgically.

While surgery and radiation therapies are used to treat localised tumours, chemotherapy treats the whole body. It destroys malignancies of the blood, bone marrow and the lymphatic system. When chemotherapy is used to eliminate small invisible metastasis after surgery or radiation therapy, it is known as Adjuvant therapy. When chemotherapy is administered before surgery or radiation therapy, it is called Neoadjuvant therapy. This is given to patients with large tumour that is difficult to shrink or remove. The goal of neoadjuvant therapy is to shrink down the tumour to a more easily manageable size.

Chemotherapy drugs are given in the highest dosage the patient can tolerate. And they are usually given as soon as possible after surgery or radiotherapy, since the longer the delay, the less chance of cure.

Outcomes of Chemotherapy

1. **Complete Remission:** The tumour may seem to disappear completely, meaning that there is a complete response to the drugs. Even though this indicates that the treatment is working, it has to be continued for a while so that any ‘hidden’ cancer cells can be destroyed. If the treatment is stopped too soon, there is high chance of relapse. Some remissions, especially for responsive tumours, may be permanent. In other cases, remission is temporary, lasting for months or even years. But then the tumour reappears or begins to grow again.
2. **Partial Remission:** The tumour may shrink by more than half its size but not disappear. If it stops shrinking, the drug schedule may be changed, or surgery or radiotherapy may be used to try to wipe out the remaining tumour cells.
3. **Stabilization:** The tumour may neither shrink nor grow. The period of stabilization can sometimes last months or years.
4. **Progression:** The tumour may keep growing despite therapy. In such cases a different line of treatment should be worked out.

Chemotherapy Drugs

Cancer cells go through a continuous process of change. Each cell divides into two daughter cells. These cells grow, rest and then divide again. The drugs used in chemotherapy are powerful chemicals designed to interrupt this cycle and stop these cells from growing. Several different types of drugs are used in chemotherapy. Each type kills cells at a different stage of the cell's life cycle. Each does its job in a different way.

1. Alkylating agents attack all the cells in a tumour whether they are resting or dividing. These drugs bind with the cells' DNA in various ways to prevent reproduction.
2. Alkaloids prevent the formation of chromosome spindles necessary for cell duplication.
3. Anti-tumour antibiotics insert themselves into the strands of DNA. They either break up the chromosomes or inhibit the DNA-directed synthesis of RNA that the cell needs to grow.
4. Anti-metabolites attack the cell during the process of division, when they are more easily killed. The anti-metabolites imitate normal cell nutrients. The 'anti-vitamin' methotrexate, for example, resembles the normal vitamin, folic acid. The cancer cell consumes the drug thinking it's getting a good meal and starves to death because of lack of essential folic acid.
5. Hormonal agents such as oestrogen or tamoxifen inhibit the growth of some cancers by binding to proteins inside the cancer cells and signalling them to die.
6. Biologic response modifiers affect the growth of certain cancers by disrupting processes that are keys to the growth or spread of cancer cells.
7. Mitotic inhibitors interfere with the architecture within a cancer cell, thus damaging a cell and triggering apoptosis while also preventing the cell from dividing.
8. Topoisomerase inhibitors incapacitate topoisomerase enzyme, which is needed for DNA uncoiling and cell division. These drugs also trigger apoptosis.

There are more than 45 different chemotherapy drugs currently being used to treat cancer. Some of these drugs are so toxic that other drugs (known as co-medications) are used to help offset their side effects. Additionally,

chemotherapeutic agents may be combined with one or more other drugs for a synergistic effect. Chemotherapy regimens may be well tolerated with minimal side effects, or they can be difficult to endure and produce considerable side effects.

Drug Combination

Now combination of drugs is usually given, all accordingly to a plan designed to inhibit or kill as many cancer cells as possible. Drugs that attack tumour cells at every stage of their life cycle, called non cell-cycle-specific drugs, may be given first to reduce the size of the tumour. These may activate the remaining cells to divide. When they do so, cell-cycle-specific drugs, which attack cell division, will be given. There is another good reason for giving drug combination, that is, it reduces the chance of the patient to develop a resistance to any one drug.

Dosage and Administration of Chemotherapy Drugs

Larger doses of chemotherapy drugs do result in more cancer cells being killed. But a balance has to be made between improved therapeutic effects and unacceptable toxic effects. The best way is to provide maximum safe dose for cure, when the risk is weighed against the benefits. It doesn’t make sense to take all the risks yet fail to get the benefits because the dosage was too low.

Many chemotherapy patients are not hospitalised, but receive their treatment as outpatients. The drugs are given in several ways. Some are given as tablets or capsules, some as injections and others are applied as an ointment or lotion. Some drugs are also given directly into an artery or cavity to concentrate the drug in a particular site or area. Most of the drugs, however, are given intravenously, directly into the blood stream. The schedule of treatment varies from patient to patient. Some drugs are given once a week, or once or twice a month, while others are given daily for 3-7 days and then repeated every 21-28 days. The method and schedule that is most suited for the patient is explained by the doctor and nurse. Most intravenous chemotherapy is not painful, but a few of the drugs may cause burning and/or itching sensation. These drugs are referred to as vesicants and informed

prescriptions. Vesicants can cause serious damage to the skin and surrounding tissues if the drug leaks out of the vein while receiving it. The nurse is to be informed immediately in case of any burning, stinging or unusual sensation or if the patient believes that the drug is not fully going into his/her vein. The time it takes to receive chemotherapy will vary according to the type of the drug. Some can be given over a short period of time (10-15 min) while others may take several hours. Some drugs are given continuously for several days. This requires hospitalization or the use of a portable infusion pump such as the Auto-Syringe or Travenol Infusor; both can be used on an outpatient basis. Many patients have special catheters inserted into a large vein in the arm (a long line catheter) or shoulder (a subclavian catheter), to avoid repeated needle pricks and prevent the possibility of skin damage. These catheters may be used for many months when vesicants are used.

Cancer chemotherapy agents are potentially toxic chemicals. Thus, there is a concern for nurses and other health care personnel who handle these drugs in large amounts for extended periods of time. Just as the dental assistant and X-ray technician take precautions by wearing aprons to avoid excessive exposure to radiation, so are nurses taking precautions when handling cancer chemotherapy. Many of the precautions are common sense things such as avoiding any spill of the drugs. However, the nurses also need to wear gloves when they handle the drugs to avoid excessive skin contact with them. During other procedures, the nurse wears gown. The precautions which are important to a patient and his family include following the instructions given by the nurse and to wash their hands thoroughly after handling the drugs, it is also important that they avoid spilling the drugs while carrying out these tasks. From what is currently known, only handling large quantities of these drugs over extended periods of time may pose a risk. Therefore, health care personnel take additional steps because they handle large quantities of drugs everyday as part of their job responsibilities, all year round.

Many of these drugs must be taken at specific times to maintain certain concentrations of the drug in the blood. It is important that the patient understands and follows the doctor’s instructions. If anything is not clear, be certain to ask questions. Treatment with a specific drug is continued only as long as it is effective. If the drug loses its effectiveness, then the patient will be switched to another drug that is effective against his type of cancer.

Treatment Outcome Assessment

There are several ways to tell if a tumour is responding to treatment. There are the same methods used to diagnose the tumour in the first place - physical examination, X-rays, blood tests, and scans. These tests will have to be done before treatment to establish a baseline for future comparisons.

A lump or a tumour involving lymph nodes can be felt and measured directly. The size of the liver, spleen and other organs can often be determined by physical examination. These measurements can be recorded in a chart and can be compared from time to time and see if the size of the tumour is decreasing. Special techniques like scanning using radioactive tracer isotopes, CT or MRI are used to measure tumour size in internal tumours involving the liver or other organs. Sometimes blood tests provide a clue to tumour response. Non-specific tests, such as, liver function tests for specific tumour markers may be used.

Post-chemotherapy Leucopenia

Blood cells are the most important rapidly growing normal cells affected by chemotherapy drugs. The red blood cells are not usually affected very much. But the levels of the white cells and the platelets usually fall during chemotherapy. Blood counts are expected to fall after chemotherapy. This ensures that the drugs are given in the maximum possible safe dosage. The lowered counts also show that the drugs are doing what they are supposed to do – stop fast growing tissues from growing. If there are enough drugs in the patient’s system to stop white blood cells, then there is enough to have a potential effect on the rapidly growing cancer cells. The blood counts have to be measured regularly, usually before each chemotherapy treatment. If the counts are normal, it may be safe to give the standard dose or even increase the drug dosage. If one of the counts is too low, a drug dose can be modified or even put off for a while.

A low white blood cell count could lead to serious infections and a very low platelet count could lead to bleeding. If the white blood or platelet count falls lower than safe, a rest period will allow the blood counts to recover. Chemotherapy may suppress immune system, making it harder to fight off infection. Thus, any infection might spread and could become serious.

Side Effects of Chemotherapy

Chemotherapy has its pros and cons; on one hand it imparts relief to the patient as the symptoms due to the ongoing malignancy are reduced (like fatigue, loss of appetite, and weight loss), while on the other hand there are symptoms due to side effects of the chemotherapy which make it one of the most dreadful experience for some patients. However, the purpose of chemotherapy is always to improve the patient's quality of life, managing the side effects becomes another significant aspect for both the patient and the physicians. The unpleasant side effects of this therapy add to the sufferings of the patients. The side effects occur because apart from malignant cells, some healthy cells are affected due to the chemotherapeutic agents. This is because, the target of the chemotherapy is the malignant cells which are identified by their high metabolic activity and growth, along with the malignant cells, some healthy non-malignant cells of the body, that are also rapid in growth and metabolism, are destroyed, some examples of such cells are those of hair follicles, gastrointestinal tract, reproductive system, and the bone marrow. As the effect of chemotherapeutic agents ceases, the healthy non-malignant cells begin to heal and the side effects reduce gradually. How soon the side effects disappear in a patient differs in each case since it is dependent on the tolerance and individual characteristics of the patient. Also, the different chemotherapy drugs have variable side effects. The side effects of chemotherapy may occur soon after the treatment or may be prolonged. The immediate side effects are mainly nausea and vomiting occurring soon after the treatment, but both usually go away quickly. The chronic side effects are described below:

1. **Hair loss:** Alopecia is the most visible side effect of chemotherapy and hence most upsetting. Chemotherapy drugs have an especially destructive effect on rapidly growing cells like hair and the cells lining the mouth and gastrointestinal tract. Drugs like Cytoxan, Adriamycin, and Vincristine cause hair loss. One may not lose all the hair; it may just become thin or patchy. Hair loss may happen in the first cycle, but it may not happen until the second cycle. Patient may develop some scalp irritation, dermatitis, or scaling. The hair may almost always come back; it may take around 3 to 6 months. The new hair might have a slightly different texture, colour and curl. Hair loss due to radiation to skull or brain may cause total and permanent hair loss. This problem occurs with

some chemotherapeutic drugs, but not all. The amount of hair loss can vary from slight thinning to baldness. The loss may be gradual or sudden. Sometimes all body hair, like head, eyebrows, legs, armpits, and pubic area may be lost. Depending on the drug used, hair loss on the head can be reduced by using a tourniquet or an ice cap. These narrow the blood vessels in the scalp so that less drug reaches the hair follicles. Hair loss is always temporary.

2. **Sore mouth:** Many chemotherapy drugs can inflame the lining of the area of the mouth as well as the throat. At times ulcerations are seen other than just soreness of the mouth. Radiations delivered to the head and neck can irritate the lining and cause sores too. Chemotherapy and radiation to the salivary glands can make the mouth very dry thus making the sores more painful. Fungal infection like monilia can also cause soreness. A good oral hygiene has to be maintained in order to avoid mucositis. A good oral hygiene includes daily brushing and flossing to reduce the plaque. Any dental work like cleaning, tooth extraction, filling of the cavities should be done at least two weeks in advance of the chemotherapy so as to give enough time for the mouth to heal. Ill-fitting dentures should be fixed or replaced. A blood count should be taken before any dental work in order to check the WBC and platelet counts. Low counts of these cells may lead to infection and bleeding respectively. Use a soft bristle toothbrush and if brushing by toothpaste is painful use a cotton swab. Mouth infections are dangerous and one should look out for any fungal growth in the mouth, which should be promptly treated.

   Nutritional Management of Sore Mouth: A high calorie, high protein diet which can include scrambled eggs, custard, milk shakes, gelatins, macaroni, and cheese will help the sore mouth or tongue to heal faster. Drinking lots of water will also hasten the healing process. Following should be avoided till the mouth sores heals:

   a. Foodstuffs of extreme temperature
   b. Citrus fruits like lemons, oranges, and tomatoes
   c. Salty foods, dry crackers, chips, toast and hot, spicy food, which cause burning sensation
   d. Alcoholic beverages and tobacco since both irritate the lining of the mouth

      Oral care includes rinsing the mouth well with water after meal or

with a mouth wash.

How to make mouthwash solution at home: Mix 1 teaspoon of salt and 1 teaspoon of baking soda in 1200 ml of water, or mix ¼ teaspoon of salt in 8 ounces of water. If mouth remains sore, one should let the homoeopath know.

3. **Bone marrow changes:** Chemotherapy affects the formation of three blood elements. Generally, the number of these three blood components decreases 7 to 20 days after the treatment and build up again after a few weeks. Remember each drug affects the bone marrow in different ways.
   a. **White blood cells:** The total and differential white blood cell count is reduced during the treatment. A reduced granulocyte count leads to an increased risk of infectious diseases. Therefore the patients should:
      i. avoid persons with cold, infection, or any contagious disease.
      ii. avoid cuts or breaks in skin. Keep the wound clean and covered.
      iii. always wear shoes. wear gloves while working in the garden,
      iv. for housework, etc.
      v. follow good hygiene measures (daily bathing, handwashing, oral care).
      vi. be on the alert for any signs of infection. Some signs of infection include:
         - A temperature of 101°F or more should be reported. The patient is advised not to take any medication [such as aspirin, acetaminophen (Tylenol)], or any product containing these to lower the temperature unless necessary.
         - Redness, swelling, tenderness, drainage, or discharge from a skin area, especially from a cut or break in the skin.
         - Burning or frequent urination.
         - Unusual cough, sore throat, or lung congestion
         - Fatigue (feeling ill or very tired)
         - Chills
         - Diarrhoea
   b. **Red blood cells:** A reduction in the number of red blood cells may take place. Patient is advised to reduce stressful activity and take

break whenever tired.

c. **Platelets:** The third blood component that may be affected by the drugs is the platelets. The patients have a tendency to bleed easily, such as nosebleed, gums bleeding, or easy bruising. Also, the patient develops a tendency for ‘petechiae’ formation. The patient should be advised to avoid aspirin and alcohol. Also, it is important to advise them to be careful and avoid being cut or scraped. In case of very low platelet count, a transfusion can be given. The bone marrow will usually return to normal in two or three weeks.

4. **Loss/change of taste sense:** Many chemotherapy drugs can change the sense of taste. Sweet things might taste sour and sour things taste sweet. Chewed meat may have a bitter taste because of the release of proteins in the mouth. Sometimes there is continuous metallic taste in the mouth after chemotherapy. To lessen the taste effects, the patient is advised to try the following:
   a. If food and beverages taste bitter, add sweet food or honey to it.
   b. Avoid spicy, highly seasoned food instead have bland chicken or fish, eggs, and milk, cheese, or tofu.
   c. Marinated meat, chicken, and fish may taste better. One can make use of ginger and garlic paste, soy sauce, sweet, and sour sauce, lemon juice, and wine for marinating.
5. **Nausea and Vomiting:** Nausea and vomiting are both temporary side effects of chemotherapy and radiation. Many chemotherapy drugs and drug combinations have the potential to cause nausea and vomiting. Getting three or four drugs at a time can make the reaction even worse. The dosage and the number of cycles also matter. Females, young people, previous history of motion sickness or morning sickness in pregnancy are some of the factors that can increase the risk of nausea and vomiting during chemotherapy.

   Some patients suffer from ANV i.e., anticipatory nausea and vomiting wherein the patient starts getting nausea and vomiting not only after the chemotherapy but also before the therapy as a result of conditioned reflex. A person’s anxiety state and how he responds to stress and disease are all-important factors in setting up this psychological pattern.

   Drugs like cisplastin, doxorubicin, methotrexate, cyclophophamide have highest potential to cause nausea and vomiting. Drugs like 5-fluorouracil, hydroxyurea, etoposide, and chlorambucil rarely cause

nausea and vomiting.

Anti-emetics are drugs that help control nausea and vomiting. Anti-emetics work by blocking messages from reaching the chemoreceptor trigger zone or vomiting centre of the brain.

Patient must have any one of the following liquids on the day of the chemotherapy - fruit juices, lemonade, water, soup, fruit punch, etc.

Adequate fluid intake is needed to avoid dehydration. Some patients can tolerate light or easily digested foods such as toast, salads, and fresh fruits. How to eat when feeling nauseated:

a. Try to eat dry foods such as toast.
b. Try to keep the stomach full by eating small, frequent meals throughout the day.
c. Foods such as pickles or lemonade may be helpful.
d. Salty food may taste good.

6. **Change in sense of smell:** Sense of smell is often changed during treatment. Sandwiches, fruit, cottage cheese, and other cold or frozen foods offer good nutrition without a strong odour. Drink plenty of fluids such as ginger ale, ice chips, and carbonated drinks. Gelatin desserts or ice cubes can be made from these fluids. Try sipping beverage slowly. Foods that need to be avoided are:
   a. Avoid fatty and fried foods, because they remain in the stomach for a longer time than high carbohydrate foods, such as foods containing starch and sugar. Foods high in fat will cause a feeling of fullness and possibly trigger nausea.
   b. Avoid spicy, highly seasoned foods. Eat bland foods instead.
   c. Avoid foods with strong odour, which could cause nausea to worsen. Cold foods have fewer aromas and may be better tolerated.
   d. Avoid favourite foods while feeling nauseated, so that one won’t link them with the nausea. If this happens, it may be difficult to enjoy them anymore.

The following can also be done to reduce the chance of nausea and vomiting from chemotherapy/radiation:

a. Anti-nauseating drugs thirty minutes to one hour before meal are to be taken.
b. Avoid lying flat after eating.
c. Before the treatment, dentures or retainers are to be removed if this makes the patient more comfortable.

d. Unpleasant odours are to be avoided.
e. Sucking on peppermint sweets like polo or lemon drops may help the patient in case of bad taste in the mouth.
f. Windows are to be kept open to feel and smell the fresh air. Walk and loose clothing's are suggested.
g. Plenty of rest and a nap during the most nauseated periods of the day.
h. Shifting the attention to music, handwork, crossword puzzles, games, TV, jigsaw puzzles, letter writing, and reading can help.
i. Relaxation techniques like *pranayam* (breathing exercises) can help control nausea.

7. **Loss of Appetite:** It is one of the most common side effects of chemotherapy but it may also result from radiation therapy, stress and anxiety, depression, and lastly from cancer itself. It is usually a temporary side effect lasting for 3 to 8 days.
   a. Stimulate the appetite by exercising or doing yoga for 5 or 10 minutes, about 20 minutes before the meal.
   b. Eat frequent, small meals, and have snacks between meals that appeal to the senses.
   c. Add extra protein in the diet. Use of nutritional supplements can be helpful.
   d. Drinking liquids is very important for the patient during chemotherapy. The patient should be advised to drink at least eight to ten glasses each day while taking the drugs. Drinking lots of liquid helps to flush out the waste products resulting from chemotherapy treatment, and to replace the fluid that is lost by vomiting. Some drugs can also be harmful to the kidneys, and drinking plenty of liquids is necessary to reduce the risk of these effects.
   e. A well-balanced diet, high in protein and calories helps to rebuild and maintain strength during the treatment.
   f. Doctors or dietician may recommend some dietary supplements in case of weight loss. Some patients may even experience weight gain. This can be due to change in activity, metabolism, or other effects of the drugs. However, good nutrition is still very important. Crash diets and attempts to lose weight are not advised while on chemotherapy.
8. **Constipation:** Persistent constipation may lead to stool 'impaction' i.e.

a very large hard stool with difficulty in passing. It may also lead to bloated feeling leading to decrease in the appetite. The discomfort and pressure of an impaction can especially aggravate patients with heart, respiratory, or gastrointestinal diseases. The causes of constipation are: lack of exercise, emotional stress and lack of high-fibre or bulk-forming foods in your diet. Chemotherapy drugs such as vincristine, vinorelbine, and vinblastine are often constipating. Also morphine and codeine, gastrointestinal anti-spasmodics, anti-depressants, diuretics, tranquilizers, sleeping pills and calcium and aluminium based antacids.

Constipation can be prevented by following ways:

a. Eat high-fibre and bulky foods like fresh fruits and vegetables, dried fruits, whole-grain breads and cereals and bran. Raw fruits and vegetables, including lettuce, when the WBC count is lower than 1,800.
b. Drink plenty of fluids and avoid dehydration.
c. Isabgul, Isogel, Igol or Naturolax powder can be used as a laxative.
d. Add bran to the diet gradually. Start with 2 teaspoonfuls per day and gradually work up to 4 to 6 teaspoonfuls per day. Sprinkle bran on cereal or add it to meat loaf, stews, pancakes, baked foods, and other dishes.
e. Avoid refined foods such as white bread, starchy desserts, and sweat meals. Also avoid chocolates, cheese and eggs as these can be constipating.
f. Prunes contain natural laxative as well as fibre. Warmed prune juice and stewed prunes will be the most effective.
g. Eat large breakfast with some type of hot beverage, such as tea, hot lemon water, or decaffeinated coffee.

Stool impaction develops when stool doesn’t pass through the colon or the rectum. The stool gradually gets harder and harder as water is absorbed by the bowel. Then the stool gets larger and larger. If it is not passed it may cause partial obstruction of the bowel or cause irritation of the rectum or anus. Defecation may cause small fissures or tear in the anus. The treatment includes getting fluid into the bowels to soften the stools for easy defecation or removal. Sometimes enema and manual extraction of the stool by a physician is required.

9. **Diarrhoea and Cramps:** It may be because of chemotherapy, and radiation therapy to the lower abdomen; malabsorption because of

surgery to the bowel or a bowel inflammation or infection. Some broad-spectrum antibiotics can cause diarrhoea, and it might also develop because of intolerance to milk. Diarrhoea also causes loss of sodium and potassium, which must be replaced. Enough sodium can be obtained from the table salt that we use and potassium can be obtained from bananas, peach, potatoes, fish, meat, and chocolates.

Some foods tend to cause gastric disturbances and cramps, for example, carbonated beverages, chewing gums, beans, members of the cabbage and onion family, nuts, highly spiced foods, and too many sweets. Skipping meals and swallowing air while talking and chewing at the same time also can cause gastric disturbance. Try to avoid these foods and practices if there are gastric disturbance.

In order to manage diarrhoea and cramps, limit the diet to liquids like fruit drink, ginger ale, water, and weak tea. Hot and cold liquid foods tend to increase intestinal muscle contractions and those which make the diarrhoea worse, so they should be warm or at room temperature. Allow carbonated drinks to lose their fizz, so stir with a spoon and then drink them. Gradually add foods low in roughage and bulk- steamed rice, bananas, mashed potatoes, dry toast, and crackers. As the diarrhoea decreases low-residue diet should be included. Frequent small meals will be easier on the digestive tract. Avoid the following:

a. Fatty, greasy and spicy food.
b. Coffee, regular tea, and carbonated beverages containing caffeine.
c. Citrus fruits.
d. Food high in bulk and fibre, such as bran, whole grains cereals and breads, popcorn, nuts, and raw vegetables and fruits (except apples).
e. Avoid beans, corn, onions, garlic, popcorn, nuts and icy cold food or very warm or hot food like soups as they stimulate peristalsis.

10. **Lactose Intolerance:** A lactose deficiency can sometimes develop after intestinal surgery, radiation therapy to the lower abdomen or chemotherapy. One may experience bloating, cramps in abdomen with diarrhoea. Avoid milk and milk products such as ice cream, cottage cheese and cheese, butter and sour cream. Consume lactose free, non-fat milk solids. One can use buttermilk or yoghurt because the lactose in them is already processed and thus is easily digested.
11. **Lymphedema** It is a swelling caused by the build up of lymph in the soft tissues. It develops because of some blockage of lymphatic system.

Mostly lymphedema in cancer patients results from scarring after surgical removal of the lymph nodes or radiation. It usually involves areas next to large collections of lymph nodes in the axilla, pelvic region, and groins. Swelling in the legs and arms may develop on obstruction of the lymphatics. People with chronic lymphedema are more susceptible to infections and local injuries, which results in more scarring and additional lymphedema. Cellulitis often develops after minor cuts or abrasions. Lymphedema can be aggravated by poor protein intake that may result from loss of appetite, nausea, and vomiting due to chemotherapy. Decrease in the albumin of the blood also leads to leakage of body fluids in the tissues, which leads to additional arm and leg swelling. It more commonly develops in following cases:

a. Breast cancer that have been treated after surgery with radiotherapy to the regional lymph nodes areas.
b. Malignant melanomas with lymph node dissection and/or radiation involving an extremity.
c. Prostate cancer or gynaecologic cancers after surgery, with or without surgery.
d. Testicular cancer with lymph node dissection, with or without radiation.
e. Patients who have had several courses of radiation to axilla, shoulder, or groin, especially if surgery has been performed there to treat recurrent cancer.

Lymphedema can be prevented and managed by following measures:

a. Whenever possible keep the affected limb elevated.
b. Clean and lubricate the skin daily with oil or skin cream.
c. Try and avoid any injuries or infection to the affected limb, also avoid extreme hot and cold application on the swollen limb.
d. Don’t use blood pressure cuffs on the affected limbs. Wear loose fitting clothes to avoid constrictive pressure.
e. Watch for signs of infection-redness, pain, heat, swelling, fever.

12. **Effects on Fertility:** Alterations in the reproductive function are now recognised as a common complication of chemotherapy. Women may experience premature gonadal failure, menopause, sterility, and even osteoporosis. Men may have low sperm count and infertility. Women of childbearing age often stop menstruating temporarily or permanently

while taking chemotherapy. Women close to menopausal age may develop menopausal symptoms such as hot flashes. Generally, conception will not occur while a woman is receiving chemotherapy, but it is possible, and in most circumstances it is medically undesirable. Birth control pills should not be used unless they are approved by the doctor. Chemotherapy may lead to infertility in some cases, so the chances of conception after chemotherapy are variable. However, while on chemotherapy both the partners should use an effective birth control method to avoid becoming pregnant. Some treatments have resulted in permanent sterility in some men. In order to plan a child the patient might discuss of having sperm stored in a specialised sperm bank. Potency (the ability to have an erection and ejaculation) is usually not affected by chemotherapy. Many patients have been able to have children after chemotherapy treatments are discontinued.

The major drugs that can cause gonadal dysfunction are the alkylating agents such as cyclophosphamide, thiotepa, nitrogen, mustard, and chlorambucil. For patients in whom fertility is spared; the outcome of pregnancy has not shown a higher incidence of congenital anomalies, spontaneous abortion, or neonatal mortality. Chemotherapy can be safely given during the second and the third trimester of pregnancy. Methotraxate therapy should be avoided strictly during the 1st trimester. Both cyclophosphamide and doxorubicin can be safely given in any trimester of the pregnancy.

13. **Effects on Heart**: Some chemotherapy drugs such as doxorubicin, daunorubicin, eprubicin, and idarubicin, or radiation therapy to the chest can cause adverse reaction to the heart. Cardiac congestion, decreased exercise tolerance is generally seen with prolonged treatment. The physician should obtain ejection fraction and echocardiography before and also during the treatment of chemotherapy. In case of damage to the heart, the drugs can be stopped or modified.
14. **Allergic and Dermatologic Reactions:** Chemotherapy can cause several skin reactions; Vinorelbine may cause burning along the vein during injection. In some cases, blisters along the vein have been reported. Patients receiving tretinoin can experience redness, dryness, itching, and increased sensitivity to sunlight, and hence should take extra precautions.

Variety of skin rashes, possibly accompanied with itching occurs.

Discolouration of the skin along the pathway of the veins is used to administer the chemotherapy. This sometimes happens when chemotherapy irritates inner lining of the veins. Dry skin can also be a side effect of chemotherapy. Sensitivity to sunlight or photosensitivity may occur with some types of chemotherapy treatment. A skin rash may occur with excessive exposure to the sun. Use of a sunscreen and/or protective clothing is recommended. The patient is informed and given additional information in case of administration of drugs which may cause other reactions. The patient is to be given a drug card with specific information and its possible reaction about each drug they receive. Remember that each person reacts differently to all these drugs and that side effects are usually temporary.

15. **Emotional and Sleep Disturbances:** All patients having treatment for cancer feel some degree of emotional changes. Some chemotherapy may affect the emotions indirectly through fatigue or directly through changes in hormones. Many patients may have difficulty in accepting their diagnosis. Some patients report feeling depressed, angry, or nervous during their therapy. Their feelings may have a number of sources: the need to change daily routines, limitations of physical ability, fear about the disease, and many others. Such feelings are normal in the course of adjusting to a diagnosis of cancer. Many patients and family members seek professional counselling to help them through difficult periods. Often times, chemotherapy drugs cause patients to feel tired and sleepy throughout the day leading to difficult sleep at night. Emotional disturbances can also cause sleep problems.
16. **Numbness and Tingling (Neuropathy):** It is caused by damage to the peripheral nerves. Certain chemotherapy drugs can cause peripheral neuropathy such as vinca alkaloids (vincristine), cisplatin, paclitaxel, and the podophyllotoxins cetaposide and tenoposide. Other drugs used to treat cancer such as thalimodide and interferon can also cause peripheral neuropathy. The most commonly affected areas are fingers and toes causing symptoms such as numbness, tingling or burning and loss of sensation to touch.
17. **Late Development of other Cancer:** Since most cancer drugs can produce cell mutations, which can themselves produce cancers, a very small percentage of cancer patients receiving chemotherapy, may years later, develop secondary cancers from chemotherapy. The most common

type of such secondary cancer is acute leukaemia, which may occur many years after the usually prolonged and lengthy treatment with alkylating agents.

It should always be taken care of that the patient does not take any medication, including aspirin and other “over the counter” or non-prescription drugs during chemotherapy. The medicines for high blood pressure, heart trouble, birth control, or anything else are to be informed to the treating physician. Medications for pain management also need to be prescribed. Even the dentist needs to be informed about cancer chemotherapy as it can pose problems in caring for the teeth such as bleeding and infection. Good dental and oral care is very important while taking chemotherapy.

The most important person in the comprehensive team approach to cancer patient care is the patient himself. In chemotherapy, more than in any other method of treatment, the patient has a major portion of the responsibility for his or her own care. It is absolutely essential that he/she follows the doctor’s instructions exactly, taking treatment at the right time. The patient needs to follow any instructions given by the pharmacist about any special storage requirements of the medications. Also, the patient needs to take proper care by eating the right foods, drinking plenty of liquids, and resting when the need is felt.

Chemotherapy is a highly versatile treatment method and is used successfully to treat many types of cancer. But chemotherapy works best under certain conditions. Ensuring that these conditions exist by taking proper care of the patient can be a major factor in their effectiveness. Also remember that because the patient is receiving chemotherapy does not necessarily mean that he/she needs to restrict their activities. Many people find they are able to work and perform their day-do-day activities as before with very few changes. The patient undergoing chemotherapy should always be educated regarding the following points:

1. Understand the treatment (ask questions).
2. Tell the doctor about any medicines being taken.
3. Follow the doctor’s instructions exactly.
4. Inform the dentist about chemotherapy.
5. Eat properly (consult a dietician for any questions).
6. Drink plenty of liquids.

The patient should also be educated regarding the warning signs, which when noticed should be immediately reported to the treating doctor:

1. Soreness of the mouth and throat
2. Diarrhoea or constipation
3. Weight loss or weight gain of 10 pounds
4. Any sign of infection (cough, lung congestion, etc.)
5. Temperature of 101° F (38°C)
6. Tiring easily
7. Easy bleeding or bruising
8. Small red dots just beneath the skin (petechiae)
9. Pain or tenderness in the area of infusion

‘Minimum Dose’ Chemotherapy

Even though chemotherapy and radiation therapy are the conventional approaches for most of the cancers, they have certain limitations and dangers. In addition, there is no conclusive body of evidence or data demonstrating long-term successful outcomes or reasonable rates of remission to support these practices.

As some oncologists and alternative practitioners suggest, however, perhaps less is more. Perhaps a highly weakened or diluted dose of chemotherapy might produce cancer cell-killing effects without creating dangerous toxicity throughout the body.

In fact, on the forefront of this new approach, physicians are experimenting with (1) low-dose chemotherapy, (2) chemotherapy combined with protective nutritional and botanical supplements, and even (3) homoeopathically prepared chemotherapy.

Chemotherapy may be clinically necessary to control tumour mass (as opposed to being routinely prescribed) in some patients. Low-dose chemotherapy is preferable to what is presently regarded as today’s normal dose and can be useful when used with alternative modalities in the hands of an experienced physician. What needs to be strongly challenged is the prevailing concept that only chemotherapy in full strength is a viable way to treat cancer.

There are techniques, such as darkfield microscopy and electrodermal screening that enable the trained physician or oncologist to assess the appropriateness of chemotherapy, in whatever dose or combination, based on specific indications from an individual patient. Surely this approach is preferable to the "one-drug-fits-all" approach of high-dose chemotherapy routinely prescribed by today's oncologists.

The physician and the patient must always remember that the decision to use chemotherapy or to employ the alternatives, or to do both, is patient driven. Responsible physicians should help guide the individual patient to an informed choice of treatment.

Illusion of Conventional Cancer 'Treatment'

Today's conventional cancer treatment will be remembered as a crude and often inhuman technique that causes extensive damage to the body. Surgery excises normal tissue along with malignant tissue and often compromises the lymphatic and other systems vital to the body's resistance to disease. Surgery is generally the lesser of three evils, for the damage caused by radiation and chemotherapy may be far more grievous, given that both destroy normal cells as much as cancer cells and actually increase one's risk of eventually dying from cancer. All chemotherapeutic agents are cytotoxic, or poisonous to cells, and their cell-killing ability is not specific.

When technicians drop the chemotherapy 'bomb' inside a living human body, a great deal of 'collateral damage' will result. The body's rapidly dividing cells found in the bone marrow (the source of all immune cells), the lining of the gastro-intestinal tract, and the hair follicles bear the brunt of chemotherapy-induced damage, giving rise to side effects such as diarrhoea, nausea, hair loss, anaemia, and suppressed immunity.

Other side effects include problems with the lungs, kidneys, and liver which are the body's primary detoxification organs. So morbid are people's associations with this sickening form of treatment that the mere thought of having another 'chemo' treatment can trigger anticipatory vomiting. Victims of the chemical assault feel sick and tired on a regular basis – probably much sicker than they would have felt had they been left untreated.

It is this long list of toxic effects, which may in fact become life threatening

that, makes chemotherapy a highly questionable method. According to Howard Greenwald, M.D., "*The patient may become exhausted because loss of appetite has led to malnutrition; bone marrow poisoning may undermine resistance to infectious disease; lung damage, kidney dysfunction, and haemorrhage may occur"*. The rationale for chemotherapy and radiation is that cancer is an enemy that must be killed or destroyed, even when the treatment causes the person great discomfort, perhaps even death. Chemotherapy drugs originated out of mustard gas, designed as a poison for use in warfare. No wonder chemotherapy is feared almost as much as cancer itself.

Virtually, all the FDA-approved anti-cancer drugs are markedly immunosuppressive, because they ruin a person's natural resistance to disease, including cancer. Ulrich Abel, Ph.D., of the Heidelberg Tumour Center in Germany, conducted a comprehensive review of the world literature on survival among cancer patients receiving chemotherapy. He found that chemotherapy can help only about 3% of the patients with epithelial cancers (breast, lung, prostate, and colon). These cancers account for about 80% of all cancer deaths. In a study of chemotherapy-treated breast cancer patients, the researchers concluded, "*Survival may even have been shortened in some (breast cancer) patients given chemotherapy*". In general, chemotherapy's effectiveness is seen only with small, early tumours, not with large tumours.

One of the ironic 'side effects' of chemotherapy or radiation is an increased likelihood that cancer will reappear later on as secondary tumours or that it will eventually spread to other parts of the body. When chemotherapy and radiation are used at the same time, secondary tumours occur about 25 times more than the expected rate.

Despite the aggressive, even militaristic 'kill-or-cure' zeal of today's oncologists, chemotherapy's success record is dismal. It can achieve remissions in about 7% of all human cancers, for an additional 15% of cases, survival can be 'prolonged' beyond the point at which death would be expected without treatment. This kind of survival is not the same as a cure or even restored quality of life. The statistics show that chemotherapy is useless in treating about 80% of malignant tumours, in particular those that occur most frequently, such as cancers of the lungs, breast, colon, pancreas, and

bladder. Chemotherapy's 7% 'cure' rate is all the more pathetic when one considers that it typically refers to survival for only five years and thus overlooks the risk of 'secondary cancers' or recurrences.

On September 15, 1993, the *Journal of the National Cancer Institute* published the results of a major study examining the effectiveness of chemotherapy for all types of cancer. The results were dismal: chemotherapy provided a 'durable response' in only 3% of cases, while another 4% of the patients had 'a significantly long survival period'. In other words, at best, only 7% of patients benefitted from chemotherapy in any way.

A search for clinical trials, testing the effectiveness of chemotherapy agents over the past decade did not find even one double-blind, placebo-controlled trial. The only trials were those designed to study which supportive agents could help prevent or minimise chemotherapy-associated nausea and vomiting. Ironically, among the most recent 'agents' to have proven efficacy is ginger. How can the cancer establishment get away with claiming that most herbal medicines (as well as other alternative therapies, for that matter) are 'unproven' when the effectiveness of their own chemotherapy drugs are unsubstantiated by the very clinical trials they regard as standards?

Chemotherapy Induced Damage

Researchers at Stanford University recently gained an insight into why chemotherapy is such a dismal failure. Aside from burdening the body's detoxification system and suppressing the immune system, chemotherapy can cause a mutation in the gene that is supposed to protect the body against cancer. This 'tumour suppressor gene' or p53 gene normally codes for a protein that stops the growth of potential cancer cells by binding to the cells' DNA and blocking cell division.

Here is where chemotherapy wreaks even worse damage than is commonly understood. Chemotherapy kills cells by damaging their DNA. All malignant tissues harbour some cells that have a natural resistance to many chemotherapy agents, just as bacteria exposed to antibiotics develop resistance to those drugs. Although the chemotherapy agents initially affect most cancer cells, those that are resistant survive and eventually they develop into an even more dangerous tumour. This process is accelerated by the tendency of cancer cells to mutate with even greater frequency as the tumour

develops.

To make matters worse, some of the cells develop mutations in their p53 genes, and the defective p53 protein can no longer do its job. These mutated cells have an enormous competitive advantage and eventually dominate the tumour. When the p53 gene mutates, the tumour's growth spins out of control. Since their p53 is no longer effective, the mutated cancer cells refuse to die and continue to multiply, while the rest of the body suffers from the poisons of chemotherapy. This biological scenario helps explain why most cancer patients treated with standard chemotherapy are worse off than they would have been without the drugs.

This is why many now claim that the so-called success of conventional cancer treatment is often illusory. The temporary shrinking of a tumour mass – defined as either a partial or complete remission – is not necessarily a good sign, because the remaining tumour cells often grow much faster and more virulently after the first series of chemotherapy treatments. Highly aggressive chemotherapy actually shortens survival rates compared to patients in whom chemotherapy was delayed or administered less aggressively, according to a research. Paradoxically, patients whose tumours showed no response to chemotherapy actually survived longer than the patients who did respond.

A related insight is that free-radical damage to DNA increases the risk of cancer cells spreading. It is the metastasis that typically kills cancer patients. Human DNA from invasive, spreading cancer contains damage twice due to free radicals as DNA from non-invasive tumours. This fact explains why patients who manage to survive chemotherapy and radiation tend to develop more deadly cancers later on, because both chemotherapy and radiation generate free radicals in abundance. On the basis of this research, there are strong grounds for advising that, with rare exceptions, chemotherapy should be avoided or its use minimised to keep the DNA intact and the immune system functioning optimally.

In case the patient has already received conventional chemotherapy and radiation, then he can start mitigating the damage by boosting the body's antioxidant supply. Studies have shown that supplementation with antioxidants can bring about a significant increase in survival for breast cancer patients and prevent recurrences of bladder cancer; in addition, decreasing the consumption of dietary fat, another common source of free

radicals, increases the survival rates of breast cancer patients.

Biological Response Modifiers and Low-dose Chemotherapy

Nutrients and numerous other ‘Biological Response Modifiers’ (BRMs) can directly impede tumour growth and metastasis. BRM research offers solid evidence that alternative therapies need to become integrated into sensible cancer care, because:

1. A number of herbs have proven to be effective when used in complement with fractionated chemotherapy, a form of low-dose chemotherapy (LDC) that entails very small doses spread out over a longer period of time.
2. For stomach cancer patients receiving Chinese herbs, NK cell activity increased and the ability to tolerate chemotherapy improved significantly compared to patients not receiving herbs (95% versus 79%). The herb-treated patients reported higher energy levels, improved weight gain, and better overall quality of life.
3. Survival rates improved in patients with lung, breast, throat, and nasopharyngeal cancers who used Chinese herbs in combination with chemotherapy or radiation, compared to those who relied on conventional treatment alone.
4. No significant drop in immune cell counts was observed after several cycles of chemotherapy in a group of breast cancer patients using Chinese herbs.
5. Combining the LDC approach with strategic use of Chinese botanicals, nutraceuticals (food-derived BRMs), and phytochemicals (plant-derived BRMs), reduces the toxic potential of chemotherapy to the point where adverse side effects are entirely avoided.

Targeted Therapy

Targeted therapy has been introduced in the recent years. Since the conventional chemotherapeutic drugs affect the cells other than malignant cells, so, in order to overcome this fallacy, targeted therapy is being used with the chemotherapy regimen. Targeted therapy works by targeting specific

molecules (i.e. genes or proteins) present in the malignant cells, thus helping to stop the growth and spread of malignancy by preventing cell division or initiating cell apoptosis. While the chemotherapeutic drugs act on rapidly growing non malignant cells in addition to the malignant cells, the targeted drugs focus and act on molecular targets that are reliably expressed in the malignant cells only.

The different types of targeted molecular therapies utilise different agents like tyrosine kinase inhibitors, or monoclonal antibodies.

The enzyme Tyrosine kinase plays a critical role in the modulation of growth factor signalling and can increase tumour cell proliferation and growth, induce anti-apoptotic effects, and promote angiogenesis and metastasis. Because all of these effects are initiated by receptor tyrosine kinase activation, they are key targets for inhibitors. Tyrosine kinase inhibitors (TKIs) are the proteins that bind and deactivate these receptors present on the cell membrane of the malignant cells and also inhibit multiple proteins within the cell in the tyrosine kinase pathways. Tyrosine kinase pathways are over expressed in malignant cells; so when TKIs bind to the membrane receptor, the signalling of this pathway is blocked, thus preventing cell division and angiogenesis. Some of TKIs used are axitinib, bosutinib, cediranib (Recentin), erlotinib (Tarceva), gefitnib (Iressa), imatinib (Gleevec), sunitinib (Sutent), lestaurtinib, nilotinib (Tasigna), semaxanib, dasatinib (Sprycel), gorafenib (Nexavar), and vandetanib (Zactima).

Targeted therapy also utilises monoclonal antibodies. These monoclonal antibodies bind to the cell surface receptors and the further chain of reactions is inhibited; the nucleus of the cell does not receive signalling from the cell membrane to undergo cell division. Some types of malignant tumours have a large quantity of these cell surface receptors; for instance, certain breast cancer cells express HER-2/neu receptors. Trastuzumab (Herceptin), a monoclonal antibody, binds to HER-2/neu receptors, inhibiting cell division and also initiationg cell apoptosis. Other monoclonal antibodies include drugs such as alemtuzumab (Campath), cetuximab (Erbitux), edrecolomab (Panorex), bevacizumab (Avastin), gemtuzumab (Mylotarg), rituximab (Rituxan), lapatinib (Tykerb), panitumumab (Vectibix), and tositumomab (Bexxar).

Targeted therapies also have side effects that range from mild to major

symptoms like rash, diarrhoea, muscle cramps, nausea, and hypertension. It has been observed that targeted therapy is better tolerated than chemotherapy though. Fortunately, patients receiving targeted molecular therapies will also benefit from certain nutrients, herbs, and other natural therapies.

Hormonal Therapy

For the cancers that are hormone sensitive or hormone dependent like that of breast, prostate, uterus or ovaries, Hormone therapy is used to inhibit or lower the hormones levels in the body in order to impede or slow down the growth of malignancy. Hormone therapy either inhibits the production of hormones in the body or prevents hormones from stimulating cells division of malignant cells. This is achieved either by targeting the specific enzymes that are required in the production of certain hormones or by blocking the cell membrane receptors that bind with these hormones. Hormonal therapies block the oestrogen receptor (Tamoxifen) or block the production of oestrogen (aromatase inhibitors). Hormonal therapy is either used before conventional radiotherapy/chemotherapy to shrink the malignant tumour or after these conventional modalities to prevent recurrence. It also helps in cases of metastasis. However, like other conventional approaches, hormonal therapy also has its side effects.

Immunotherapy

Immunotherapy or Biological Therapy acts by boosting the body’s inherent immune system to destroy the malignant cells. Commonly used biological agents are interferon and interleukin-2 that have been used for the treatment of malignant tumours. However, Immunotherapy is not yet as widely used as surgery, chemotherapy, and radiation therapy. There are various types on immunotherapy that directly act against cancer like Monoclonal Antibodies, Immune checkpoint inhibitors, Cancer vaccines, CAR T-Cell Therapy; and certain other types that that enhance the inherent immune response against cancer like use of cytokines, BCG for bladder cancer, etc.

Vaccines

Vaccines have been used for prevention of many infectious diseases, and

recently vaccines are being used for cancer prevention and treatment as well. Researchers featured in the *Journal of Clinical Oncology* believe that we are getting closer to using a tumour-specific antigen, fed to a partially disabled virus, which, when injected into the body, activates an immune response against the tumours that express the same antigen. Cancer vaccines can also be introduced to the body by creating a synthetic tumour antigen, removing some immune cells from the blood in order to expose them to the synthetic antigen, and then re-injecting them into the body to create a systemic immune response. These are known as cancer-specific vaccines. According to *Clinical Oncology*, '*till date, no convincing clinical evidence exists for sufficient efficacy of cancer vaccines, and the ability to correlate immune response to a vaccine and its clinical effectiveness has been elusive*.' Nonetheless, several cancer vaccines are in the last phase of clinical trial development and will be brought to market soon. The first cancer treatment vaccine to be introduced to the market may likely be for prostate cancer. As with any pharmaceutical agent, all of these new treatments may have side effects and risks. A thorough risk-versus-reward analysis is always in order.

Oxygen Therapy

Studies have shown that cancer cells can only grow in the absence of oxygen, hence if sufficient oxygen is introduced into the body's cells, it will help to reverse the cancer process by suffocating the tumour with too much oxygen. It has been observed that hydrogen peroxide and ozone can produce excellent results when used in oxygen therapy.

Most health conscious people are aware of the harmful effects of free radicals caused by oxidation. While, at the same time, when produced under controlled circumstances, as in oxygen therapy, free radicals are deadly to bacteria, viruses, and fungi. Oxygen therapy stimulates the immune system and various enzyme systems, probably through increasing the production of cytokines, immunologically active proteins that destroy or inhibit the growth of micro-organisms and tumour cells. Lack of oxygen at the cellular level may be the prime cause of cancer and so oxygen therapy could be an effective treatment for it. When subjected to reduced oxygen concentrations, normal embryonic cells quickly adopt the fermentative metabolism typical of cancer cells. The lack of oxygen apparently alters the normal cell's respiration during growth, triggering the development of cancer. Cancer cells

will not form if the oxygen level surrounding the cells is raised.

Replacement of respiration of oxygen in normal cells by fermentation of sugar is the prime cause for growth of cancer. Unlike normal body cells which meet their energy needs by respiration of oxygen, cancer cells meet their energy needs in great part by fermentation. The metabolic approach entails exposing the cancer cell to high levels of oxygen. Since the cancer cell can participate only in fermentative metabolism, oxygen at high levels is toxic. The cancer cell has a very low production of superoxide dismutase (SOD), an antioxidant enzyme that protects normal cells from high oxygen concentrations. This lack of SOD may make cancer cells particularly vulnerable to high oxygen concentrations and oxidative stress.

Oxygen can be used in various forms to promote healing and to destroy pathogens in the body. A wide variety of conditions, including cancer, infections, circulatory problems, chronic fatigue syndrome, arthritis, allergies, and multiple sclerosis can be treated using these therapies. Classified according to the chemical process involved there are two principal types of oxygen therapy:

1. **Oxygenation:** This is the process of enriching oxygen content of the blood or tissues. Using oxygen as a safe, selective ‘chemotherapy’ for cancer patients has been found to be effective when used in combination with regular aerobic exercise, hyperthermia (heat therapy) induced by infrared light, intermittently induced high blood sugar (by giving glucose intravenously), and daily administration of 30 mg of vitamin B1, 100 mg of magnesium orotate, and 75 mg of dipyridamol (a drug that prevents blood clotting).
2. **Oxidation:** The chemical reaction occurring when electrons are transferred from one molecule to another is known as oxidation. Oxygen molecules are frequently, but not always, involved in these reactions. The molecules that give up their electrons are referred to as oxidised; the molecules that accept electrons are referred to as oxidants. Although uncontrolled oxidation can be destructive, as is the case when free radicals are produced in excess, it can also be therapeutic when carefully used on weak and devitalised cells as the targets. These weak cells are metabolically broken down, permitting the formation of new, healthy cells that are better able to resist disease. Oxidation therapy may help by

‘jumpstarting’ the body’s oxidative processes and returning them to normal.

Hydrogen Peroxide (H_2O_2) as a Metabolic Cancer Therapy

Hydrogen peroxide is a natural substance made by healthy cells in the body to regulate metabolism and to destroy invaders. The Lancet reported the use of intravenous hydrogen peroxide by British Army doctors in India treating troops suffering from influenza. It reduced their death rate from 90% to 50%. In the 1950s, hydrogen peroxide was approved by the FDA as a food additive and was used by farmers to retard spoilage in animal feed. Following this, farmers noted an unexpected health benefit in the livestock and started using hydrogen peroxide themselves as a folk remedy. Since that time, physicians have experimented with intravenous hydrogen peroxide treatment in a number of conditions, including heart disease, emphysema, bronchitis, asthma, influenza, Lyme disease, chronic fatigue, candidiasis, parasitic infections and arthritis, with excellent results. Research indicates that H_2O_2 stimulates natural killer cells, which attack cancer cells throughout the body.

Hydrogen peroxide is a simple compound made up of a molecule of water (H_2O) with an extra atom of oxygen (O) attached. It is produced in cells during normal metabolism. When given in correct dosage, H_2O_2 can have an oxidising or cleansing effect, although excessive amounts can be harmful.

Oxygen or oxidative therapies today are based on dilute H_2O_2, which is relatively harmless, particularly when the individual is taking antioxidant supplements that help protect the body’s normal cells. H_2O_2 generated by the macrophages and other immune cells help kill bacteria, parasites, viruses, and other pathogens. Research indicates that H_2O_2 helps enzymes to remove toxins and can directly destroy invading microbes; the H_2O_2 produced by these immune cells has also been shown to have anti-tumour properties.

Oxidation achieved through H_2O_2 therapy regulates tissue repair, cellular respiration, growth, immune and energy functions, most hormone systems, and the production of cytokines (chemical messengers involved in the

regulation of almost every system in the body). Some cytokines, such as interferon and interleukin-2, play key roles in helping the immune system destroy cancer cells, and the anti-cancer effect of interferon seems to depend on the H_2O_2 generated by immune cells. Hydrogen peroxide provides an additional boost to the anti-cancer defences by stimulating natural killer cells, which are needed to stop the spread of cancer.

When injected intravenously, hydrogen peroxide is converted by the serum enzyme catalase into water and oxygen. Intravenous H2O2 can produce blood oxygen levels up to twelve atmospheres, which is toxic to the anaerobic metabolism of cancer cells, while helping support the aerobic energy metabolism of healthy cells, particularly the white blood cells that seek out and destroy cancer cells, i.e., macrophages and natural killer cells.

Intravenous H_2O_2 also stimulates the oxidative enzymes in the body, helping them remove toxins and exert a direct cancer killing effect on tumour cells. These intravenous H_2O_2 infusions almost doubled the metabolic activity of detoxifying enzymes. When oxygen therapies are used to treat cancer these effects could take together, which account for the positive clinical results. H_2O_2 can enhance the effectiveness of anti-cancer drugs and it can also make cancer cells more sensitive to the effects of radiation therapy.

There are cautions to observe regarding hydrogen peroxide. In rare cases, inflammation of the veins at the site of injection might occur. Hydrogen peroxide should not be taken orally as it causes nausea and vomiting, and rectal administration can lead to inflammation of the lower intestinal tract. Other effects include temporary faintness, fatigue, headaches, and chest pain.

Ozone Therapy

Ozone can selectively inhibit cancer cell growth in tissue culture for cancers of the lung, breast, and uterus. It can enhance the tumour fighting ability of standard cancer drugs. Test doses of ozone were found to selectively block the division of cancer cells and this positive effect increased as the ozone doses got stronger until all cancer cell activity was virtually halted at high doses. It seems to stimulate the activity of cytokines, natural cancer killing proteins. It has been found that ozone therapy greatly reduces pain whilst increasing energy levels and appetite. Patients on ozone therapy have been

free of metastasis and recurrences, for long periods of time thus the survival time is prolonged, far exceeding the prognosis of conventional treatment; and most patients who had undergone ozone therapy shortly after surgery and radiation could return to full time work.

Ozone cannot be used alone; it needs to be combined with a proper diet, homoeopathy, supplements, herbs, botanicals, acupuncture, and chiropractic. Antioxidants such as vitamin C should be given to all patients who are receiving any form of oxygen therapy.

Adverse effects associated with intravenously administered ozone can include phlebitis (inflammation of a vein), circulatory depression, chest pain, shortness of breath, fainting, coughing, flushing, and cardiac arrhythmias. Although it is easily tolerated in other tissues, ozone in high concentrations can cause severe inflammation of the lung tissues and even coughing up of blood.

Advancements in Conventional Cancer Treatments

Chemotherapy drugs are cytotoxic due to which they have a number of side effects. So, new types of anti-cancer drugs are being worked upon by the researchers. One such approach is immunotherapy that has been in use recently; another is the use of vaccines for cancer treatment that is still being researched. An exciting area of development that has the potential to correct the cancerous mutations within DNA in a relatively non-toxic manner is ‘Gene therapy’. In this treatment, specific genes are injected into the tumour. No drugs have been approved in this class however; also no proof of efficacy has been shown and the technical hurdles are still daunting.

Differentiation drugs stimulate the maturation and differentiation of immature cells into functional cells. Such drugs are being proposed to be effective for prevention of certain cancers, like a drug, all-transretinoic acid, is being tested for use in leukaemia.

New Pharmacological Substances for Cancer Treatment

Alkyl Glycerols

A group of compounds called alkyl glycerols can bolster anti-cancer defences and protect the body against the harmful effects of radiation induced injury. The richest source of these special fats is shark liver oil, but these fats are found to a lesser extent in mother's milk and cow's milk. Studies have indicated that alkyl glycerols have anti-tumour activity, probably mediated through macrophages in the form of selective destruction of cancer cells. Cell culture studies have shown that this 'selection' seems to be affected by cholesterol concentration of the cancer cell; as the cholesterol level drops, the cancer cells die more rapidly. Extracts of shark liver oil may help people tolerate both chemotherapy and radiation. Regression of advanced tumours towards less advanced stages can be seen when alkyl glycerols are administrated prior to radiation therapy.

Anti-neoplastons

Originally, five anti-neoplastons (meaning substances that work against a neoplasm) were identified by Dr Burzynski in Polland. In a study, several peptides were isolated (chains of amino acids, the building blocks of protein) from human urine and found them to be effective in controlling the growth of certain types of cancer. It was determined that these molecules have a strong anti-cancer effect at a genetic level: specifically, they appear to stimulate the activity of tumour suppressor genes, which literally turns off the activity of certain oncogenes. By this action, antineoplastons can actually stop cells from multiplying out of control. Studies in Japan indicate that low doses of an orally administered synthetic anti-neoplaston help to prevent cancers of the breast, lung, and liver. I.V. anti-neoplastons are highly effective against brain tumours in children, and have even helped cases of glioblastoma multiforme, the most aggressive, dreaded form of brain cancer.

Carnivora

This is extract of the Venus flytrap (*Dinoea muscipula*) plant, which is so named in honour of the plant's well known insect eating ability. One of the active ingredient which appears to be a chemical called plumbagin, which has anti-cancer properties when it is topically applied and it can lead to a total

reversal of skin cancer. It can either bring about tumour remission or the cancer development may become stable and not worsen.

Carnivora is an immuno-modulator, which means it stimulates the activity of T helper cells. This enables the body to wage a more vigorous defence against the illness. Carnivora appears to target tumour cells and bolster the immune system.

Bovine Cartilage

They had a remarkable ability to help wounds to heal faster. Today, bovine cartilage is one of the few substances proven to accelerate wound healing. Angiogenesis is a prerequisite for tumour growth, yet this process can be stopped by cartilage. Bovine tracheal cartilage (BTC) causes a general activation of the body's anti-cancer defences and has demonstrated effectiveness against cancers of the ovary, pancreas, colon, and testes. Bovine tracheal cartilage is not a cancer cure but a very successful palliation. Bovine cartilage contains large sugar molecules called mucopolysaccharides that appear to block cell division in the cancerous cells. Bovine cartilage also seems to stimulate the activity of macrophages, immune cells that 'eat' all foreign materials in the body, including cancerous cells. In addition, the cartilage works to decrease the size and population of malignant cells, thereby normalising the renegade cancer cells.

Shark Cartilage

Ovarian cancer responds most consistently to shark cartilage, while uterine, cervical, and central nervous system cancers respond positively. There are reports that shark cartilage is highly effective against advanced prostate tumours, achieving tumour reduction rates of 15% to 67%. It is also capable of significantly lowering PSA counts in 12-16 weeks. Generally, shark cartilage works best against solid tumours and pancreatic cancers, provided they are not too advanced. One substance found in sharks, called squalamine, has recently demonstrated the ability to attack tumours via anti-angiogenesis. According to researchers, animal studies of squalamine suggest a potential therapeutic benefit for patients with brain cancer.

Cesium

This non-radioactive form of cesium, a rare alkali metal widely distributed in the Earth's crust, has been used with some success as an alternative cancer therapy. Scientists observed that areas with low cancer rates had high concentrations of alkali metals in the soils. It was then suggested that alkalinising the body fluids could push the normally acidic (low) pH of the cancer cell towards a weakly alkaline (high) pH promoting the cancer's demise. Thus, cesium emerged as a high pH-inducing therapy. A study reported that cesium chloride, when combined with chelation therapy and nutritional supplements, lead to significant improvement in about half of all "terminal" cancers of the breast, colon, gallbladder, liver, lung, lymphoma, pancreas, prostate, and pelvis. Among these cancers, most had not responded to conventional therapy.

There appears to be an intracellular relationship between cesium and potassium that promotes the destruction of cancer cells. Cesium is similar to potassium, which may explain why it is taken up so easily by cancer cells; this uptake is enhanced when supported by vitamins A, C, and the minerals like zinc and selenium. These supplements, along with a high-potassium diet, may also help to eliminate the potential toxicity of cesium. Ironically, cesium has been used in cancer therapy for many years, but in the form of radioactive isotopes or "seeds" implanted in cancer patients as part of radiation therapy.

Dimethyl Sulfoxide (DMSO)

This substance is present in small quantities in grains, fruits and vegetables and is naturally present in the human body. It is more commonly known as a solvent derived from coal, oil and lignan, a structural material in plants. Although the primary clinical use of DMSO has been to treat inflammation, it is also known to induce the differentiation of malignant cells – that is, it causes them to become benign. Some researchers propose that DMSO may be particularly beneficial to cancer patients who require bone marrow transplantation, since it causes differentiation of malignant bone marrow cells. DMSO has demonstrated effectiveness in slowing or halting the progress of cancers of the bladder, colon, ovary, breast, and skin. Malignant leukaemia cells have been observed to revert to normal cells following DMSO treatment. One of the most exciting aspects of DMSO is its apparent

ability to help deliver anti-cancer substances to the site of the cancer, where it seems to enhance the effects of various cell killing agents while simultaneously reducing the toxicity of conventional treatments.

DMSO stimulates various parts of the immune system and scavenges free radicals. Since free radicals promote tumour growth, this may be one of the mechanisms by which DMSO interferes with the development of cancer. It may also explain why patients, who receive DMSO while undergoing either chemotherapy or radiation generate free radicals in order to kill cancer cells, and these patients are far less prone to such side effects as hair loss, nausea and dry mouth.

Glutathione and N-Acetyl-Cysteine (NAC)

Glutathione is a protein that contains the amino acids cysteine, glycine, and glutamic acid. NAC, a derivative of cysteine, is an amino acid precursor for the body's production of glutathione. Cysteine accounts for glutathione's antioxidant activity and its role is the key antioxidant enzyme, glutathione peroxidase. Blood levels of glutathione peroxidase tend to decrease after the sixth decade of life and are typically lower in patients with malignant cancers. Supplementing regularly with a combination of glutathione and NAC may be especially important for older people who have been exposed to numerous toxins in their diet and environment.

Glutathione reduces free radical damage to DNA and prevents depletion of other antioxidants. It also helps to metabolise carcinogens, activates certain immune cells, helps to repair DNA, and may inhibit angiogenesis. Glutathione is also a component of an enzyme that assists in the liver's metabolism of drugs and toxic chemicals. Glutathione and NAC supplements have been found to diminish the toxic side effects of chemotherapy and other conventional treatments. Glutathione is most effective orally if absorbed under the tongue (at a typical dose of 100-500 mg daily) rather than being swallowed; this is because stomach acid and digestive enzymes can degrade it. I.V. glutathione achieves the best therapeutic response.

Hydrazine Sulphate

This experimental synthetic chemical seems to inhibit the loss of body mass

caused by cancer, while at the same time exerting indirect anti-tumour effects. A study showed that it can help tumour regression or stabilization. Also the patients have reported symptomatic improvements, such as fewer respiratory problems and reduced fever. Decreased pain was noted even in cases of metastatic bone cancer and some patients improved so markedly that they were once again able to walk and care for themselves. In one study, the compound significantly improved the nutritional status and survival of lung cancer patients. It may also aid in treating cancers of the breast, lung and larynx, as well as Hodgkin's disease, desmosarcoma, and neuroblastoma.

Hydrazine sulphate improves appetite, increases a patient's sense of well-being, resulting in weight gain amongst the ones who have lost weight, and may contribute to shrinkage of tumours. It seems to work by interfering with the liver's ability to produce glucose from lactic acid, a process known as gluconeogenesis. Cancer cells thrive on glucose, which allows the cancer to grow quickly while normal cells in the body break down. This destructive cycle may continue, resulting in a wasting away of the lean mass of the patient. By interfering with gluconeogenesis, hydrazine sulphate inhibits the cancer while allowing normal cells to thrive, thus reversing the vicious cycle.

Indocin (Indomethacin)

By inhibiting the production of the 'bad' eicosanoid, prostaglandin E2, Indocin effectively slows tumour growth, permitting more macrophages to enter the tumour. A growing body of research indicates that Indocin may be effective against various cancers. This substance, member of the family of non-steroidal medications, has about the same contraindications as aspirin, the worst of which is bleeding or perforated ulcers; however, either can be a surgical emergency.

Mellitin

This substance is derived from the sting of honeybees. It has been found that bee venom can be combined with certain antibodies to target cancer cells without damaging normal cells. The venom's main poison is mellitin, which killed tumour cells by damaging their outer membrane and causing them to break open.

Seanol

This is a unique, brown algae extract that contains polyphenolic phlorotannins with potent, anti-inflammatory, anti-tumorogenic properties, esp. in skin cancers. Depending upon the medical application examined, SEANOL's potency in vivo tends to be from 100X to 1000X more than a similar quantity of land-based polyphenols, resulting both from its higher anti-oxidant potential as well as its 24X improved half-life. Extensive research has demonstrated that Seanol also provides significant protection for the brain, eyes, heart, blood vessels, joints and skin through its potent antioxidant, anti-hypertensive, anti-lipidemic, anti-thrombotic, and anti-aging effects.

Tagamet (Cimetidine)

This drug is best known for its ability to inhibit the formation of stomach acid, thereby aiding in the treatment of duodenal ulcers. The side effects like diarrhoea, headaches, and occasional allergic reactions are generally mild or quite rare. Tagamet seems to bolster the cancer fighting activity of natural killer cells and increase the number of T helper lymphocytes. At the same time, it helps reduce the activity of suppressor T cells (which suppress other immune functions).

However, since Tagamet reduces gastric acid production, it likely impairs absorption of essential minerals and amino acids and, secondly, it impairs the formation of important hormones, enzymes, neurotransmitters, antibodies, and structural proteins. It may also increase toxic undigested protein in the bowel and blood.

Ukrain

This substance is derived from a combination of a common plant called celandine (*Chelidonium majus*) and thiophosphoric acid (also called thiotepa, one of the original chemotherapeutic agents). This combination appears to neutralise the toxic effect of the alkaloids contained in thiophosphoric acid. Ukrain does not harm the body’s healthy tissues and anti-cancer defences but actually fortifies them. Clinical research has shown that Ukrain improves the overall condition and extends the survival of “terminal” cancer patients by

giving their immune system a boost and by blocking tumour growth. It helps to fortify the immune system in people with a variety of cancers; it consistently increases the number of helper T cells, which coordinate key to immune related activities. At the same time, Ukrain increases the oxygen (O_2) in both normal and malignant cells. In normal cells, O_2 stabilises in cancer cells, however, O_2 consumption drops down to zero. Since after 15 minutes of Ukrain treatment the cancer cells stop 'breathing', they die. Ukrain also inhibits the synthesis of genetic material and protein in cancer cells, but not in normal, healthy cells. Ukrain possesses a strong selectivity for cancer cells and when exposed to ultraviolet light, it glows. For these reasons, it can be used to determine whether a suspicious growth is malignant.

Urea

One of the natural by products of protein digestion (nitrogen) is urea, a natural diuretic (which means it induces urination) compound that also shows strong antioxidant activity. Approximately one ounce of urea is excreted daily in human urine. When given orally, urea reaches high enough concentrations in the liver to inhibit cancer growth. Specifically, urea appears to work against solid tumours by destabilising components called fibrin stroma; it also works against the formation of new blood vessels in tumours. Since the liver is the only organ that shows high concentrations of urea after oral administration, this therapy may not be effective against cancers other than those of the liver. The theory behind urea therapy is that it alters the chemical properties of the cellular surfaces around malignant tumour cells and thereby disrupts the processes necessary for uncontrolled cellular growth.

Dr Danopoulos stated that urea goes directly to the liver when introduced into the human body, but if the liver is more than 30% involved in the cancer, urea treatment will not work, but if liver involvement is less than this, it is likely to be effective.

Iscador Therapy (Mistletoe)

Dr. Rudolf Steiner, the founder of the anthroposophical philosophy, revived the ancient ‘holistic concept of life, man and disease’. The aim of a comprehensive science of medicine should be to understand man as an integral whole, in his comprehensive totality of body, soul and spirit. He clearly demonstrated that cancer does not develop just on the basis of a disturbance in the growth and multiplication of cells, but because the dynamic form, giving pole of the human organism breaks down or fails in its regulation of cell growth. A dynamic balance is maintained in a healthy state between cell growth and its restriction. Cancer is a state of dynamic disequilibrium between the Cell and the Organism, the Cell Principle and the Organismal Principle - the latter regulating the former towards harmonious form, function and growth of the whole organism. He also suggested that Mistletoe (*Viscum album*) should be used to treat cancer based on his spiritual scientific view of man.

Iscador is the trade name for a mistletoe preparation. Iscador consists of fermented extracts of European mistletoe (*Viscum album*), some forms of which are combined with small amounts of metals to produce anti-cancer effects. In animal experiments, Iscador has been found to kill cancer cells, stimulate the immune system, and significantly inhibit tumour formation.

The activity of various immune cells, including NK cells, increases significantly within 24 hours of injecting Iscador. These effects might explain various findings that Iscador selectively inhibits the growth of different types of tumour cells. Two reviews of the clinical research have concluded that treatment with Iscador increases both the length and quality of life, stabilises the cancer, causes tumours to shrink, and improves the overall condition of the patient.

Iscador therapy is aimed not only at destroying the cancer cells (cystostatic) but also at restoring the disturbed equilibrium between the organism and the

cell by stimulating the formative processes and forces of the whole organism and the natural immunity mechanisms–the body's own defences. Iscador has also proved itself to be non-toxic and there is absence of drug intolerance and drug resistance.

Iscador's potential as a cancer therapy is strongly supported by the following findings:

1. Significantly more breast cancer patients treated with iscador were alive after ten years compared to patients who received no iscador;
2. People with cervical cancer who had a combination of surgery, iscador and radiotherapy showed an 83% survival rate after five years compared to a 69% survival rate for those who received radiation alone;
3. Normally 50% of bladder papillomas become malignant in three years, but with iscador, only three out of 14 did;
4. Among bronchial cancer patients, 75% of those given iscador were still alive after four years compared to only 35% of those without iscador; and
5. The survival rate after three years for skin cancer patients on iscador was 80% compared to 65% for those without it. In addition, iscador has successfully extended the lives of individuals with cancers of the lung, breast, stomach, colon, ovaries, and cervix.

Botany of *Viscum album*

The mistletoe (*Viscum album*) is a half parasitic plant, belonging to the family of Loranthaceae, growing on host trees, such as, Oak, Pine, Apple, Fir, Elms, and others. Mistletoe often grows on mistletoe, with a seedling establishing itself on the stem of mistletoe and developing into a second younger bush.

It does not grow on the ground and the seeds do not fall on the ground, but remain on the bush on the host tree, where they germinate under the influence of sunlight – the essential pre-requisite for germination. Thus, the mistletoe has no relation to the earth. Like all parasites, it draws nourishment from the host tree (water and mineral salts), builds chlorophyll like other plants. A parasite normally lives at the cost of the host tree and often damages it, like cancer in the human body. With mistletoe the case is completely different, it actually helps to devour the protuberance or excrescences which occur on the

host tree on which it grows; in fact, it grows in those places of the host tree where these proliferative growths appear and promotes a sort of 'healing process'. The branches of the host tree which are seized by the mistletoe are sustained longer than the other branches; in any case, the branch on which the mistletoe grows contains more potassium and phosphoric acid than the other branches which do not have the mistletoe. The mistletoe flourishes on the trees which stand on underground water courses or along the course of rivers, thus indicating its strong affinity to the element 'Water' in nature. Also the mistletoe leaves evaporate about six times more water than the leaves of the host tree under identical conditions. Water and potassium play an important role in all life and growth processes, including those of the mistletoe.

Table 6.1: Ash analysis of the Mistletoe

Potassium, Phosphorous, Magnesium	Increased as against the host
Silicea and Sulphur	Diminished as against the host
Calcium	More abundant than in other plants
Chlorides and Iron	Less than in other plants

The types of iscador preparations are classified according to the host tree of the mistletoe used in their preparations; and these bear relations to the localization of cancer in the human body. Four types of Iscador are available:

1. Iscador M– from *Viscum Mali* (mistletoe from apple trees)
2. Iscador P– from *Viscum Pini* (mistletoe from pine trees)
3. Iscador Qu – from *Viscum Quercus* (mistletoe from oaks)
4. Iscador U– from *Viscum Ulmi* (mistletoe from elm trees)

To enhance the action on specific organs, Iscador is also available with added metal salts: The metal salts are added to the Iscador concentrate (equivalent to 100 mg of fresh plant extract) in the quantities as given in the table:

Table 6.2: Quantity of metal salts in Iscador Concentrate

Iscador	**Metal Salts**

M c. Arg Qu c. Arg	10^{-8} g of silver carbonate ($Ag_2 CO_3$)
M c. Cu Qu c. Cu	10^{-8} g of copper carbonate ($CuCO_3$)
M c. Hg Qu c. Hg P c. Hg U c. Hg	10^{-8} g of mercury sulphate ($Hg SO_4$)

Types of Iscador

1. Iscador M c. Arg
2. Iscador M c. Cu
3. Iscador M c. Hg
4. Iscador P c. Hg
5. Iscador Qu c. Arg
6. Iscador Qu c. Cu
7. Iscador Qu c. Hg
8. Iscador U c. Hg

These iscador injections are available in variable series (Series 0, Series I, Series II, and Series III) and in different concentration.

Mode of Action of Iscador

The effects of Iscador preparations are as follows:

1. Improvement in general condition.
2. Reduction in pain.
3. Slowing down or cessation of tumour growth.
4. Reduced tendency to develop secondaries.
5. Stimulation of eliminatory functions.
6. Weight gain.
7. Improved sleep and appetite.
8. Depression and tiredness disappear.
9. Occasional regression of tumours.

Iscador preparation acts at many levels, due to both cytostatic and immuno-modulatory actions. Iscador therapy is thus indicated in cases of:

1. malignant and benign neoplasms,
2. neoplasias and concomitant disorders in organs of haemopoietic system,
3. prophylaxis against recurrences,
4. specific pre-cancerous conditions, and
5. stimulation of bone marrow function.

Contra-indications of Iscador

1. Known allergies to Mistletoe preparations.
2. Acute inflammatory or highly febrile conditions.
3. Primary intra-cranial and intra-spinal tumours or intra-cranial metastasis with risk of increasing intra-cranial pressure.
4. Pregnancy.

Side effects of Iscador

1. **Inflammatory reaction in subcutaneous injection site:** Redness and swelling may occur as a circumscribed local reaction, particularly in the early stages of Iscador therapy. Such reactions are completely harmless; they merely indicate that the patient is responding to the given dose. They will subside if cool compresses with *Calendula* lotion, tincture for external use; *Arnica* lotion or *Mercurialis perennis* 10%, ointment, are applied.
   If the diameter of a local reaction exceeds 5 cm, it is advisable to wait with the next injection until the signs of inflammation have disappeared and to reduce the dose of the next injection.
2. **Rise in body temperature:** A slight increase in the body temperature during a course of Iscador treatment is a positive sign. Antipyretics should not be used to suppress this reaction. If the body temperature rises above 38° C, discontinue treatment until it has gone below the level.
3. **Allergic reactions:** Systemic allergic reactions may occur on rare occasions. It is important to differentiate these from excessive local reactions at the injection site, which are generally harmless. In the

above-mentioned case, discontinue with the iscador and give medical treatment for allergic reaction (angioneurotic oedema, urticaria, dyspnoea, and drop in blood pressure).
If the reactions are dose dependent and pseudo-allergic, continue treatment, reducing the dose, once the symptoms have disappeared. If there is a definite allergy to mistletoe constituents, desensitisation will be required before continuing treatment.

4. **Desensitisation:** Inject 0.1 ml of the 0.01 mg concentration of the type of Iscador, which produced the reaction. Increase the dose by 0.1 ml daily until the total amount is 1 ml. Care must be taken that the injection is definitely intra-cutaneous.

Compatibility with other Medicaments

Iscador therapy can be given during chemotherapy, hormone treatment, and radiotherapy. Interactions with other medicaments have not been reported. Iscador injection must not be mixed with other preparations.

Posology for Injectable Preparations of Iscador

Treatment is in two distinct phases, Induction phase and Maintenance phase.

1. **Induction phase -** The induction phase is required to assess the patient's reactions to Iscador and prevent unduly powerful initial reactions. Start with the 0.01 mg concentration, increasing the dose slowly until the dose of individual reaction is reached. A simple method is to start with Series 0 and follow this with Series I, continuing as far as Series III, if required. Series 0 is designed mainly for induction and therefore not available with added metal salts. From Series I onwards it is possible to change to a type of Iscador with added metal salt. The dose of individual reaction may be recognised by at least one of the following:
    a. ***Objective and subjective improvement in general condition***: This may take the form of improved appetite and weight gain, better sleep, reduction in pain, patient feeling less tired, lightening of depressive mood, and stimulation of eliminatory processes.
    b. ***Slowing down or cessation of tumour growth***: Both may be observed in patients with inoperable primary tumours or secondaries (palpitation, ultrasound, computer tomography, etc.). In all other

cases immunological parameters, tumour markers, and monitoring of temperatures provide the relevant information.

c. ***Improvement in immunological status***: Highly normal leukocyte and/or lymphocyte counts are desirable. Eosinophilia with absence of allergic symptomatology is commonly seen.
d. ***Temperature reaction***: It may vary as:
    i. Temperature rises once, a few hours after the injection
    ii. Physiological difference between morning and evening temperatures of at least 0.5℃
    iii. Rise in mean diurnal temperature.

Rules for induction phase:

a. Always start with Series 0.
b. Increase the dose to Series I or possibly Series III, depending on reaction. If Series III is used, careful monitoring is essential.
c. With marked local reaction and/or temperature reactions above 38°C, a treatment free interval of at least 3 days is required, after which treatment is resumed with the next lower series.

2. **Maintenance phase:** The regimen in the maintenance phase generally depends on the patient's condition, tumour stage, and evolution of the disease. The maintenance phase has been reached when one of the above mentioned reactions occur. It is advisable to continue with the Iscador series in which the reaction dose is the highest. If there have been no observable reactions during the induction phase and changing to another type of Iscador also gives no result, the following method may be used:
    a. As complementary therapy or post-operatively if no solid tumour presents: long term medication with Series I.
    b. Manifest tumours and no reaction to Series I.
    c. Long term medication with Series II.

Rules for the maintenance phase:

a. Monitor progress on a regular basis.
b. If Iscador has no effect, establish new dosage.
c. Intensify treatment at all times of intensified mental or physical stress, particularly with virus diseases.

Frequency of Injections and Treatment Intervals

As a rule, Iscador injections are given 3 times a week in both phases. A 2-week interval follows every 14 injections. With manifest tumours, 10 series (of ampoules) a year should, however, be the minimum; in all other cases, a minimum of 7 series a year is recommended. In some situations, it may be advisable to give daily injections and have no intervals, e.g. in advanced stages if the patient feels clearly worse on days when no injection is given.

Integrative Medicine

After studying the standard conventional treatment methods in the previous chapter, we see that these do not suffice for the management of cancer. The treatment approaches like surgery, radiation therapy, chemotherapy targeted drugs, hormonal treatment, etc. do not take into account the person as a whole and the aspects of lifestyle, so there are variable outcomes, both positive and negative. However there are new healing-oriented techniques which when used along with the conventional cancer treatments, result in a much better outcome. Integrative medicine emphasises the therapeutic relationship between practitioner and patient, is informed by evidence, and makes use of all appropriate therapies. Integrating the different approaches before, during, and after conventional treatments brings the humane aspect of the treatment.

Around seventy percent of cancer patients are not satisfied with the three choices offered by conventional medicine - surgery, radiation, and chemotherapy and an increasing number of people are choosing a more integrative treatment approach and exploring the alternatives. Complementary and alternative medicine (CAM) is the term for the alternative approaches of treatment. In a survey, it was found that CAM use among newly diagnosed cancer patients receiving chemotherapy and radiation, was as much as ninety one percent, i.e. almost every patient had been using at least one of the CAM therapy; however, just fifty seven percent of those surveyed discussed their CAM therapy use with their oncologist. This suggests that that the patients are not comfortable in disclosing the additional therapies they are using to their doctors as they might not be supportive of an integrative approach. In another study conducted by the University of Pennsylvania in 2006, thirty six percent of recently diagnosed female cancer patients reported satisfaction with complementary and alternative medicine as a cost-effective approach. In 2004, the *Journal of Clinical Oncology* reported that eighty eight percent of 102 cancer patients at

the Mayo Comprehensive Cancer Center used at least one CAM therapy. Ninety three percent of those using CAM used dietary supplements, fifty three percent used other CAM therapies such as prayer or chiropractic, and nearly forty seven percent used both supplements and other therapies.

The three terms – alternative medicine, complementary medicine, and integrative medicine are used quite often; however, alternative medicine is the one that is used in place of conventional medicine; complementary medicine is used along with conventional medicine; and integrative medicine is a combination of effective CAM therapies and conventional medicine.

The United State's organisation, National Centre for Complementary and Alternative Medicine (NCCAM) has identified five CAM domains and four primary CAM systems of healing. The domains, or categories of therapies, are as follows:

1. Biologically based practices (which focus on the use of herbs, supplements and foods).
2. Mind-body medicine (including support groups, prayer, and meditation).
3. Manipulative and body-based approaches (massage, chiropractic, and the like).
4. Energy medicine (such as qigong, Reiki, and use of magnets).
5. Alternative medical systems (complete systems of theory and practice).

NCCAM breaks down the fifth domain, alternative medical systems, into four primary systems of healing:

1. Ayurvedic medicine
2. Homoeopathy
3. Naturopathy
4. Traditional Chinese Medicine (TCM)

All these therapies together are the options available for the patients to use along with their conventional treatment that will harmonise the cancer treatment, help in dealing with the side effects of cancer treatment and also strengthen the body's natural healing ability.

Choice of CAM Therapies

After knowing about the dreaded disease of cancer, the patients usually

become uncertain in many aspects like doubt regarding their diagnosis, trusting their doctor's opinion or whether to get opinion from other doctors, the effectiveness of conventional treatment options offered to them, and the safety of so many integrative therapies to choose from, etc. Cancer treatment is riddled with ambiguity and oncology is one of the most emotionally and intellectually challenging specialties in medicine. Doctors often have to deal with patients who are unsure whether to follow their advice loyally or to seek second opinion. Oncologists seldom have definitive answers to the patient and their families' questions; they just do their best to provide the information which is needed to make informed decisions.

Majority of my patients following a cancer diagnosis, are compelled to go with conventional treatment over alternative therapies or vice versa. Sometimes conventional treatment is opted, but frustration ensues, and they switch to an alternative approach; or sometimes after progression of cancer to advanced stages, or when debilitating side effects result. The reverse is also true; an alternative approach is chosen as soon as the diagnosis of cancer is made and when the cancer has progressed, conventional treatment is sought for. I usually advocate using an integrative approach from the very start.

While one cannot definitively guarantee the safety of all complementary therapies, I can say that the mind-body techniques are safe and should be tried according to the will and capability of the patient, like meditation, psychological counselling, stress management, relaxation techniques, journaling, etc. In addition, complementary therapies like homoeopathy, acupuncture, constitutional medicine, bio-feedback, and naturopathic medicines are all safe when sought from a qualified practitioner. Plant based herbal and dietary supplements are useful, safe and effective when used appropriately under the guidance of qualified licensed practitioners. Regarding exercise, the doctor should be asked for any limitations depending on the individual case, otherwise, it is also considered relatively safe.

The next dilemma in the minds of patients is which therapy to choose from conventional and alternative approaches. Integrative medicine combines these treatment approaches, and the patient can either go for both conventional and complimentary treatment, or even alternate between the two.

To a certain extent, being doubtful of both conventional and alternative treatment options is understandable and even it should be there, especially

with the advent of unreliable sources of information like internet, being the most common these days. In this case, opinion must be sought from the experts of the respective field. There is an immense amount of useful information available online, one such source is PubMed, which is an open access online library of peer-reviewed and scientifically credible medical journals which has numerous articles that provide helpful and trustworthy information expressed in technical terms. The other reliable sources are the official websites of integrative cancer centres, non-profit organisations, health related government departments, etc. However, the false claims regarding ‘alternative cancer cures’ made by other sources that have commercial objectives, are a great disservice to people with cancer. Such claims are derogatory for the integrative medicine and further create doubt in the minds of patients for the actual reliable approaches which can prove to be beneficial and safe for them.

Integrative Therapies for Cancer

Cancer is a complex disease; by supporting all the aspects of the patient’s health and well-being, the success in its treatment can be enhanced. The best way to truly heal cancer is to use a comprehensive, multidimensional, mind-body-spirit approach. If a patient is helped by a specific integrative therapy which is also safe to use, it is likely that it will enhance the patient’s ability to heal and improve his quality of life. However, the patients should abstain from ‘hear-say’ information and consult a qualified practitioner who specialises in the therapy that is intended for use. No medications or treatments should be discontinued without first discussing the options with the treating doctor. It is therefore essential for the doctors who are well aware of the toxic effects of the conventional therapies, to be aware of usefulness and reliability of the different options available and be supportive if the patient expresses his intention for integrative approach. The complementary therapies can play an important role in healing and sustaining the critical body functions before, during or after conventional therapy. The integrative therapies are continually being studied using conventional research methods and are supported by significant clinical evidence.

A few of the integrative therapies most commonly used by cancer patients are described below.

1. **Homoeopathy:** Homoeopathy, as we know, is a form of medicine which uses highly diluted natural substances to bring the body back into balance. The role of homoeopathy for prevention of cancer as well as before, during and after cancer treatment has been discussed in detail in the other chapters of this book.
2. **Acupuncture:** Acupuncture originated as a therapeutic modality in traditional Chinese medicine whose theoretical foundation can be traced back to Neijing, compiled between 305BC and 204 BC. Classical acupuncture involves the insertion of needles at selected 'acupoints' to a defined depth, followed by manipulation with physical forces, heat, or more recently, electrical stimuli. According to traditional Chinese medicine, vital energy 'chi' or ('qi' in Chinese) flows throughout the body along meridian pathways. Interruption or obstruction of qi is believed to make one vulnerable to illness. The insertion of needles at specific meridian acupoints regulates the flow of qi, thus producing therapeutic benefit. Recent neuroscience research suggests that acupuncture may provide clinical effects by modulating the nervous system. Acupuncture has been demonstrated to be useful in cancer patients for pain relief, nausea, fatigue, etc.
3. **Constitution-based Medicines:** Constitutional medicines are used in Ayurveda, Traditional Chinese medicine, Homoeopathy, and Tibetan medicine. In all these systems of medicine, every patient's constitution is determined based on their strengths, temperaments, susceptibilities, metabolic status, or predispositions. The focus of constitutional medicine is on helping the person achieve and maintain balance in accordance with their individual constitutional type. The resulting internal harmony produced by constitutional medicine results in improved physical, emotional, and spiritual health and also the quality of life.
4. **Reiki:** Reiki is a 2500 year old treatment, described as a vibrational or subtle energy therapy which gently encourages balance on all levels by reducing stress, pain and anxiety; restoring a sense of well-being; enhancing the body's innate ability to heal. It is most commonly facilitated by light touch on or above the body. Reiki is thought to work by means of a cascade of healing pulsations that flow spontaneously through the practitioner according to the need of the person receiving the treatment.

5. **Movement Therapy:** Physical activity like aerobic and anaerobic exercise, yoga, tai chi, and dance are all considered movement therapies. Exercise is a powerful health intervention that promotes health and prevents illness. Exercise is particularly important for people with cancer, in order to improve tolerance to treatment, reduce fatigue, and maintain lean body mass. Movement enables cancer patients to accept and reconnect with their bodies, build new self-confidence, enhance self-expression, address feelings of isolation, depression, anger, fear and distrust and strengthen personal resources. It has also been used to improve range of arm motion and to reduce arm circumference after mastectomy or lumpectomy.
6. **Psychotherapy:** Psychotherapeutic intervention addresses the mental and emotional problems using psychological methods such as counselling. It may be used in cancer patients individually or as group therapy. Psychotherapy can be used to help alleviate illness-related anxiety, which can be a particular problem with cancer because of the uncertainties the disease presents.
7. **Positive Self-talk and Guided Imagery:** Positive self-talk is a cognitive psychological technique used to stop negative cognitions that can cause anxiety, depression, and pessimism, and that can interfere with functioning and performance. This intervention has been successfully administered in health care settings, teaching children to enhance coping with painful medical procedures, helping adults to increase adherence to rehabilitation programs, and reducing symptoms when given as part of group therapy for breast cancer patients. Preliminary research indicates that giving positive messages or practicing techniques such as guided imagery positively impact one's health. Guided imagery could reduce the unpleasant side effects of cancer and its treatment like nausea, fatigue, anxiety, pain, stress, depression, fear of medical procedures, and that it could improve coping ability, quality of life, energy, hopefulness, confidence and motivation.
8. **Biofeedback:** Biofeedback is the process of gaining greater awareness of many physiological functions such as breathing, heart rate, and blood pressure, primarily using instruments that provide feedback on the activity of the neuromuscular system, the respiratory system and the cardiovascular system, with a goal of being able to manipulate them consciously. Biofeedback is helpful for headaches, improving breathing,

stress reduction, anxiety reduction, and relieving pain associated with cancer or conventional cancer treatment.

9. **Creative Arts Therapy:** Creative endeavours like music, art, dance, writing, etc. promote physical and emotional health by enhancing a positive connection between mind and body. In addition, creativity stimulates immune activity and helps in stress reduction. Research has shown that the patients engaged in creative arts therapy report less depression, anxiety and pain than those who didn't.
10. **Meditation:** This mind and body technique is designed to produce a calm, relaxed, non-reactive state of mind. Regular meditation can give clarity, insight, and peace of mind, which may improve your wellbeing and health. It is a state of greater awareness and clarity and anchors the person in the present moment. It can also help alleviate anxiety, stress, pain, sleep disorders, fatigue, hypertension, etc. in cancer patients.
    There are various methods of meditation, like focused meditation, or mindfulness meditation. In focused technique, there is an object to be concentrated upon like one's own breath, an image or a mantra which stills the mind. Mindfulness meditation involves deviating attention from the internal thoughts and simply receiving whatever exists in the environment without judgment.
11. **Naturopathic Medicine:** Natural therapies utilised in naturopathic medicine treat the whole person, stimulate the innate healing processes and help to prevent and treat acute and chronic illnesses. Naturopathic medicine is used both as their primary health care and as complementary health care, particularly in the case of integrative cancer care.
12. **Hydrotherapy:** The use of water or hydrotherapy, for health promotion or treatment of various diseases has been in use ancient times. In this, water is used externally or internally in any of its forms - various temperatures, pressure, duration, and site. It is one of the naturopathic treatment modality used widely in ancient cultures including India, Egypt, China, etc. for maintaining and restoring health. Hot water stimulates the immune system and aids in detoxification of the body by releasing heat and water-soluble toxins via sweat. Cold water is used therapeutically to relieve inflammation. Hydrotherapy has been found useful for pain and stress relief in cancer patients.
13. **Detoxification:** Detoxification has been used since thousands of years. It is based on the principle that the accumulation of toxins greatly

contributes to cellular damage and disease occurrence, and thus the elimination of toxins has the ability to prevent and even cure disease. Detoxification therapies help in eliminating or neutralising the toxic substances that participate in or initiate carcinogenesis.

14. **Hyperthermia or Heat Therapy:** It involves carefully controlled use of heat for medical purposes. The artificial heat is used to raise the body temperature which alleviates infection, inflammation, or other health conditions. Body temperature above 98.6°F stimulates the release of pyrogens from bacteria, which, in turn, mobilise immune cells. This therapy may be given as local, regional or whole-body hyperthermia, depending on the extent of the area being treated. By killing cancer cells and damaging proteins and structures within cells, hyperthermia may shrink tumours, but it is to be used with caution in cancer patients.
15. **Hyperbaric Oxygen Therapy:** Hypoxia is a critical hallmark of solid tumours and involves enhanced cell survival, angiogenesis, glycolytic metabolism, and metastasis. Hyperbaric oxygen therapy has been used for centuries for curing disorders involving hypoxia and ischemia, by enhancing the amount of dissolved oxygen in the plasma and thereby increasing O_2 delivery to the tissue. This therapy involves pumping pressurised pure oxygen into a sealed chamber and having the patient breathe the concentrated oxygen for 30 to 120 minutes. In cancer care, hyperbaric oxygen therapy is used to stimulate healing of wounds that are not healing properly, typically following surgery. Research studies have also shown that this therapy can be inhibitory and reduce cancer growth in some cancer types.
16. **Diet and Nutrition Therapy:** Good nutrition is very important for cancer patients. Nutrition therapy is used to help cancer patients keep a healthy body weight, maintain strength, keep body tissue healthy, and decrease side effects both during and after treatment. The healing power of food has been born out in numerous scientific studies. Encouraging more of healing foods and a health promoting nutrition plan is the goal of diet and nutrition therapy. For example, Calcium D-glucarate can influence hormones. This is found in some fruits and vegetables and acts as a supplement, and polysaccharides found in certain mushrooms and mushroom products. Calcium D-glucarate influences the breakdown process of oestrogen and creates less active (less oestrogenic) metabolites. The polysaccharides from white button mushrooms are

natural aromatase inhibitors. B vitamins may also play a key role in complementary cancer treatment.

17. **Phytotherapy:** Herbal medicine has been used throughout history to promote health and prevent or cure illness. The pharmacological agents used in conventional chemotherapy come with a lot of side effects, so natural compounds are becoming good sources for the development of new remedies for different diseases. Experimentally, several medicinal plants and herbal ingredients have been reported to have anti-cancer effects. Many pharmaceutical drugs originate from medicinal herbs. Different plant remedies can have mild effects or pronounced activity depending on the herbs used, whether they're used alone or in combination, and the form in which they're used. In fact, many over-the-counter and prescription drugs were inspired by or are derived from plants and other natural substances. Bark from the white willow (*Salix alba*) is the original source of aspirin, which is now produced synthetically. Digoxin, a heart medication, is derived from foxglove (*Digitalis purpurea*). Many chemotherapy drugs were originally isolated from plants or derived from natural compounds: vincristine and vinblastine were developed from compounds found in periwinkle (*Cantharanthus roseus*); paclitaxel is derived from the Pacific yew tree (*Taxus brevifolia*); and irinotecan is derived from camptothecin, a compound from *Camptotheca acuminata*, a Chinese tree known as *xi shu*.
18. **Dietary Supplements:** The purpose of supplements is to enhance the nutrient intake and stimulate the natural physiological mechanisms of the body to promote health and healing. Supplements consist of individual or combination of vitamins, minerals, herbal extracts, or other nutrients. They can complement conventional cancer therapies, alleviate side effects of treatment, and even assist in treating cancer. For example, antioxidants found in the natural substances are powerful adjuvants to cancer treatment; they help in reducing the side effects of conventional therapies. The other supplements useful for every type of cancer have been discussed under each cancer type.

Role of Integrative Medicine

Integrative medicine begins with prevention and continues into treatment and

then restoration of health. Integrative medicine has role to play at every step of cancer treatment such as during the conventional therapy, before and after surgery, during chemotherapy and radiation treatments, the phase of side effects after conventional therapy and for lowering the risk of cancer recurrence and secondary cancers in the long run. The role of integrative medicine in each of these stages is described below.

During Conventional Therapy

Once the conventional treatment is opted for cancer, I highly recommend the patients to augment that treatment with a variety of complementary strategies, including homoeopathy, dietary changes, lifestyle modifications, and appropriate supplements. These strategies can help in reducing or relieving the distressing adverse effects of conventional treatments, enhancing the patients' quality of life during and after treatment, and may even enhance the effectiveness of the treatment. The application of dietary and lifestyle recommendations always enhances the healing from cancer. Nutritional supplements and homoeopathic drugs are also indicated in almost all cases. For example, researchers at Tufts University found that antioxidant nutrients found in fruits and vegetables improve tolerance to and recovery from chemotherapy and radiation. Also, vitamins E and C have been shown to relieve adverse side effects associated with free radical damage to normal cells in cancer therapy. Conventional doctors should be well aware of integrative medicine approaches like homoeopathy and dietary supplements so that they can offer support and useful opinions to their patients while administering their conventional interventions. It has been estimated that nearly 60 percent of the patients using complementary and alternative therapies for their cancer care do not disclose that use to their conventional doctors. In contrast the treating doctors should be able to clarify the misconceptions regarding integrative therapies like homoeopathy for example, that are either completely harmless can be taken without consulting the qualified practitioner for every case; or they are essentially harmful and will interfere with conventional therapies, and therefore must be avoided at all costs. If the doctors do not support the integrative interventions sought by the patient, the patient may want to consider an integrative oncology hospital or clinic, or another oncologist who embraces a more holistic treatment plan. In my experience, the following centres across the world are worth visiting,

(1) Sydney Adventist Hospital, Australia; (2) Lukas Klinik, Switzerland; (3) Clinica Santa Croce, Switzerland; (4) Rudolf Steiner Health Center, United States. To be fair, it must also be said that some alternative health care providers are guilty of similar prejudices, dismissing conventional medicine with one fell swoop. They cannot fathom why anyone would want to subject themselves to what is often referred to as ‘cut, poison, and burn’ (surgery, chemotherapy, and radiation). They’re more likely to dismiss these forms of treatment if they don’t understand the value of these therapies and the important role they can play in improving quality of life and extending survival. Extreme views on either side, conventional or alternative, are not in the best interest of the patient.

Pre and Post-operative Support

Surgery in cancer patients ranges from the minor ones done for biopsy sampling or extensive surgeries for removal of malignant tissues. In order to promote repair and healing after surgery, the body can be supported by the integrative approach interventions.

1. For successful wound healing, inflammation has to be controlled and infection be dealt with. This can be done by being well rested prior to surgery, taking homoeopathic drugs, eating health-promoting foods, avoiding inflammatory foods and substances such as alcohol, tobacco, simple sugars, and processed foods.
2. Bromelain, a protein digesting enzyme derived from pineapple, reduces inflammation that can otherwise delay wound healing.
3. Flavonoids, such as proanthocyanidins derived from berries, also reduce inflammation and increase the strength of connective tissue.
4. To reduce the risk of bleeding during surgery, intake of vitamin E should be stopped so two weeks prior to surgery.
5. Use of blood thinning herbs such as garlic, ginkgo, red clover, and Panax ginseng should be discontinued one week prior to surgery.
6. Herbs that may interfere with anaesthesia should be discontinued at least three days prior to surgery; these include valerian, kava, echinacea, garlic, silymarin (milk thistle), and St. John’s wort.
7. Homoeopathic *Arnica montana* is an effective way to reduce the trauma associated with surgery. It can be taken both prior to surgery and for a

couple of weeks after the surgery to reduce inflammation, bruising, and pain associated with surgery. It won't interfere with any other medications, and because it can be dissolved in the mouth, it is an ideal post-surgical supplement and may be used even before foods or liquids are allowed.

8. Probiotic supplements should be taken to restore the beneficial bacteria destroyed due to antibiotics. Probiotics can be taken at any time, but may have the best effect when taken prior to, or in between meals. One can also restore beneficial bacteria by eating foods that contain live cultures, such as yogurt, miso, and fresh sauerkraut.
9. For supporting the connective tissue with nutrients that encourage healing, can hasten surgical recovery. Vitamin C and zinc are required to help knit the collagen matrix of connective tissue together.
10. Meditation, guided imagery and positive visualisations, or acupuncture before and after surgery can also assist in recovery.

During Chemotherapy

An integrative approach can help in reducing the side effects of chemotherapy, whether minor or severe.

1. Antioxidants not only help in reducing the side effects, they can also slow or halt cancer growth and enhance the tumour killing actions of conventional drugs. At high doses, most antioxidants stimulate apoptosis of malignant cells sparing the normal cells. However, eating antioxidant-rich food is certainly healthy and can even help prevent cancer, the relatively low 'doses' from dietary intake is not very effective as anti-tumour agents. High doses of a combination of antioxidant supplements is likely to be most beneficial in conjunction with chemotherapy as cancer-killing agents, as single antioxidant supplements tend to protect cancer cells instead of triggering their death.
2. Chemotherapy-induced anaemia is often not caused by low iron levels. Supplemental iron is very effective for iron deficiency anaemia, but not for chemotherapy-induced anaemia; instead it may be harmful; too much iron can promote tumour growth and can worsen chemotherapy side effects. Supplemental iron is only recommended when iron deficiency has been confirmed by blood tests.

During Radiation Therapy

Around half of all cancer patients receive radiation therapy; it is believed that radiation is most effective against the actively dividing malignant cells which will either be destroyed or cell division will be halted.

1. Because retinoic acid, a derivative of vitamin A, inhibits the repair of radiation damaged cancer cells, sufficient levels of retinoic acid can enhance the effectiveness of radiation therapy.
2. Similarly, flavonoids such as genistein, apigenin, and quercetin may enhance radiation-induced cell death by decreasing the repair of DNA with radiation damage.
3. The herb astragalus (*Astragalus membranaceus*) has been shown to increase leucocytes and enhance their activity; it has recently been used to treat leukopenia due to bone-marrow depression after chemotherapy or radiation therapy.
4. Vitamin A, L-glutamine and honey, have been shown to help reduce the side effects of radiation therapy such as fatigue and loss of appetite. As with chemotherapy, radiation can cause secondary cancers.
5. Melatonin improved survival and quality of life in individuals with glioblastoma under radiation therapy.
6. Topically, a cream with *Calendula officinalis* (marigold) or Quartz 1% can help soothe the skin side effects of radiation and assist healing. Vitamin E cream may also help in the same way.

Management of Post Treatment Side Effects

Cancer and its conventional treatments typically cause radical changes in patient's life. After the conventional treatment sessions are over, the patients are overwhelmed by the emotions associated with cancer such as fear, anger, depression, anxiety, frustration, gratitude, excitement, and confusion. In addition, there is physical exhaustion as well. The patients need to be supported during this crucial time when they have to decide upon the further approach to their disease, while making meaningful use of their time and also while dealing with the side effects. The chart below lists a number of safe and effective natural strategies for managing common side effects of chemotherapy and other anti-cancer drugs.

Table 7.1: Natural and safe approach to combat chemotherapy side effects

Side effect	Natural strategies
Nausea	Ginger—freshly diced ginger root tea, candied ginger, or ginger ale made from real ginger (all-natural brands). Acupuncture—ideally the day before and after each chemotherapy treatment. Yarrow tea. Homoeopathic remedies.
Fatigue	Coenzyme Q10. Pyrroloquinoline quinone. Multivitamins. Rest as needed. Exercise to tolerance; goal is at least 30 minutes' daily. L-carnitine.
Numbness and tingling in hands and feet (peripheral 5 neuropathy)	Vitamin E. Vitamin B6. Acetyl-L-carnitine. Ginkgo biloba, R-Lipoic Acid.
Taste changes	Zinc. Bland tasting food (oatmeal, potato, egg, yoghurt, etc.).
Mouth sores	Honey, Aloe vera. L-glutamine - swish and swallow. Vitamin E- open the soft gel on to mouth sores. Zinc. Chamomile tea - swish and swallow.
Lack of appetite	Zinc. Fish or Krill oil (omega 3 fatty acids).
Insomnia	Melatonin. Chamomile tea after dinner. 5-hydroxy tryptophan.
Constipation	Probiotics. Slippery elm gruel.

	Flax seed meal. Chia seeds, Water. Coffee or black tea – in the morning. Homoeopathic remedies.
Diarrhoea	Probiotics. Activated charcoal. Homoeopathic remedies.
Heart burn	Deglycerrhizinated licorice chewable tablets, Gastro-Pro capsules. Calcium chewable tablets. D-limonin.
Headache	Vitamin B2 (riboflavin). Electrolyte replacement drink. Magnesium, Petadolex. Cold neck compress and hot foot soak for 20 minutes during headache.
Hot flashes	Di-phenylatanine. Black cohosh, GyneAndroPlex. Vitamin-E. Hesperidin.
Nail changes	Jojoba oil – apply on nails daily.
Excessive watery eyes and tearing	Vitamin – A (Puncture gel and apply softly on eyelids and corner of eyes).
Skin irritation	Apply one of the following immediately after radiation. Calendula ointment, Chamomile ointment. Jojoba oil. Emu oil. Fresh aloe vera plant gel.

Preventing Recurrence and Secondary Cancers

After conventional therapy has effectively destroyed cancer, a healthy body and immune system provides active surveillance and destruction of malignant cell re-growth. An important part of post treatment healing program is to support optimal health and to employ specific cancer prevention strategies.

1. Optimal health rests upon a foundation of healthy eating, adequate exercise, sufficient sleep, and meaningful and joyful living.
2. Our bodies are meant to move. The research on the importance of exercise in preventing cancer and its recurrence is substantial. At minimum, 30 minutes of moderately difficult exercise (brisk walking, jogging, bicycling, swimming, dancing and so on) done every day is associated with a reduced risk of cancer and of dying from cancer. For instance, compared to women who were inactive both before and after a diagnosis of breast cancer, women who increased physical activity after diagnosis had a 45 percent lower risk of death and women who reduced their physical activity after diagnosis had a four-fold greater risk of death. The idea is to change the environment to be the least hospitable to cancer.
3. Sleep is critical to optimal health, for a well-functioning immune system. In fact, several key anti-cancer immune actions are most active during sleep.
4. Stress reduction is also a big part of the anti-cancer plan. Finding ways to manage stress is of utmost importance. Elevated levels of stress-induced chemicals and hormones unravel immunity, cripple cell repair, and increase the susceptibility of our cells to cancer causing DNA damage. While we cannot eliminate all the stress in our lives, we can certainly change the way we perceive stress. Meditation, yoga, tai chi, and hobbies are just a few ways to create more inner calm and less stress. It’s important to make relaxation a part of one’s daily routine.
5. The last component of a cancer prevention plan is an appropriately tailored supplement program. This supplement program should include plant-based antioxidants such as green tea, turmeric, and proanthocyanidins (berries, grape seed oil, or extracts). It may also include other cancer—preventive compounds such as melatonin, soy isoflavones, flaxseed lignans, essential fatty acids, medicinal mushrooms, and vitamins C, E, and D.

Resuming Life after Treatment

Undergoing the conventional cancer treatments is physically as well as mentally challenging for the patients. In order to successfully get back to their life, the patients need additional support for getting recovered fully and

leading a healthy life. Post treatment healing includes detoxification, replenishment of nutrients and psychological support.

Detoxification

Detoxification after the completion of conventional therapy and after a period, nutrient repletion is an important part of overall recovery and healing. Chemotherapy and radiation therapy induce cellular damage, which triggers the immune system to clean up the damaged and destroyed tissues. After completing the conventional chemotherapy and/or radiation, many patients express this ‘toxicity’ as the feeling that they need to ‘detox’ their bodies, which does have a physiological rationale. This toxic feeling is due to the release of large amounts of proinflammatory substances in the body that produce symptoms like arthralgia, muscle pain, headache, fatigue, constipation, and mood changes.

Proper support can speed up the process of detoxification. Ideally, detoxification should be done under the supervision of a qualified doctor with expertise in safe and effective detoxification. For example, doctor may want to request certain evaluations prior to beginning a detoxification program, such as an environmental toxicity assessment, a genetic test (to identify genetic alterations that affect detoxification pathways), a hormone metabolic profile, and/ or an assay of inflammatory markers in the blood. This information helps to formulate an individually tailored detoxification plan. While individually tailored detoxification is advantageous, a more generic detoxification is also most certainly beneficial. Typically, detoxification should not be started until at least a month after the completion of treatment. If there is any residual ongoing treatment such as hormonal therapies, detoxification requires close monitoring by a qualified doctor to make sure that there is no adverse effect on the ongoing therapy.

In general, effective detoxification can be achieved by simple measures like having a plant-based whole food diet while avoiding processed foods, refined sugar, and alcohol. Normal physiological eliminations should be enhanced by maintaining regular bowel eliminations and sweating induced by regular exercise. There should be adequate and quality sleep for at least seven to eight hours every night. Regular intake of green tea supports the enzymes involved in the metabolism of toxins and also facilitates elimination of fat-

soluble toxins through bowel.

Restoration of Depleted Nutrients

Certain nutrients which are required for cellular renewal and immunity are significantly depleted due to the effects of chemotherapy, radiation, and other conventional treatments. Therefore, it is pertinent to replenish these nutrients and restore homeostasis in physiological processes. Subsequent to the damaging effects of conventional treatment, there is overt or functional deficiency of vitamins, particularly folic acid, thiamine, and riboflavin; minerals like magnesium and zinc; antioxidants like vitamin C, vitamin E, and selenium. So, a nutrient dense diet and high quality multivitamin and multi-mineral supplements are crucial for replenishing these important immune enhancing nutrients. A nutrient dense diet consisting of organic fruits, vegetables, whole grains, nuts, seeds, vegetable oils, legumes, and lean meats is advocated. In addition, in order to effectively utilise these nutrients, adequate sleep is also required during the recovery phase.

Psychological Support

Patients' lives change significantly after facing cancer and its treatment. This results in several emotional and social issues that come up and should be dealt with effectively, these are anxiety and depressive states due to the feeling of loss of control, fear of recurrence, the financial challenges, relationship and intimacy issues, career disruptions, etc. These issues need to be addressed for a holistic healing. There are several interventions that can be successfully employed to deal with these issues such as psychotherapy, support therapy, group support, vacations, reprioritisation of values, radical life changes, and lifestyle changes to include daily healing activities.

Cancer is a formidable illness and its treatments are among the most taxing in all of medicine. Surviving cancer and its treatments is no small feat. Emerging from this experience is something that every survivor should feel both proud about and grateful for. Viewing this as an enriching experience which bring along an added clarity of purpose and wonderment allows the patient to accept cancer as a difficult teacher whose lessons are valuable and unique for each patient. Such a realisation and insights of their experience

turns the survivors into thrivers; that thrive on the feast of life, cherishing each and every morsel.

Some useful Herbs, Biological Response Modifiers, and Non-toxic Pharmacological agents

Numerous herbs can be used to intervene therapeutically at various stages of the development of cancer. The biological response modifiers (BRMs) are substances derived from both plants and animals that have biological activity in the human body. Many of these have also been called phytochemicals, which means “chemicals made by plants.” Some BRMs stimulate immune function directly, while others modulate the activities of hormones, enzymes and other biological components that can alter the course of cancer.

Algae (Chlorella, Sea Vegetables, and Green Concentrates)

Algae are simple microscopic organisms that grow in masses in water and contain an abundance of nutrients.

1. **Chlorella:** In Japan, *Chlorella pyrenoidosa*, a fresh water, single-celled green algae, is more popular as a regular supplement than vitamin C. Chlorella contains 60% protein, including all the essential amino acids, and high levels of vitamin A, and chlorophyll. New research from Japan suggests that chlorella’s secret might lie in its albumin. Albumin, continually secreted by the liver, is the most abundant protein found in the blood and it acts as a natural antioxidant, contributing an estimated 80% of all neutralising activity against free radicals.
   Studies have confirmed that levels of albumin are extremely accurate indicators of overall health status and that low albumin levels exist at the onset of virtually every non-hereditary, degenerative disease, including cancer and heart disease. There is a strong relationship between high blood levels of albumin and a long cell life span.
   A series of studies indicate that chlorella is effective in helping to reduce the symptoms of numerous types of cancer, diabetes, low blood sugar, arthritis, AIDS, pancreatitis, liver cirrhosis, hepatitis, peptic ulcers, infections, anaemia, and multiple sclerosis. Chlorella contains more than

20 different vitamins and minerals and 19 amino acids, including large concentrations of lysine, which is helpful against viruses associated with leukaemia and cervical cancer. Extensive research on the anti-tumour activity of chlorella has shown strong promise for the treatment of leukaemia and breast cancer.

2. **Sea vegetables:** Also known as marine algae or seaweeds, sea vegetables have strong anti-cancer activity. Scientists at McGill University in Canada have found that the most common edible seaweeds, such as kelp and kombu, contain a substance called sodium alginate, which can reduce the amount of radioactive strontium absorbed through the intestine by 50% - 80%. The researchers stated that marine algae may aid in preventing absorption of radioactive products and could possibly be used as a natural decontaminator.
3. **Green concentrates:** Green concentrates typically include combinations of chlorella, wheat and barley grass, spirulina, blue-green algae, and other nutrients. Green grasses such as wheat, barley, alfalfa, and oat provide complete proteins. A green concentrate product called ProGreens, is a dry powder containing 33 nutritional substances. The benefits of the ingredients in ProGreens include immune system support, antioxidant protection, gastrointestinal fortification, energy boosting, and overall nutrient supplementation. Among the four algae in the product, chlorella is known as the “unpoisoner” because it can detoxify the body of heavy metals such as cadmium, lead and uranium radiation. The “probiotic” or friendly bacterial cultures (about five billion organisms from eight dairy-free sources) regulate and balance the intestines. The product also contains natural fibres (flaxseed meal), bioflavonoid extracts (milk thistle, bilberry), herbs (ginseng, echinacea, licorice root) and other high-nutrient foods (lecithin, bee pollen, beet juice powder).

Another product, Green Magic, is a drinkable green superfood containing 16 ingredients. Its benefits include nourishing the body, strengthening the immune system, and detoxifying the blood. In addition to chlorella, spirulina and wheat, barley, and kamut grasses, the product contains coenzyme Q10 (benefits the cardiovascular system and increases cellular energy), superoxide dismutase (neutralises toxins), and Jerusalem artichoke flour (stabilises blood sugar and supports colon health). Green Magic comes in powder form and can be used daily (1-3 tablespoons) as a source of multiple nutrients.

Aloe vera

It is a garden succulent used medicinally for symptom relief and healing of cuts, burns, and skin problems, as well as for infections and constipation. Certain aloe-containing seeds contain a chemical called aloe emodin, which shows significant pharmacologic activity against leukaemia. Recent research shows that aloe juice reduces new tumour mass and the frequency of metastasis at different stages of the cancer's development. Acemannan, water-soluble compound found in aloe, is a potent stimulator of immune function.

Amygdalin / Laetrile (Vitamin B17)

This substance, highly concentrated in the pits of apricots and other fruits, has been found to have strong cancer-fighting potential, particularly with regard to secondary cancers, including a 60% reduction in lung metastasis.

Amygdalin is one of many nitrilosides, which are natural cyanide-containing substances found in numerous foods, including the seeds of the prunasin family (apricots, apples, cherries, plums, and peaches), buckwheat, millet, and casaba melons. Amygdalin consists of two sugar molecules, a benzaldehyde and cyanide radical. In the body, the sugar molecules are split off in the liver and replaced by glucuronic acid, which results in a selective toxicity to cancer cells because the enzyme glucuronidase, which splits off the glucuronic acid, is high in cancer cells and low in normal cells. Prolonged survival among those with advanced inoperable cancers has been observed following intravenous benzaldehyde treatment and anti-tumour responses were seen in patients with various forms of advanced metastatic cancers (lung, liver, stomach, prostate, and bone).

Astragalus

It has the ability to reduce the toxic effects of conventional cancer treatment. Astragalus appears to protect the liver against the toxic effects of chemotherapy and may be effective in treating terminally ill liver cancer patients. In a study conducted, researchers observed a much higher survival rate among advanced liver cancer patients when they were treated with both radiation and astragalus as compared to those treated with radiation alone.

Clinical research in Japan indicates that a ginseng-astragalus combination (GAC) may have a regulatory effect on natural killer (NK) cell function, increasing it if NK activity is low and decreasing it slightly if excessive.

Cat's Claw (Una de Gato, Uncaria tomentosa)

The indigenous peoples of Peru have traditionally used this rain forest vine as a tribal medicine for cancer, arthritis, and other diseases. The name, cat's claw, derives from the fact that the thorns found on this vine resemble the claws of a cat. Studies indicate that the plant, *Uncaria tomentosa*, contains substances that have immune and digestion-enhancing properties. These beneficial constituents include polyphenols, triterpines, and plant steroids, which may account for the anti-oxidant and anti-tumour properties of cat's claw.

Curcumin

It is found in the spice turmeric, has anti-inflammatory properties and has been shown in clinical studies to suppress inflammatory processes that can contribute to cancer development and progression. Recent research involving colon cancer cells associated with abnormal cellular responses to inflammation demonstrated that curcumin helped to stimulate cancer cell death (apoptosis). Other studies have demonstrated that it has anti-inflammatory, anti-angiogenic, and antioxidant effects on the stomach, breast, prostate, and skin cancers. Curcumin is one of the several natural substances which are thought to prevent cancer or delay its growth. Most of the research on natural substances had been on prevention; however, now the nutrients and herbs are being studied to treat cancer, enhance other treatments, or off set side effects of conventional therapy.

Echinacea

This herb has well known immune enhancing abilities. Echinacea has been found to increase NK cell activity by 21% in patients with inoperable metastatic oesophageal or colorectal cancer. Patients with advanced liver cancer showed a 90% increase in their NK activity when echinacea was combined with a thymus-stimulating agent. In addition, a natural chemical

substance in Echinacea, arabinogalactan, stimulates the tumour-killing activity of macrophages. The primary role of Echinacea is to provide protection against infection, a common and sometimes deadly complication in advanced stage cancers.

Flavonoids

This class of phytochemicals is responsible for many of the bright colours in fruits and vegetables, and they are also among the most beneficial substances found in cancer fighting foods. Among the better known flavonoids are citrin, hesperidin, rutin and quercetin; other flavonoids include the proanthocyanins and anthocyanins. Studies indicate that quercetin dramatically inhibits the growth of cancer cells in the stomach. Anthocyanins and other flavonoids extracted from citrus and grape seeds are highly effective “scavengers” of free radicals highly reactive and unstable molecules that promote tumour growth.

Garlic

It has long been appreciated as a folk remedy, scientific research now highlights garlic’s ability to work as a cancer inhibitor and as a valuable adjunct to cancer therapy. Studies have established that the risk of stomach cancer has declined by about 50% among those people with raw garlic intake.

Studies have shown that aged garlic extract appears to stop the growth of cancers of the breast, bladder, skin and colon, and the initial development of malignant tumours of the oesophagus, stomach and lungs. Research involving human cell cultures indicate that garlic may inhibit the proliferation of breast, skin, and nerve cancer cells. Garlic helps reduce anorexia and fatigue, side effects of radiation, and chemotherapy.

Garlic may produce these anti-cancer benefits by speeding up the excretion of chemical carcinogens from the cells, protecting DNA from damage, enhancing the activity of enzymes that detoxify poisons and boosting the immune system. Components of garlic inhibit the initiation and promotion phases of oncogenesis; in addition, garlic seems to strengthen the immune system’s response to tumours. More specifically, garlic extract appears to enhance natural killer cell activity, improve the ratio between

helper/suppressor T cells, stimulate macrophages, and enable lymphocytes to become more cytotoxic (cell killing) against tumours. Garlic can also help prevent metastasis by blocking the adhesion of cancer cells to the surface of blood vessels.

Ginkgo biloba

It is a staple Chinese herbal medicine, recommended for coughs, asthma and acute allergic inflammations. Ginkgolide B, one of the active compounds in ginkgo, apparently works by interfering with a chemical in the body known as PAF (platelet activating factor); PAF may act as a tumour promoting agent by stimulating inflammation and inducing angiogenesis. PAF levels tend to be higher in patients with malignant breast tumours compared to those with benign breast tumours.

A study found that Ginkgo biloba extract (GBE) is a highly effective antioxidant that may greatly curtail the free radical damage that naturally accompanies the anti-cancer activity of macrophages. Other studies have found that GBE can dramatically lessen the damage to normal cells that is typically associated with the chemotherapy drug Adriamycin.

Ginseng (Panax)

Chinese doctors for thousands of years have prescribed ginseng, either in powder or extract form, as a general tonic to promote strength, vitality, appetite, emotional stability, and “wisdom”. Ginseng contains a number of active constituents, including saponins, essential oils, phytosterol, amino acids, peptides, vitamins, and minerals. Ginseng saponins have been shown to stimulate macrophage and NK cell activity, as well as to promote antibody production. Panax ginseng has a wide range of beneficial actions, including anti-aging, immune enhancement, anti-stress and anti-tumour effects, which may be attributed to ginseng’s ability to protest against free radicals.

Grape seed extract / Pycnogenol

Grape seed extract contains various phytochemicals, including a variety of bioflavonoids such as the proanthocyanidins and anthocyanins. Anthocyanins

and other flavonoids are highly effective in curbing free radical damage, which can alter fats circulating in the blood stream and embedded in cell membranes. Many researchers contend that pycnogenols might be the most powerful antioxidants yet discovered. Benefits claimed for grape seed extract have ability to:

1. improve blood and lymph circulation,
2. reduce thickening of the arteries,
3. dramatically improve peripheral circulation,
4. protect central nervous system tissues,
5. block the release of enzymes that produce histamines (the culprit in allergy attacks), and
6. help tone skin and restore flexibility to joints, arteries, capillaries, and other body tissues.

Grape seed extract is now widely prescribed in France and Italy where grapes are abundant, for improving blood flow to the brain and heart, treating varicose veins, bleeding gums, glaucoma, haemorrhoids, excessive menstrual bleeding, and hardening of the arteries.

Green tea

It contains a substance called epigallocatechin gallate, which inhibits the growth of cancers and lowers cholesterol. This is one of a number of chemical compounds known as catechins, which are many times stronger than vitamin E in defending the body against free radicals. The catechins found in green tea supports the immune system’s responsiveness and have demonstrated powerful anti-carcinogenic effects. Studies indicate that green tea consumption can reduce the risk of cancers of the liver and throat. Green tea flavonols (the active bioflavonoids in the tea) may offer substantial cancer protection if consumed on a regular basis.

Studies have shown that EGCG works against cancer in a number of other ways: it can kill cancer cells by stimulating apoptosis, interfere with the liver’s activation of cancer causing substances and reduce angiogenesis in tumour tissue. In addition, EGCG inhibits the enzymes that break down the connective tissue matrix. These enzymes can eat a pathway through connective tissue, allowing cancer to spread to other parts of the body. By

inhibiting these enzymes, EGCG may help prevent the spread of cancer. Finally, green tea has been shown in animal studies to support the tumouricidal activity of the chemotherapy drug adriamyacin, while reducing its toxicity to the heart and liver.

Haelan 851

This liquid soybean concentrate is rich in zinc, selenium, vitamins A, B1, B2, B12, C, D, E and K, as well as a variety of amino acids. The soybeans used to make Haelan 851 are grown in special, mineral rich soils, and harvested at the peak of ripeness to ensure maximal nutrition. A fermentation process then splits the soybean proteins into amino acids, compounds that are rich in nitrogen, by products (through fermentation) of naturally occurring substances called isoflavones, protease inhibitors, saponins, and other compounds.

Haelan has demonstrated effectiveness against gastric cancer, immune dysfunction, and free radical damage. It can greatly improve the patients' physical functioning and quality of life, help resolve "vital energy deficiencies", strengthen the immune system, improve the appetite, and "by means of supporting healthy energy and lowering toxicity" relieve side effects caused by conventional treatments. They can induce apoptosis or programmed cell death, which speeds up the death of unwanted cancer cells. Secondly, genistein is a tyrosine kinase inhibitor. Tyrosine kinase is an enzyme that helps platelets to aggregate or cluster together. Excessive platelet aggregation can lead to clot formation and heart attacks, and help cancer gain a foothold.

Third, genistein inhibits another enzyme known as DNA topoisomerase II, which slows down the synthesis of DNA and cell division. The result is a slowing down of the growth of cancer, whose cells are multiplying too quickly. Fourth, genistein and other isoflavones inhibit angiogenesis or new blood vessel formation. Solid cancers, such as breast, prostate, lung and colon, require new blood vessel formation in order to grow. Without angiogenesis, a cancer will not grow any larger than the size of a pencil point. Fifth, under conditions of excessive sex hormone stimulation, genistein appears to inhibit the availability of the hormones, thus helping women with hormone sensitive breast cancer and men with hormone sensitive prostate

cancer. Sixth, isoflavones appear to induce differentiation of cancer cells, which means they help to move cancer cells back towards normalcy.

HANSI

The name HANSI (Homoeopathic Activator of the Natural Immune System) refers to a series of homoeopathically prepared herbs that have been proven effective in the treatment of cancer and chronic fatigue. Since then, an estimated 1,00,000 cancer patients have used HANSI with good results, indicating most notably, dramatic increase in levels and activity of natural killer cells, central to the immune response to cancer.

The basic product starts with about ten components and then is adjusted according to whether it is to address cancer, chronic fatigue, AIDS, asthma, or other conditions. For example, the basic HANSI contains low potency homoeopathic dilutions of mostly rain forest and desert plants such as *Cactus, Aloe, Arnica, Lycopodium,* and *Lachesis,* etc. HANSI variations include these plus *Colocynthis, Pulmonaria reticulosa, Berberis vulgaris* and *Silicea*. Subsequent studies indicate that HANSI produces a greater tolerance for radiation and chemotherapy.

Hoxsey Herbs

Hoxsey formula comes in a potassium iodide solution and contains the following herbs: red clover (*Trifolium pretense*), buckthorn bark (*Rhamnus purshianus*), burdock root *(Arctium lappa)*, stillingia root *(Stillingia sylvatica)*, barberry bark (*Berberis vulgaris*), chaparral (*Larrea tridentate*), licorice root (*Glycyrrhiza glabra*), cascara amarga (*Picramnia antidesma*), and prickly ash bark (*Zanthoxylum americanum*). The Hoxsey therapy consists of a mix of herbal preparations for internal and external use and an emphasis on diet, vitamin and mineral supplements, and personal counselling. The external formula (but not the internal one) includes *Sanguinaria canadensis*.

Studies have shown anti-tumour effects with components of prickly ash and stillingia, burdock and extracts of barberry. In addition, the genistein found in red clover may be responsible for a wide range of anti-cancer activities, including antioxidant activity, anti-oestrogen activity (slowing tumour

growth in some cancers) and inhibition of new blood vessel formation (blocks tumour growth). Licorice (*Glycyrrbiza uralensis*) has a variety of immune stimulating properties and direct anti-tumour effects; it also demonstrates a unique ability to block oestrogen's cancer stimulating effects.

The Hoxsey approach includes a psychological component, whose objective is to encourage patients to maintain a strong fighting spirit towards their cancer. Generally, patients take the herbal tonic daily and begin to feel more energetic and vital within a few weeks. Typically, they will continue the treatment for several years, at which point they usually feel their health has been restored.

Larch Arabinogalactans

This immune enhancer is a sweet tasting medicinal powder, highly concentrated in complex carbohydrates or long chain sugars, derived from the Western Larch tree (*Larix occidentalis*).

The large size of the sugars in Larix is thought to account for its special properties, including its ability to stimulate the activity of various immune cells. Larix readily dissolves in water and maintains its chemical stability over a wide range of concentrations, pH, and temperature changes. It enhances the delivery of other medicinal agents, including chemotherapy drugs. It is presumed to make capillaries more permeable for micro-absorption and to stimulate the liver to produce antibodies.

The role of Larix as a modulator of immune system activity is not surprising since several major immune enhancing herbs are known to contain significant amounts of arabinogalactans, such as Echinacea purpurea, *Baptisia tinctoria, Thuja occidentalis, Angelica acutiloa* and *Curcuma longa*. In addition, many edible plants are rich sources of arabinogalactans, including carrots, radishes, tomatoes, wheat, maize, pears, coconuts and many other foods.

Studies have demonstrated that Larix can inhibit liver metastasis and prolong survival rate. In an experiment, arabinogalactans blocked highly metastatic lymphoma cells from colonising the liver. The immune related effects of Larix include stimulation of NK cells and macrophages. In one study, the enhanced tumour cell killing of NK cells was not a direct effect of Larix, but was due to the stimulation of other immune cells (monocytes); these cells

increased their production of various immune enhancing chemicals known as cytokines, including gamma interferon and interleukin II. This research is still preliminary; however, wide variations were seen in Larix's ability to stimulate NK activity. Larix appears to be totally safe for regular daily use.

Maitake Mushroom (Grifola)

According to researcher's, complete tumour elimination was experienced in about 80% of cancer-induced animals, who were fed extracts from maitake, shitake, and reishi mushrooms. Compounds in each of these mushrooms increase the tumour fighting activity of NK cells and improve antibody responses, but maitake seems to have the strongest and most consistent effect. Maitake exhibits potent activity against cancer, inhibiting both carcinogenesis and metastasis. Animal research suggests that maitake supplements increase the body's ability to kill tumours. When maitake was compared to a common form of chemotherapy, maitake demonstrated superior ability to inhibit the growth of tumours (80% versus 45%). Maitake increases immune cell production of interleukin I, a protein that aids in defence against cancer and viruses.

Melatonin Hormone

Melatonin hormone is normally produced at night by the pineal gland and by the intestinal cells. It helps to regulate our immune response. When used as a supplement, melatonins can influence circadian rhythm, hormone balance, and carcinogenesis. Animal studies have demonstrated that supplementation with melatonin helps prevent proliferation of malignant cells and supports the immune response against malignant cells. It has also been shown to reduce several adverse effects of chemotherapy and radiation while improving overall survival.

Pau d'Arco

This is an herbal extract from the inner bark of trees of the Tabebuia genus, found in South American rain forests. The main active ingredient is a substance called lapachol, which can induce strong biological activity against cancer. Patients showed shrinkage of tumours and reduction in tumour related

pain when treated with lapachol. In studies of mice injected with leukaemia cells, the life span of animals given lapachol was 80% greater than that of the control group. Lapachol is well tolerated and causes no severe side effects; nausea, vomiting and slow clotting has occurred only at very high oral doses.

Pectin, Modified Citrus

It is a special pH altered form of citrus pectin, a type of fibre that lowers blood cholesterol levels. Research indicates that its therapeutic potential which helps to prevent cancer metastasis is quite strong. A compound called rhamnogalacturonan found in modified citrus pectin enhances the cell killing ability of T cells, which play a critical role in the body's immune response to cancer. Another study indicates that NK cell and macrophage cytotoxic activity are also enhanced by modified citrus pectin.

A specially modified form of citrus pectin has provisionally been shown to be effective in halting the spread of cancer cells in rats with prostate cancer. This study demonstrated that modified citrus pectin, when administered at the rate of upto 1% (weight/volume) in the rodents' drinking water for three weeks, significantly reduced the spread of cancer from the prostate to the lungs and lymph nodes. Clinical studies suggest that the modified citrus pectin also enhances the anti-cancer effect of certain immune system cells.

Silymarin (Milk Thistle)

The liver is our primary filter for poisons circulating in the bloodstream, converting potentially toxic substances into excretable substances. Highly toxic chemicals overwhelm the liver, resulting in dysfunction, that's why, for centuries European herbalists have used silymarin for restoring liver function. The herb has served as a supportive treatment for cirrhosis (associated with liver cancer) and hepatitis, as well as fatty degeneration of the liver caused by alcohol and other chemicals. Rich in antioxidants and bioflavonoids, silymarin appears to reduce the levels of various liver enzymes found in patients with chronic liver disease, suggesting a liver protective effect.

Turmeric

The East Indian herb of the ginger family, a major ingredient of curry powder, appears to exert powerful antioxidant effect, sufficient to reduce carcinogenesis. Research indicates that turmeric can inhibit cancer at various stages of development. In another study, turmeric was shown to decrease the formation of abnormal DNA after exposure to a carcinogen. The main active component of turmeric is a yellow pigment called curcumin, which possesses both anti-inflammatory and anti-oxidant properties. Studies indicate that curcumin inhibits skin cancer. After topical treatment with a gel containing 9.5% curcumin, patients showed significant reductions in the size of their cancerous lesions, as well as decreased itching, pain, odour and drainage. In addition, dietary curcumin suppresses colon tumour size and may inhibit the progression of cancer.

Nutrient and Herb Interactions with Conventional Cancer Treatments

The research on nutrient and herb interactions with conventional cancer treatments is extremely limited. The charts below may be referred to while using an integrative approach in cancer treatment.

Table 7.2: Chemotherapy drugs and their nutrient and herb interactions

Carboplatin	
Trade name	**Paraplatin**
Cancers typically treated	Ovarian, head and neck, testicular, bladder, oesophageal, sarcoma, lung
How is it administered	Intravenously (IV)
Side effects	Decrease in blood cell counts. Hair loss (reversible). Confusion. Nausea, vomiting, or diarrhoea (usually a short-term side effect, occurring in the first 24 to 72 hours following treatment). Mouth sores. Numbness and tingling (peripheral neuropathy).

	Hearing loss (rare). Kidney toxicity (rare).
Helpful nutrients and herbs	**Vitamin C** to support anti-cancer effects and improve overall tolerance. **Vitamin E** to support anti-cancer effects and to improve overall tolerance. **Vitamin D** to support anti-cancer effects. **Silymarin** to support anti-cancer effects, protect the liver, and help prevent kidney damage. **Polysaccharides from the mushroom Agaricus blazei** to support immune function, specifically natural killer cells (NK cells). **Alpha—lipoic acid** to reduce nerve toxicity and protect hearing. **Ginger** to reduce nausea. **Vitamin K** (dietary sources only; not prudent to supplement with vitamin K) to support anti-cancer effects and to help protect bone marrow (caution when taking warfarin or other blood thinner medication). **Astragalus** to reduce toxicity and support anti-cancer effects. **Spleen polypeptides** for immune support.
Nutrients and herbs to be avoided	**N-acetyl cysteine** could increase resistance to carboplatin. **L-glutathione** could increase resistance to Garboplatin. **Silymarin** should be used with caution, as it may interact with other medications prescribed before, during, and after chemotherapy.

Cisplatin	

Trade name	Platinol, Platinol-AQ
Cancer typically treated	Bladder, ovarian, testicular, prostate, lung, oesophageal, cervical, breast, stomach, sarcoma, lymphoma, myeloma.
How is it administered	Intravenously
Side effects	Decrease in blood cell count. Hair loss (reversible). Confusion. Nausea, vomiting, or diarrhoea, (usually a short term side effect occurring in the first 24 to 72 hours following treatment).
Helpful nutrients and herbs	**Vitamin E** to reduce toxicity to nerves and support anti-cancer effects. **Vitamin A** to increase anti-cancer effects. **Melatonin** to enhance anti-cancer effects while improving overall tolerance. **L-carnitine** to reduce damage to nerves and kidneys; may also help with fatigue. **Ginkgo biloba** to reduce damage to nerves and kidneys. **Astragalus** to help prevent reduction in blood cell counts and supports anticancer effects. **Polysaccharides-K** (PSK; from the fungus coriolus versicolor) to reduce kidney damage. **Silymarin** to reduce kidney damage. **Ginger** for nausea. **Quercetin** to support anti-cancer action. **Spleen polypeptides** for immune supports.
Nutrients and herbs to be avoided	**Black cohosh** may decrease the effectiveness of cisplatin. **N-acetylcysteine** may interfere with the anti-cancer action of cisplatin. **High dose of B6** (above 300mg daily) may interfere with anti-cancer effects of

	cisplatin; vitamin B6 upto 300mg daily may help prevent peripheral neuropathy while not interfering with the efficacy of cisplatin. Caution should be exercised in combining ginkgo with regular – strength aspirin due to potential risk of haemorrhagic stroke; ginkgo may also have interactions with medications used before and after chemotherapy. **Silymarin** should be used with caution, as it may interact with other medications prescribed before, during, and after chemotherapy.

Cyclophosphamide	
Trade name	**Cytoxan, Neosar**
Cancer typically treated	Lymphoma, breast, ovarian carcinoma, leukaemia, sarcoma.
How is it administered	Intravenously (IV) or orally.
Side effects	Decrease in blood cell counts. Nausea and vomiting. Abdominal pain. Diarrhoea. Decreased appetite. Headache. Hair loss (reversible). Bladder damage. Infertility. Lung or heart damage (with the doses). Secondary malignancies (rare).
Helpful nutrients and herbs	**Astragalus** to help prevent reduction in blood cell counts. **Ashwagandha** helps prevent reduction in blood cell counts. **Polysaccharide-K** (PSK; from the fungus

	Coriolus versicolor) to help prevent reduction in blood cell counts. **DHEA** to support liver recovery from chemotherapy; however, DHEA is not recommended as a supplement in women with breast, ovarian, or endometrial cancers because it is a precursor to oestradiol (the main active form of oestrogen) and could stimulate the growth of these hormone sensitive cancers. **Melatonin** to support anti-cancer actions and reduce side effects. **Ginger** for nausea.
Nutrients and herbs to be avoided	Curcumin may interfere with anti-tumour activity of cyclophosphamide. Quercetin may interfere with cyclophosphamide.

Doxorubicin	
Trade name	**Adriamycin, Doxil (Liposomal adriamycin)**
Cancer typically treated	Breast, lymphoma, sarcoma, ovarian, bladder, thyroid, hepatoma, gastric, multiple myeloma.
How is it administered	Intravenously (IV)
Side effects	Decrease in blood cell counts. Mouth ulcers. Hair loss (reversible). Nausea and vomiting. Heart damage. Facial flushing.
Helpful nutrients and herbs	**L-carnitine** to protect the heart. **CoQ10** to protect the heart. **Green tea** (especially concentrated to theanine) to protect healthy tissue and enhance anti-tumour effects.

	Melatonin to support anti-tumour activity while reducing side effects. **Vitamin D** to support anti-tumour activity. **Coriolus versicolor mushroom** to support anti-cancer activities. **Quercetin** to reduce chemotherapy resistance. **Sulforaphane** to support anti-tumour actions and reduce chemotherapy resistance. **DHA from algal oil** to sensitise cancer cells to adriamycin chemotherapy.
Nutrients and herbs to be avoided	**Avoid herbs** during doxorubicin therapy because many herbs may interfere with conversion of doxorubin into its active form in the liver. **N-acetyl cysteine** may increase resistance to doxorubicin.

Etoposide	
Trade name	**VePesid or VP-16**
Cancers typically treated	Lung, testicular, leukaemia, lymphoma
How is it administered	Intravenously (IV) or orally.
Side effects	Decrease in blood cell counts. Hair loss (reversible). Nausea and vomiting. Allergic reaction. Mouth ulcers. Low blood pressure (during administration). Decreased appetite. Diarrhoea and abdominal pain. Bronchospasm. Flu like symptoms.
Helpful nutrients and herbs	**Vitamin E** may increase anti-cancer activity.

	Vitamin D may increase anti-cancer activity. **Vitamin C** may increase anti-cancer activity. **Coriolus versicolor** mushroom to support anti-cancer activity.
Nutrients and herbs to be avoided	**Avoid herbs** during etoposide therapy because many herbs may interfere with conversion of etoposide into its active form in the liver. **Vitamin K** may reduce effectiveness. **Glucosamine** may interfere with anti-cancer action.

Fluorouracil, Floxuridine, Capcetibine	
Trade name	**Fluorouracil: 5-FU; floxuridine: FUDR; Capcetibine: Xeloda**
Cancers typically treated	Colon, breast, stomach, heat and neck.
How is it administered	Intravenously (IV)
Side effects	Decrease in blood cells count. Diarrhoea. Mouth ulcers. Photosensitivity. Dry skin. Nausea. Headache. Malaise, confusion. Hand-foot syndrome.
Helpful nutrients and herbs	**Melatonin** to support blood counts and improve tolerance to treatment. **Fish oil** to support anti-cancer actions and reduce side effects. **Vitamin A** to increase anti-cancer actions. **Vitamin B6** to help protect against hand-foot syndrome. **Vitamin C** to increase anti-cancer actions. **Vitamin E** to increase anti-cancer actions.

	Panax ginseng to support anti-cancer actions and reduce side effects. **Polysaccharides-K** (PSK; from the fungus Coriolus versicolor) to increase response to treatment. **Garlic** to protect the digestive tract during treatment. **Ginkgo biloba** to increase tolerance of treatment. **Curcumin** to support anti-cancer actions. **Green tea** to support anti-cancer actions and reduce side effects. **Lentinan from shiitake mushrooms** to support anti-cancer actions and helps preserve white blood cell count and function. **Probiotics** to help prevent digestive tract toxicity. **Glutamine** to help prevent diarrhoea and changes in intestinal permeability. **Fermented wheat germ extract** (Avemar) to support anti-cancer actions. **Ginger** for nausea.
Nutrients and herbs to be avoided	**Beta-carotene** may interfere with flurouracil. **Probiotics** should not be taken if white blood cell count is low (less than 2.5) because of the risk of probiotic bacteria becoming a source of infection. **High doses of folic acid** (greater than 15mg per day) may increase toxicity.

Prevention of Cancer

Whether the goal is to prevent an initial diagnosis of cancer or the focus is on preventing a recurrence, the rules are the same. There are proactive steps that can be taken through diet and lifestyle. Many authorities assert that cancer is one of the most preventable serious illnesses of our time. Other experts believe the basis for cancer is so entrenched in our genetic makeup that any effort to manipulate this genetic destiny is futile. The truth is likely someplace in the middle. While cancer is a disease of the genes, genetic expression is not static. Factors in our lives such as how we feel, what we are exposed to, what we eat and how much weight we carry, can influence and guide the expression of our genes. These lifestyle factors can stimulate the repair of damaged genes and silence the expression of mutated genes. Conversely, lifestyle factors can also contribute to more genetic drainage and promote the expression of already damaged genes.

Live Healthy

The ultimate demonstration of self-love and respect is to proactively nurture your body, mind and spirit. The marriage of physical, emotional and spiritual health is not only the foundation of cancer prevention, but also the key to

achieving optimal wellness and vitality. Unfortunately, life can sometimes get in the way of living, especially healthy living.

The following questions may enlighten us:

1. How many hours a week do you spend working?
2. How many hours a week do you spend playing?
3. How many hours a week do you spend doing spiritual practice (praying, meditating, volunteering, connecting with nature)?

Next, make a list of activities, things and people that make you feel happy, at peace, and fulfilled. How many hours a week do you spend with those people or doing those things? At the end of your life, no matter when that occurs, what will you cherish more: money or moments; power or peace; chaos or caring? A life well lived is a life well loved and that begins with self-love. Don't let everyday obstacles get in the way of such devoted self-love. Be gentle with yourself. Consider following the 80/20 rule: If you make healthy choices 80% of the time, it is fine to bend the rules the other 20%. The idea is to make the effort and move in the right direction. You may not be able to achieve 80/20 right away but you'll be surprised at how quickly you can get there. Who knows, there may be days, even weeks, when you make healthy choices 90% or even 100% of the time! To prevent a cancer recurrence it is important to focus on diet, dietary supplements, the mind-body connection and physical activity. Let's start by looking at diet.

The Significance of Food

We Indians as a nation are obsessed with food. Fast-food restaurants and their bill boards clutter our city streets. Volumes have been written on the topic of food. Newsstands are littered with magazines about it and there is even an entire television network devoted just to food. We savour it, discuss it and even plan our lives around it. And we consume a lot of it. In the process, we have also managed to supersize our health risks dramatically over the past few decades. The kind of food eaten has nearly as big an impact on health as the amount and sometimes more. In fact, much of the malnutrition in the world can be attributed to unhealthy food or consumption of 'empty calories'. Though it may seem surprising, many obese individuals are actually significantly malnourished. But food has both, the power to harm and the power to heal. Understanding both sides of the equation is important. Rather

than allowing food to have power over you, you can create a winning partnership with it. Proactive cancer prevention shifts the energy, placing emphasis on healthful, fresh and whole foods packed with essential nutrients, turning calories into cancer-fighting fuel. Sometimes what we ingest has clear ramifications. If you drink coffee daily, think back to a time when you tried to give it up or had to do without. Remember the headache? Have you ever experienced heartburn after too many pieces of pepperoni pizza or constipation after eating too much cheese? The good news is that this dynamic works both ways. You can prevent ill effects by avoiding certain foods and even better, you can enhance your health by making certain food choices. Some foods contain significant nutrients that help keep your body healthy and operating at peak capacity. While it is true that different people have different dietary needs and that what is healthy for one person may not work as well for another, there are some common denominators. Here are just a few examples of cancer-fighting foods and spices:

1. Tomatoes contain the powerful antioxidant lycopene, which supports a strong immune system.
2. Whole grains contain lignans that positively influence hormonal activity.
3. Citrus fruits contain flavonoids that enhance immunity.
4. Soy contains certain sterols that can reduce the development of some cancer cells.
5. Broccoli contains sulforaphane and other compounds that help stimulate detoxification and immunity.
6. Cruciferous vegetables, such as cabbage, cauliflower and Brussels sprouts, contain indole-3-carbinol, which has been shown to have anti cancer properties.
7. The peel of an apple contains phenolic compounds that help prevent unhealthy cells from dividing and spreading.
8. Kale is high in vitamins A and C, as well as fibre, which are all perfect nutrients to help prevent cancer.
9. Garlic contains several key compounds that inhibit the activity of cancer cells and help with detoxification.
10. Turmeric contains curcumin, a powerful anti-inflammatory substance, shown to help prevent and treat some cancers.
11. Rosemary contains carnisol and other active compounds that can help prevent and treat cancer.

Many of these foods and spices share a common characteristic: They are

colourful. At mealtime, look closely at your plate. If it is primarily white or beige, you need to add some colour. Fruits and vegetables will add that colour, as well as a healthy dose of potent anti-cancer nutrients. There is no question that diet plays a huge role in cancer prevention. According to a report by Dr Edward Giovannucci, professor of nutrition and epidemiology at Harvard, at least 70% of colon cancers may be prevented with moderate changes in diet and lifestyle. He stated that "*many of the diet and lifestyle risk factors for colon cancer are the same as for cardio vascular disease and for some other cancers, so focusing on the modifiable risk factors for colon cancer is likely to have many additional benefits beyond this cancer*". The ultimate cancer prevention diet should follow the simple guidelines outlined below.

Table 8.1: Cancer prevention diet

Consume More	**Consume Less**
Colourful fruits and vegetables. Organic food. Whole grains. Nuts, seeds, oils rich in omega-3 and monosaturated fats (fish, oils, flax oils, and olive oil). Purified drinking water. Green tea.	Added sugar. Preservatives, additives, artificial colours/flavours. Alcohol and soft drinks. Saturated/trans fats (red meat / fried food). Refined carbs (processed sugars, white rice, breads, and pastas made with processed flours). Smoked and processed meats.

We have all heard the term 'empty calories'. These are foods with no redeeming nutritional qualities and nothing to offer us other than taste. These foods should be avoided. According to the authors of *The Encyclopedia of Healing Foods*, these foods contain lots of sugar and fat, which 'fill you up so you don't have room for the good stuff—the foods that give your body a fighting chance to prevent cancer and other diseases'. Foods in the empty calories category include soft drinks, candy, fried foods, chips, pastries, and crackers (unless they're made with whole grains). Sticking with a strong cancer prevention diet may require that you become a label reader. Eating on the run, while not desirable, is occasionally necessary. When purchasing

prepared food items, be especially wary of added sugar in its many guises. It may appear on the ingredient label in many different forms, including glucose, sucrose, fructose, maltose, lactose, dextrose, corn syrup, evaporated cane juice and white grape juice concentrate. These added sugars contribute to inflammation, temporarily cripple the immune system, and over time contribute to the development of insulin resistance all of which can promote cancer. Also avoid products with partially hydrogenated ingredients and trans-fatty acids. Thanks to new federal legislation, there is a separate listing for trans-fats in the fat section of all food labels. Partially hydrogenated oils and trans-fats contribute to inflammation, hamper immune system activity, and even directly damage genes, which can ultimately lead to the development of cancer. Choosing the most healthful water source is also significant. More than two-thirds of our body is water and our cells and tissues are literally bathed in water environment. Drinking an adequate amount of water is critical to support optimal cellular and tissue function. Tap water, especially from municipal sources, may contain carcinogenic compounds. Filtered or pure water and water rich fruits and vegetables are the best sources of water.

Food plays a significant role in any cancer prevention plan and almost any diet, no matter how healthy, can be improved in this regard. Be receptive to new foods and new ways of eating. Elevate your awareness of what you eat, when and why, and be more conscious about what you put into your body. Mediterranean diet is the healthiest diet with regard to cancer diseases. In this diet, special emphasis is placed on the high content of olive oil, relaxation, and sociability at meals.

Here are my recommendations for diet:

1. Grains: make half your grains whole.
    a. Eat at least 60 grams of whole grain bread, cereals, crackers, rice or pasta every day.
    b. Look for the word ‘whole’ before grain name on the list of ingredient. E.g. whole wheat.
2. Vegetables: vary your veggies
    a. Eat a variety of fruits.
    b. Choose fresh, frozen, canned or dried fruit.
    c. Go easy on fruit juices.

3. Oils: know your fats
    a. Make the most of your fat sources from fish, nuts, and vegetable oils.
    b. Limit solid fats like butter, stick margarines and lard.
4. Meat and beans: go lean on protein
    a. Choose low fat or lean meats and poultry.
    b. Bake it , broil it, grill it.
    c. Vary your choice with more fresh fish, beans, peas, nuts and seeds.

Nutritional Supplements

Nutritional supplements contain vitamins, minerals, amino acids, herbs, glandular extracts and more. Dietary supplements are just that, supplements to the diet. It is always best to get as many nutrients as you can from food not pills. But when diet falls short, supplements may help fill in the gaps. In addition, supplements can be used to stimulate certain processes in the body for a specific outcome.

Supplements are an important part of an integrative cancer treatment program in order to help repair physiological processes that contribute to cancer development. Impaired immunity, inflammation, endocrine disturbances, insulin resistance and insufficient detoxification are each linked to cancer formation, and can be corrected with lifestyle and supplemental interventions. Nutritional supplements are also important in the active treatment of established cancer. Many supplements have powerful anti-cancer effects. The supplements you take should be chosen to meet one’s individual needs, deficiencies, or activity level. A woman trying to prevent breast cancer may take different supplements than a man trying to manage prostate cancer. A young competitive athlete will have a different supplement regimen than a middle-aged weakened warrior. Dietary supplements can help to fill in the gaps based on the specific health goals. Qualified Homoeopaths and naturopathic physicians can guide the most appropriate use of supplements in the context of cancer. It is essential to consult a qualified dietician to provide you with proper knowledge of supplements.

Mind versus Body

The human body has billions of nerve cells and countless chemical

messengers that connect the brain to the heart, immune system, digestive tract, reproductive system, and every other system of the body. Every cell is either directly or indirectly connected to the others via the central nervous system. There is no question that there is a complex and efficient connection between mind and body. Researchers are also confirming that there is a direct link between emotions and health. '*We can understand through the language of science that emotions and disease are connected*', explains Esther Sternberg, MD, from American University, '*and disturbances of emotions can change your physical health and physical disease can change your emotional health'*. Additionally, '*Every single person should be informed that the mind has a huge impact on the body and there are ways you can take advantage of that*', says Tracy Gaudet, MD, with the Duke Centre for Integrative Medicine. Research in this area is on the rise and the concept is beginning to gain mainstream acceptance. Science is confirming that we have a much better chance of being healthy if we nurture positive thoughts and emotions and try to reduce stress and anxiety. Conversely, negative emotions such as anger and depression can impair our health. This is not to suggest that any one individual should take on the entire responsibility for developing cancer. Cancer growth is influenced by a multitude of factors, many of which are not within our control. Taking the blame for having cancer causes unnecessary suffering and does not encourage the attitude that will help us make different choices to improve our health and recovery. Instead of focusing on blame and guilt, it is far more healing to use cancer or cancer prevention, as an opportunity to learn self-forgiveness, gratitude, and hope. Being aware without judgment is the first step. From there one can begin to incorporate more health enhancing thoughts and emotions into one's daily life. The most powerful health promoting emotion of all is love, giving it, receiving it and even participating in activities you love. Love goes far beyond romantic love. It comes from inside and outside of us. It is cultivated in our social interactions and connections with family and friends. Love can come from oneself, a pet, a supportive or welcoming environment or an activity. Whether you love hiking in the mountains or curling up with a good book, do what you love and do it often. "*The healing power of love and relationships has been documented in an increasing number of well designed scientific studies involving hundreds of thousands of people throughout the world*," writes Dean Ornish, MD, in his groundbreaking book *Love and Survival: The Scientific Basis for the Healing Power of Intimacy*. One of the

greatest benefits of allowing more love into your life is that it fosters forgiveness of yourself and of others. Life can be hard and people sometimes make mistakes and do things that are hurtful to themselves or others. A diagnosis of cancer forces a person to recognise her or his mortality. This perspective is a powerful refocusing lens that gives people the opportunity to let go of emotions that may hinder wellness and their ability to enjoy whatever time life grants them. When asked what they would do differently if they had the opportunity, most people with cancer say things like "*Spend more time with the people I love*," "*Argue less and forgive more*," or "*Trust and let go of fear, anger and pain*". Using this wisdom from people diagnosed with cancer, we can all improve our wellness now. We can let go of anger and hurt and move into the state of grace granted by forgiveness and compassion for others and ourselves. With love and forgiveness, a sense of wellness can infuse your entire being in spite of any physical impediments. From that space, everything else including making healthy choices in regard to diet, supplements, and exercise becomes so much easier.

Keep Active

Physical activity has many health promoting benefits. Exercise can stimulate the immune system, reduce inflammation, improve self-esteem, enhance mood, increase oxygenation, and help maintain a healthy weight. It is amazing that something as simple as moving will provide that much benefit. There are ways that you can exercise without really 'exercising', according to Mark Hyman, MD, in his book *Ultra Metabolism*., "*You don't have to go to the gym, run on a treadmill and pump iron to stay in shape, just start moving around more*". One of Dr Hyman's specific suggestions is wearing a step counter as you move throughout the day. He sets a goal of 10,000 steps per day. The most important aspect of exercise is to choose an activity or activities that you will stick with and then be consistent. The best way to be successful at this is to make exercise fun and enjoyable. If you find walking boring, but enjoy reading, listen to books on tape while you walk. If you find it hard to motivate yourself to ride your bicycle but you miss spending time with your friends, make regular biking dates. If your routine becomes boring, change it from time to time to keep your enthusiasm up. Increase your physical activity as you get in better shape. Try not to fall into the weekend warrior trap; it is much better to be active every day than it is to do something

strenuous for a few hours on the weekend. Not all health enhancing activities involve movement. In fact, research has demonstrated that the act of just sitting can be an amazing cancer prevention tool, it is called meditation. Many clinical studies have shown that meditation improves quality of life, reduces pain, decreases anxiety, depression, and enhances energy levels. More recent research indicates that meditation can also increase positive immune activity. According to a 2003 report in *Psychosomatic Medicine*, "*A randomised study of relaxation, meditation and hypnosis training in asymptomatic HIV positive men found improved T cell counts in the treatment group which were maintained at one-month follow-up*". Stress reduction is critical in any effort to promote health (and this is probably one reason meditation has such beneficial effects). For example, stress has observable impacts on the rate of healing, as demonstrated by Ohio State University husband and wife research team Drs. Ronald and Janice Glaser. They made a small circular incision, smaller than an eraser on the end of a pencil, on the arms of two groups. One group consisted of caregivers of people with Alzheimer's disease. The other group was matched for age and financial circumstances but had considerably less stress in their lives. The unstressed group healed a full nine days sooner than the stressed group. The photos from the study were remarkable, as they visually conveyed the noticeable difference between the two groups. The Center for Integrative Medicine at Jefferson Medical College chose to study medical students because these students face significant academic and psychosocial stress. Researchers taught one group of medical students, mindfulness based stress reduction techniques that included meditation and then compared them to a control group of students who didn't use these techniques. The students practicing stress reduction techniques had significantly less tension, anxiety, confusion and fatigue than the control group. In her book, *My Grandfather's Blessings*, Rachel Naomi Remen, MD, has a somewhat different perspective on stress, "*After 20 years of working with people with cancer, I have come to realise how much stress is caused by the sad fact that many of us believe in one way and live in quite another. Stress may be more a matter of personal integrity than time pressure, determined by the distance between our authentic values and how we live our lives"*. Stress reduction comes from awareness, from quietly yet confidently embracing who you really are. You'll feel less stress if you focus on being in the moment and truly relishing the nuances of any given experience. Meditation is one way to get closer to your

true self and reinforce the idea of being present in the moment. Beyond exercise and meditation, there are many other ways to enhance your health. The key is finding activities that are meaningful or rewarding for you. That may mean getting in touch with your creative side by writing or other artistic endeavours. Journaling can be particularly effective, as it allows you to express your emotions and process your thoughts. Or you may find that playing or listening to music can reduce feelings of stress and increase your sense of contentment and joy. As with exercise, the key is to find health enhancing activities that you enjoy and are comfortable with and then make them part of your routine. Like a seamstress making a quilt, take each piece of healthful living, and sew it into the fabric of your life, creating a blanket of protection and wellness.

Controlling a Situation

Before we can even think of cancer treatment, we must first review the core principles of proactive prevention. As much as possible, these prevention principles should become a way of life. As mentioned previously, each of us has cancer cells circulating in our body at this very moment. If the body is healthy and functioning properly, its ability to detect, target, kill, and eliminate these errant cells is strengthened. If your body is overwhelmed and unhealthy, it may not be able to perform this ongoing ‘search and destroy’ mission. You can support your body in this crucial task by focusing on creating and maintaining a healthy body, mind, and spirit. Cancer is a complex and tenacious illness and a multidimensional, integrative approach is needed to help defuse its energy. Diet and other aspects of lifestyle, as well as an understanding of the significant connection between body and mind, can have a huge impact on whether or not a person develops cancer. In addition to understanding the basics of proactive prevention, we can go deeper by building a strong foundation with diet, nutrition, and stress reduction. Sometimes doing all the right things may not prevent cancer; however, in our personal experiences and from the experiences of many cancer patients, a prevention based lifestyle supports overall health. As a result of prevention, one can be a healthy person with cancer and that can make a world of difference in how cancer treatment and recovery is experienced.

Choosing Safe Skin Care Products and Cosmetics

The skin can be considered the largest organ of the human body. It provides an important protective barrier against hazardous materials and pathogens. And yet many of us choose to expose our skin to even more toxins. Every day researchers are learning more about the health risks of certain ingredients found in many skin care products and cosmetics. These ingredients have been found to be the culprit in health problems ranging from allergic reactions to birth defects to cancer. Many of us are not fully informed about the ingredients listed (or not listed!) on the lotions and potions we so liberally apply to our skin. What do you really know about parabens, propylene glycol, quaternium-15, imidazolidinyl urea, diazolidinyl urea and fragrances just to name a few? One of the most interesting discoveries of skin care research is that up to 60% of your favourite skin care or cosmetic products may be absorbed through the skin and that percentage continues to increase. This means that chemical preservatives, fragrances, fragrance maskers, colouring agents and stabilisers in the body care products are being introduced into the bloodstream every time a cream, lotion, deodorant or anything else is applied to your skin. These toxic ingredients are stored and can accumulate in the human fatty tissues, systemically affecting health and vitality. The Environmental Protection Agency (EPA) has identified 5,000 different chemicals found in cosmetics alone. Let’s take a look at some of the most common and most toxic products. Parabens, such as ethyl-, butyl-, propyl-, and methylparaben, are generally used as preservatives. It is not uncommon to find at least two types in any given product. These chemical preservatives are found in almost all body care products and can easily accumulate inside various body tissues. One reason parabens are dangerous is because they mimic oestrogens. Recent evidence indicates that topical parabens have been detected in human breast tumours. Women are especially at risk when using underarm deodorants containing parabens after shaving because shaving makes it very easy for these chemicals to enter the skin. This is also a vulnerable spot because of the concentration of lymph nodes located there, which are connected to breast tissue. Since parabens mimic oestrogen, they can act as cell proliferators on oestrogen dependent breast cells. Allergic hypersensitivity to parabens is also quite common. Other preservatives, such as DMDM hydantoin, imidazolidinyl urea, and quaternium-15 create a chemical reaction that can release trace amounts of formaldehyde into the

skin, causing a toxic effect at the cellular level. Formaldehyde can cause joint discomfort and many other health problems. Iidazolidinyl urea and diazolidinyl urea, the most commonly used preservatives after parabens, are also a primary cause of contact dermatitis or skin inflammation. Beware of personal care products containing phthalates, as these chemicals soak into the skin and accumulate over time. According to IGA study conducted by the Centre for Disease Control in 2000, more than 75% of Americans tested had traces of phthalates in their urine. Virtually all fragrances contain phthalates and they're also commonly found in hair sprays and nail polish. Phthalates have been linked to liver toxicity and genital malformation and are suspected to contribute to cancer. Synthetic colours are equally bad, as they can be carcinogenic. Avoid anything listing 'FD&C' or 'D&C' followed by a number as an ingredient. Look for products containing natural colouring agents instead. While vegetable oils may seem like a benign or even healthful, ingredient, they can be problematic. Unless they are cold-pressed, they have a tendency to turn rancid relatively quickly. Free radicals are then created, setting up a carcinogenic environment in the skin. Avoid any products that contain oils not described as cold-pressed. By making healthy choices for your skin, you are safeguarding your health. Take the extra moment to read labels carefully. Try to avoid products containing the previously mentioned toxins and choose 'all-natural' products whenever possible. However, be aware that just because a product is labelled 'all-natural', that doesn't mean it is truly safe. If you are unsure about an ingredient, err on the side of caution and choose another product.

Melatonin and Cancer

Several studies suggest there may be a connection between the hormone melatonin and cancer. Melatonin is a hormone that helps regulate sleep. Melatonin has been studied for cancer, it prevents cancer cell to grow. Researchers at Harvard evaluated 147 people with invasive breast cancer and 291 without cancer as part of the Nurses' Health Study. They took a morning urine sample and measured melatonin levels via a melatonin by-product called 6-sulphatoxymelatonin. The researchers found women with the highest melatonin had the lowest risk of cancer.

At McMaster University in Canada, researchers did a systematic review of studies involving melatonin for people with cancer and its effect on survival

after one year. They analysed 10 studies that were published between 1992 and 2003. The researchers found that melatonin reduced the risk of death at one year, regardless of the type of cancer. No serious adverse effects were reported. Researchers concluded that while it is a very promising treatment, well-designed studies were needed to further assess the safety and effectiveness of melatonin for cancer.

Spanish researchers evaluated melatonin supplements as a treatment for rats with advanced and untreated breast tumours. Melatonin given daily significantly increased survival in animals. The researchers concluded that the results strongly suggest that melatonin is beneficial during advanced breast cancer because it increases survival time.

What you eat affects how you sleep. One of the keys to a restful night's sleep is to get your brain calmed rather than revved up. Some foods contribute to restful sleep; other foods keep you awake. We call them sleepers and wakers. Sleepers are tryptophan-containing foods; tryptophan is the amino acid that the body uses to make serotonin, the neurotransmitter that slows down nerve traffic so your brain isn't so busy. Wakers are foods that stimulate neuro-chemicals that perk up the brain. Tryptophan is a precursor of the sleep-inducing substances serotonin and melatonin. This means tryptophan is the raw material that the brain uses to build these relaxing neurotransmitters. Making more tryptophan available, by eating foods that contain this substance will help you to get sleepy. On the other hand, nutrients that make tryptophan less available can disturb sleep. Best food to consume before sleep is–beans; cherries; dairy products: cottage cheese, cheese, milk; hazelnuts, walnuts and peanuts; hummus with whole wheat pita bread; lentils; pasta with parmesan cheese; poultry with veggies; rice; scrambled eggs and cheese; seafood; pasta; sesame seeds (rich in tryptophan) sprinkled on salad with whole wheat crackers; sunflower seeds; soy products: soy milk, tofu, soybean nuts; tofu stir-fry; tuna salad sandwich; whole grains. Meals that are high in carbohydrates and low-to-medium in protein help to relax in the evening and set you up for a good night's sleep. Try the following tips for 'dinners for sleep':

1. Lighter meals are more likely to give restful night's sleep. High-fat meals and large servings prolong the work your digestive system needs to do, and all the gas production and rumblings may keep you awake.

Some people find that highly-seasoned foods (e.g., hot peppers and garlic) interfere with sleep, especially if there is heart-burn (gastro-oesophageal reflux).

2. Going to bed with a full stomach does not, for most people, promote a restful night's sleep. While you may fall asleep faster, all the intestinal work required to digest a big meal is likely to cause frequent waking and a poorer quality of sleep. Eat your evening meal early.
3. The worst thing to do is to take caffeine-containing foods, especially at night. As a stimulant, caffeine speeds up the action of not only the nervous system but of other major body systems, too. Within fifteen minutes of downing a cup of coffee, the level of adrenaline in the blood rises, which triggers an increase in heart rate, breathing rate, urinary output and production of stomach acids. Basically, caffeine's effects are the reverse of what are required to fall asleep.
4. Caffeine also prompts adrenal hormones to release sugar stored in the liver, which stimulates sugar cravings to replenish the stores. Caffeine heightens the roller coaster effect of blood sugar swings, producing a quick high after a morning cup of coffee, followed by a downturn in the afternoon.

Trace Elements

The immune system is the natural mechanism which defends against cancer. Trace elements like zinc, selenium, molybdenum, and manganese augment this natural mechanism. It has become evident over the last two decades that there is an intimate relationship between the trace elements and cancer. Some trace elements have been shown to be carcinogens; others appear to provide protection against cancer. Profound changes in trace element concentrations and distribution occur in patients with cancer, but most changes remain undefined.

Carcinogens

There are more than 20,000 substances which are assumed to encourage cancer diseases. Carcinogenesis is caused by a complex combination of several factors, including many aspects of culture, lifestyle and environment. Not all foods will cause carcinogenesis. However, some substances found in

food can be regarded as major suspects in the formation of cancer. They are:

1. Those, directly contained in the food material, such as cyclic hydrocarbons, butakiroside, cycasin (from the fruit of *cycas revoluta*) commonly found in the astringent taste of romaine lettuce; the isocyclic amine generated from burnt fish, meat, and the alpha licarubolin contained in burnt peas, etc.
2. Substances derived from the heating process, such as nitrosamine which is released when dried fish or beef is roasted over a fire.
3. Food additives, such as the colouring agents for ham, sausages, dried meat (substances represented by nitrosamine are released by nitrite during the processing of food); other types of food colouring, artificial seasoning, preservatives, anti-bacterial and bleaching agents, etc.
4. Molds and fungi, such as molds on peanuts, almonds, walnuts, pistachio, maize, rice, wheat, pearl millet, black peppers, chilli peppers, turmeric, ginger, biscuits, pickled food, etc. produce aflatoxin B1 which is a carcinogenic toxin.
5. Substances released in the body during the process of food digestion, such as occurs when salty foods injure the inner wall of the stomach, when eating very spicy food, or when hot porridge comes in contact with the digestive tract.

   As it can be seen that some of the foods discussed above do not contain any cancer producing properties at all. The method of preparation and amount of food eaten can determine whether consumption of a particular foodstuff will carry any risk of causing cancer or not. Therefore, a good rule to observe with regard to eating a particular food is not to eat too much, too frequently.
6. Some of the tranquilisers are used to treat anxiety, antibiotics, antipyretics, analgesics, etc. may cause malfunctioning of the liver, possibly even liver cancer. Some anti-cancer medicines are themselves conducive to the formation of carcinomatosis.
7. Chemicals used in agriculture, such as pesticides, are undeniably carcinogenic in nature. These are used to control bugs and other vermin, they are loaded with carcinogens, including sodium 2, 4-dichlorophenoxyacetate. Overexposure to these substances has been associated with lymphoma and leukaemia.
8. Exposure to radiation due to leakage of radioactivity in atomic power station accidents causes skin cancer and leukaemia. Skin cancer caused

by ultraviolet radiation has aroused much concern in recent years (we are all constantly exposed to microscopic amounts of radiation from the universe.).

9. Factory smoke, industrial wastes, vehicle emissions, and asbestos dust are all recognised to be carcinogenic. Bombay or industrialised city smog, it is a well-known fact that the air we breathe has numerous carcinogens. Tobacco smoke is a well-known carcinogen that can harm even non-smokers who are simply exposed to it.
10. Consumer products: Deodorant, a bar of soap, toothpaste, hair spray, detergents, etc. all of these products may contain carcinogens. While each product may only contain a small amount of cancer-causing agents, most of us use these products every day. Making an informed, healthy choice starts by becoming aware of these products and choosing to use products made by companies that do not use harmful ingredients. The list below consists of common consumer products that contain carcinogenic materials. This is just a start; please add to it and share information about other products that you know of, so we can all live healthier lives.
    a. Bath and beauty products: Dove beauty bar - it includes quaternium 15 and formaldehyde, known carcinogens, as well as irritants to the skin, eyes, and mucous membranes.
    b. Johnson’s Baby Shampoo: Contains carcinogens quaternium 15, FD&C RED 40, which can cause dermatitis.
    c. Colgate Tartar Control Toothpaste: This bestselling toothpaste contains saccharin and phenol fluoride.
    d. Talcum powder: Talc, the main ingredient, is a carcinogen that increases the risk of ovarian cancer.
    e. Make-up (foundation): The makeup includes BHA, talc, titanium dioxide, triethanolamine.
    f. Surf, Tide, and Ariel detergent: These popular detergent powders contain trisodium nitrilo-triacetate, a carcinogen.
    g. Lysol disinfectant: While it makes the air sweet smelling, it contains the dioxin.
    h. Formaldehyde: It is used while dissections in zoological laboratories and is also commonly used as a preservative in many household products, for e.g. in glue to stick plywood furniture, e.g. Fevicol, Movicol, etc.

i. Paradichlorobenzene: This probable carcinogen found in toilet bowl cleaners and can cause harm to the central nervous system.
j. Perchloroethylene (or 1-1-1 trichloroethane solvents): These chemicals are commonly found in fabric dry cleaning fluid, spot removers, and carpet cleaners.

11. Alcohol-related cancers: In the liver, upper digestive tract (oropharynx and oesophagus).
12. Artificial sweeteners: Also called sugar substitutes, are substances that are used instead of sucrose (table sugar) to sweeten foods and beverages. Because artificial sweeteners are many times sweeter than table sugar, smaller amounts are needed to create the same level of sweetness. Questions about artificial sweeteners and cancer arose when early studies showed that cyclamate in combination with saccharin caused bladder cancer in laboratory animals. However, results from subsequent carcinogenicity studies (studies that examine whether a substance can cause cancer) of these sweeteners have not provided clear evidence of an association with cancer in humans.

Social Problems in the Treatment of Cancer Patients

Once the cancer is diagnosed, it is extremely important to explain to the patient, not only the Homoeopathic part of the treatment, but also to try and tackle the social problems faced by the patient. The following points need to be explained:

Sharing the Diagnosis

Cancer can be unutterably lonely. No one should try to bear it alone. Patient, family and friends usually learn the diagnosis sooner or later. Most people find it easier for all if everybody can share their feelings instead of hiding them. This frees people to offer each other support.

Patients usually agree that hiding the diagnosis from them denies them the right to make important choices about their life and their treatment. Families say patients who try to keep the diagnosis secret, rob loved ones of the chance to express that love and to offer help and support. Family members and intimate friends also bear great emotional burdens and should be able to share them openly with each other and the patient. Even the children should be told. They sense when something is amiss and they may imagine a situation worse than it really is. The patient might want to tell the children directly or it may be easier to have a close friend or loving relative to do so. The children’s ages and emotional maturity should be a guide in deciding

how much to tell. The goal is to let children express their feelings and ask questions about cancer. By sharing the diagnosis, patient, family and friends build foundation of mutual understanding and trust.

Coping within the Family

Cancer is a blow for every family it touches. How it is handled is determined to a great extent by how the family has functioned as a unit in the past. Problems within the family can be the most difficult to handle. You cannot go away from home to escape them. Adjusting the role changes can cause great upheavals in the way family members interact. Performing too many roles at once endangers anyone's emotional wellbeing and ability to cope. Examine what tasks are necessary and let others slide.

Consider hiring professional nurses. Financial costs need to be compared with physical and emotional cost of shouldering the load alone. Children may need special attention. They need comfort, attention, reassurance, affection, guidance and discipline at times of disruption in their routine.

Selves and Self-images

Cancer treatment can extend over weeks or months and side effects may come and go. Side effects can make you feel rotten; even make you think the cancer has returned. The known is less frightening than the unknown. Learn about your cancer, its treatment and how to treat possible side effects.

Fears and anxieties caused by cancer has affect on sexual relationship. Remember, cancer is not catching and cancer or other chronic illnesses are rarely the cause for infidelity in a good relationship. Treatment might make you feel uncomfortable about your body and sexually unattractive. Open discussion of these feelings with your mate is very important. Tangible personal qualities make up a great part of your attraction to your mate. These do not change with treatment. Spouses sometimes hesitate to initiate physical contact. Support, love and affection do include hugs and caresses. These may lead the partner with cancer to feel more comfortable about sexual intimacy. Physical exercise improves body image and feeling of wellbeing. Taking on new hobbies and learning new skills can bolster the good feelings about oneself. Reconstructive surgery and well-made prostheses help some people

overcome physical disabilities and emotional distress.

If the patients cannot seem to regain good feelings about themselves, they may seek professional counselling from the Homoeopath. If their relationship is endangered by the stress of cancer, professional help must be sought; they need each other at this time.

The World Outside

Some friends will deal well with the illness and provide gratifying support. Some will be unable to cope with possibility of death and will disappear from patient's life. Most will want to help but may be uncomfortable and unsure of how to go about it. Help of the friends will support the patients. They should ask themselves, "*Have friends deserted me or have I withdrawn from them?*" Advice the patients to telephone those who don't call on them, ask for simple assistance–to run an errand, prepare a meal, come and visit. These small acts bring friends back into contact and help them feel useful and needed.

If the patient is alone, the Homoeopath or social worker may 'match' them with another patient; someone else too needs friendship. Groups of other cancer patients can offer new friendship, understanding, support and companionship.

When the patient returns to work, co-workers like others may either shun them or support them or wait for the patient's cues on how to respond. There are laws to protect patients against job discrimination.

Living Each Day

Each person must work through, in his or her own way, feelings of possible death, fear and isolation. Returning to normal routines as much as possible often helps. Give the pleasures and responsibilities to each day, the attention they deserve. Responsible pursuits keep life meaningful, recreation keeps it zesty, and life should be filled with both. Remember the difference between 'doing' and 'overdoing'. Rest is important for both physical and emotional strength. It is harder to bolster one's will to live if you are alone. Yet many have acted as their own cheering squad and have found ways to lead meaningful lives.

Family members must not make a cancer patient an invalid person who is otherwise fully capable of physical activity and responsible participation in the family. Family members should not equate physical incapability with mental failing. It is especially important that an ill patient feels being a necessary part of the family. Families must guard against ‘rehearsing’, how they will act if the patient dies by excluding him or her from family affairs now only.

Reducing Stress is Must

Stress can come in a variety of forms. Although negative events like divorce or being fired are obviously stressful, you may be surprised to learn that some positive events, such as a wedding or a promotion, can be stressful too. Stress may be as minor as a buzzing fly or as monumental as a cancer diagnosis. Between all of those extremes lies an expansive spectrum of stress. We all have our favourite methods of stress management, whether it is a long, hot bath, playing with pets, a visit to the spa or squeezing a small ball while sitting through a stressful meeting. We all so desperately want to shake off the stress that hangs on us because we know that it (or our attitude towards it) negatively affects our health. There is no conclusive evidence demonstrating that stress, causes or spreads cancer. However, many studies have confirmed that ongoing stress can contribute to the development and progression of cancer. While it is probably impossible to eliminate stress altogether, it does make sense to try to find ways to minimise the various stressors in our lives and shore up our ability to cope with those stressors. Stressors are agents or conditions that can lead to a stress response. They can disrupt the internal balance. When this balance is disrupted, various physiological systems kick into action to try to re-establish balance. This is automatic and somewhat inexplicable, like a cat always lands on its feet. If the body detects imbalance, countless actions instantaneously occur to shift the body back into its comfort zone. All systems work together—cardiovascular, neurological, nervous, endocrine, immune, digestive system, to maintain that balanced internal state or homeostasis.

A certain amount of stress is normal and the body is designed to manage it. In fact, stress is essential to life. Stress causes us to adapt and change and over time, this contributes to our physical, mental, spiritual and emotional development. The stress response can also help us cope more effectively in

acute situations. We have all felt that nervous feeling prior to a big event, a difficult conversation or a deadline. In those cases, the stress response helps us focus and tackle the issue head-on. However, according to Harvard medical professor and stress expert Herbert Benson, MD, prolonged stress or repeated acute stress can overload us, compromising our performance and eventually our health. Stress can be physically damaging when the body gets accustomed to being out of balance. When being on high alert becomes the norm, homeostasis becomes foreign and unrecognizable. In this high-alert state, the body releases stress induced chemicals causing organs and tissues to function differently in response. The normal functioning of the immune system is also affected. Immune cells behave differently, amplifying certain alarm reactions while neglecting their normal housekeeping tasks. And if the body's systems are constantly vigilant and focused on perceived stressors, they cannot do their job of killing cancer.

Researchers at Ohio State University published a paper analysing the association between age, stress and immune function. They found that the immune system is affected by both aging and psychological stress. Each can disrupt immune function and have a potentially negative impact on health. Even worse, the effects of stress and age interact. Older adults can have more immune system impairment due to stress than younger adults because physiological stress both mimics and exacerbates the effects of aging. Life can be hard and unpredictable and it isn't possible to avoid major life stressors. Divorce, death of a loved one, losing a job, and serious illness can rear its ugly head. But we can support our bodies through these difficulties with a healthful diet, healing lifestyle and activities that quiet the mind and encourage internal peace.

Choosing stress reducing activities is an individualised process. Putting on boxing gloves to work out frustrations may be perfect for some, while meditation may be the answer for others. Yoga, walking, golf, horseback riding, or tennis all can be great stress-reducing activities or some may find that reading, journaling, praying, or listening to music helps to relax. Experimentation and trying different things should be the approach. When a few enjoyable activities have been found that help to relieve stress, the patient should stick with them and incorporate them into the regular routine. One technique is so effective and yet so quick and easy to use that we encourage everyone to use it—deep breathing. Many of us fall into a habit of

breathing shallowly, only into the chest. A few deep, diaphragmatic breaths can be enormously healing and help wash away stress and its biochemical debris. A truly deep, diaphragmatic breath involves breathing so that the diaphragm expands downward. To check how one is breathing, place one hand on the chest and the other on the stomach. In diaphragmatic breathing, the hand on the stomach should move more than the hand on the chest. Next time you're overwhelmed by stress or overtaken by a strong negative emotion, give diaphragmatic breathing a try and see how it affects you. The more one is aware of his emotional state, the more effective he will be in beginning stress management early, and before the stress has such a dramatic cascading effect.

Prognostication of Cancer Care

Cancer is more than a physical disease. Cancer is a mental-emotional-physical phenomenon. During my journey of writing this book for many years I have researched a lot mostly with the books and publications from Tata Memorial Hospital, and I have dealt with my emotions and personal experiences surrounding cancer. Eclipsing my fears and sadness was the awe that comes from interacting with people diagnosed with cancer and their loved ones. I continue to be inspired by the countless individuals who choose not to be identified solely by their diagnosis; individuals who step beyond their cancer to capture all that life has to offer with tenacity and grace, these people do not allow cancer to define them, their existence and even their future. While they are diverse in terms of how they handle their health, treatment and emotions, they share a common characteristic -the need to thrive, not just survive.

I appreciate the numerous cancer ‘thrivers’ I have met who continue to live beyond their diagnosis and prognosis. I have also come to respect those who have died at the hands of this illness. And I honour the strength and joy of loved ones, the people who bear witness to the lives of their beloved family members and friends with cancer.

It is tempting to rant about what is wrong with medicine today because there surely is a long list of things that must change. But let us first recognise the value of the many healthcare professionals, also the researchers, lab technicians, nurses, scientists, doctors, Homoeopaths, and many others who devote their lives to the field of cancer care. These professionals, who are at the core of cancer care, have chosen to help people when they are most helpless and afraid.

Presently, there is a shocking trend in oncology. 30% of cancer specialists in India are 50 years of age or older. Many will retire in the next decade. The rate of new oncologists presently will not keep pace with the rate of retirement, causing a shortage of nearly 10,000 oncologists by the year 2030. And yet, the number of people diagnosed with cancer in the India is estimated to increase by 45% by 2030. Obviously, this is a dangerous trend. As we brace ourselves for a major change in health care, we must consider this serious issue that will soon plague oncology. Patients can become more proactive in choosing their doctors and be receptive to embracing an integrative approach that may include a team of health-care professionals working together to ease the burden of the oncologist.

Role of Integrative Cancer Care

What causes a survivor to become a thriver? Some might say hope and specifically the hope for a cure. Yes, hope is important. But from our perspective, it is not the hope for a cure that encourages us as much as hope for a change, a change in the way cancer treatment and healing is viewed. Our hope is that collaboration between a Homoeopath and cancer therapist becomes the cornerstone of cancer care in the future. Not just collaboration between patient and doctor, but collaboration that mirrors our very own internal nature of inter-connectedness, a rhythmic flow that comes naturally. This is not simply teamwork involving treatment. It is an alliance that encompasses body, mind and spirit. It is a consistent, overarching effort that combines the best of conventional and complementary medicine with the proactive efforts of the patient, which must include a healthy diet, positive lifestyle choices and appropriate dietary supplements. This is integrated medicine, and it is the future of cancer care.

Conventional medicine has delivered many advances over the past decade. Areas that hold promise for the future of cancer treatment include utilising nanotechnology for more pinpointed treatments and the study of the biological actions of proteins, known as proteomics. Just as genoinics has helped medical science in many ways, proteomics is quickly becoming an important focus in cancer diagnosis and treatment. In the future, Homoeopathy, Iscador therapy, diet, lifestyle, and dietary supplements will go beyond merely supporting and sustaining. These controllable factors will be viewed as significant complementary treatment techniques to reverse

cancer. More funding is needed for researching integrative approaches. Our present system primarily rewards those who can substantiate the performance of isolated synthetic drugs that can be patented. Research into combined approaches or utilising a healthy diet, positive lifestyle choices, and supplements, all of which cannot be patented, is presently not being supported as much as it could be or should be.

I see some changes in conventional medicine. Medical schools and research facilities are beginning to pay attention to the broader aspects that make up an integrated approach to cancer treatment and healing; but we cannot wait until everyone is truly on the same page. Until that time, people must be proactive about using an integrative approach for both prevention and healing. Throughout history, long-lasting change has come from the masses groups especially the Non Government Organisations (NGO) who take the initiative. Our Indian health-care system is in dire need of such an initiative. True and lasting change will come from patients and their loved ones. Our doctors are so pressured by managed care, insurance directives and other constraints that they are limited as to the degree of change they can invoke. Patients and loved ones need to work in partnership with the system that is in place while also searching for information on complementary approaches to healing and staying healthy. Each of us must take the lead in our own health care. The system will then be forced to change to keep up with the demands of its customers, the patients.

The New View

It is my goal that health-care professionals, patients, loved ones, politicians and all people of influence begin to look at cancer differently. It is time to set aside the desperate search for a magic bullet that will cure all cancers. Back in the 1960, Rajendra Prasad declared a ‘war on cancer’. The strategy was to find a cure, some type of amazing chemical or machine that could zap cancer out of existence. Cancer has proven to be a formidable opponent. It is time to pause, take a deep breath and re-evaluate our war on cancer. It is time to methodically and logically approach cancer treatment and healing from a multifaceted standpoint. To win the war on cancer, we must utilise a systems approach that addresses cancer on many biological levels and includes healing of the body, mind and spirit. If we are to transform cancer care, we must begin by transforming ourselves. Let’s broaden our view with the hope

that we can find true collaboration and thereby create true healing.

Cancer Research

There is scarcity of research in the field of integrative oncology and role of homoeopathic treatment in management of cancer; though the things are improving gradually. Many of the integrative oncology treatments have not undergone as much research as the conventional treatments; there are several reasons for this, like research funding issues, lack of researchers and experts in this field. In addition, the standard study designs used by conventional pharmaceutical research like clinical, double-blind, and placebo-controlled trials that analyse single substances or isolated treatments cannot be reciprocated to evaluate the effects of integrative treatments. The integrative treatments like homoeopathy are based on a multidimensional philosophy and embrace multiple individualistic interventions that can impact disease progression and quality of life. So, a number of variables are involved that cannot be studied by the gold standard conventional research models.

However, it is pertinent to keep abreast with the latest researches that aim to understand the cancer as a disease or the advancements in the investigations or cancer patients' care and treatment. It is often experienced that clinicians who are not into hard core research find it difficult to assimilate the research methodology and findings, and therefore they are unable to learn and apply new techniques in practice.

In addition, cancer patients seek information from their oncologists and homoeopaths regarding many aspects of their disease, its treatment and the outcome. Patients and their families come up with many questions like: *How common is my disease? How many patients recover after this treatment? What are the chances that this treatment will shrink the tumour? What are the chances it will prevent the return of the cancer? What are the chances it will prolong my life? What will be the impact on my quality of life?* This information is available in terms of statistics which we need to understand. The statistical information should be interpreted carefully in practice.

So, here is an attempt to clarify some basic terminology of research methods and statistics:

Terminologies in relation to type of study and study design:

In vitro studies are done on the whole living organisms i.e. human beings or animals; *in vivo* studies are done using 'parts' of a living organism like tissues or cells in a petridish or test tubes.

In *Observational study* patients are observed for outcomes but no specific treatment is given; *Intervention study,* the preventative or therapeutic measure is tested and/or compared prospectively with the control i.e. standard treatment, no treatment or placebo.

Prospective study is done before the subjects have outcome being measured, and data analysis happens after a period of time has elapsed; while *Retrospective study* analyses the impact of past treatment in the subjects by researching outcomes that have already occurred at the time of commencement of the study.

Epidemiological study is a large, population based study that tells about the patterns of occurrence of a disease, their variations, and the socio-economic impact of the disease.

Clinical trial is a research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects on health outcomes. It is undertaken in four phases:

1. *Phase I trials* are done to evaluate the effect of the new drug or treatment on a small number of people (fewer than 100) to provide indications of a drug or treatments safety and safe dosage range, and to reveal any side effects.
2. *Phase II trials* study the effect of a new or experimental substance at a safe; as determined in phase I. The therapy tested on a larger group of patients of same type of disease to determine effect on disease progression, gauge patient's tolerance, and to uncover side effects that may not have been evident in the phase I trial.
3. *Phase III trials* are larger trials (usually 400 to 1,000 patients) to compare the effects of new or experimental substance to standard treatment in a controlled trial. This reveals clinically relevant

information for understanding the indications and limitations for the new therapy. If clinical effect is shown in phase III trials, the drug is submitted to the concerned authority for approval.

4. *Phase IV* trials are tested in several hundreds or thousands of patients after a new drug has been brought to market and prescribed to patients. Rare or long term adverse effects are assessed that were not detected in the relatively short phase through phase III trials.

Randomised controlled trial (RCT) is a study in which the participants are divided by chance into separate groups that compare different treatments or other interventions. Using chance to divide people into groups means that the groups will be similar and that the effects of the treatments they receive can be compared more fairly. At the time of the trial, it is not known which treatment is best.

Placebo-controlled trials compare the effect of the intervention with placebo.

In *Double-blind clinical trials* neither the patient, nor the investigators are aware of the intervention being used, whether it is the medicine or placebo.

Statistical significance is a measure of whether the research findings are meaningful; or whether the statistical finding closely matches the expected value for an entire population.

P-value or probability value helps to determine the significance of the results i.e., if any difference seen between groups is real or is due to chance. A small p-value (typically ≤ 0.05) is statistically significant, this means that there is less than a 5 percent chance that the observed difference is clue to chance.

The following are a few cancer related researches in Complementary and Alternative Medicine (CAM) and Homoeopathy:

Efficacy of Alternative Medicine (Homoeopathy) for Acute Radiation Dermatitis Grade IV using Homeopathic Radioactive Pharmaceuticals in Relief of Pain and Quality of Life

Dr Farokh J. Master, Dr Rukshin F. Master

Paper presented at 17th World Congress on Pain by International Association for study of Pain (IASP), Boston (2018)

Aim

The aim of this prospective study was to uncover the analgesic effect of radioactive homoeopathic pharmaceuticals in treatment of radiation dermatitis IV and improving the quality of life.

Methods

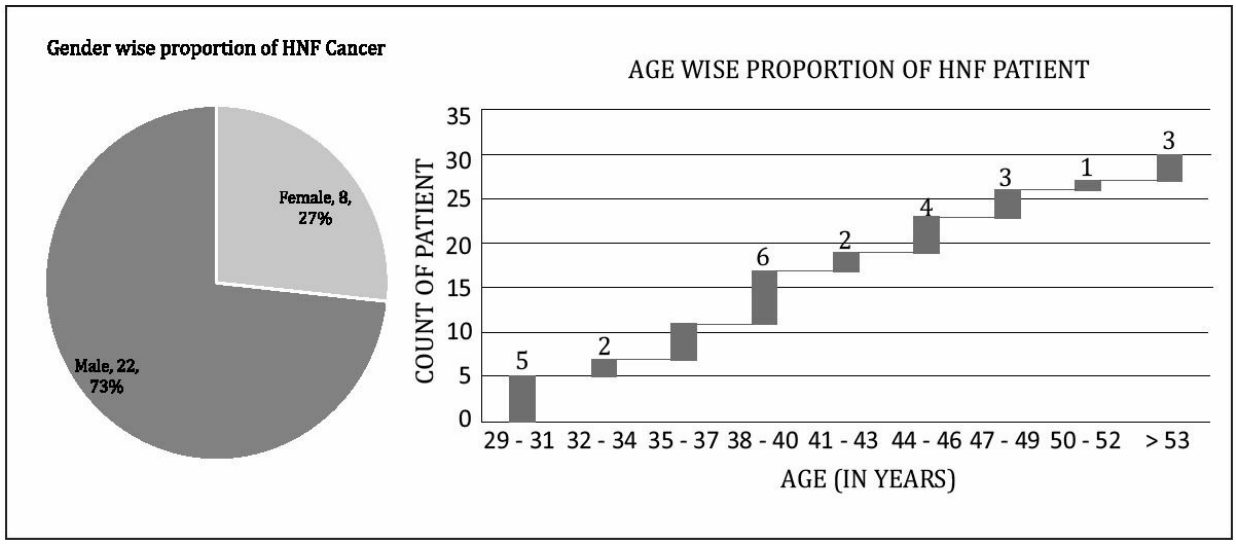
We selected 58 patients with cancer (of the head, neck, or face), out of which 30 patients regularly attended our cancer clinic for a minimum period of 6 months. Evaluation was based on the type of pains viz. burning, pricking, stabbing, etc. and the duration of the pain was also noted. The pain score from 0 to 10 was used for the intensity of pain.

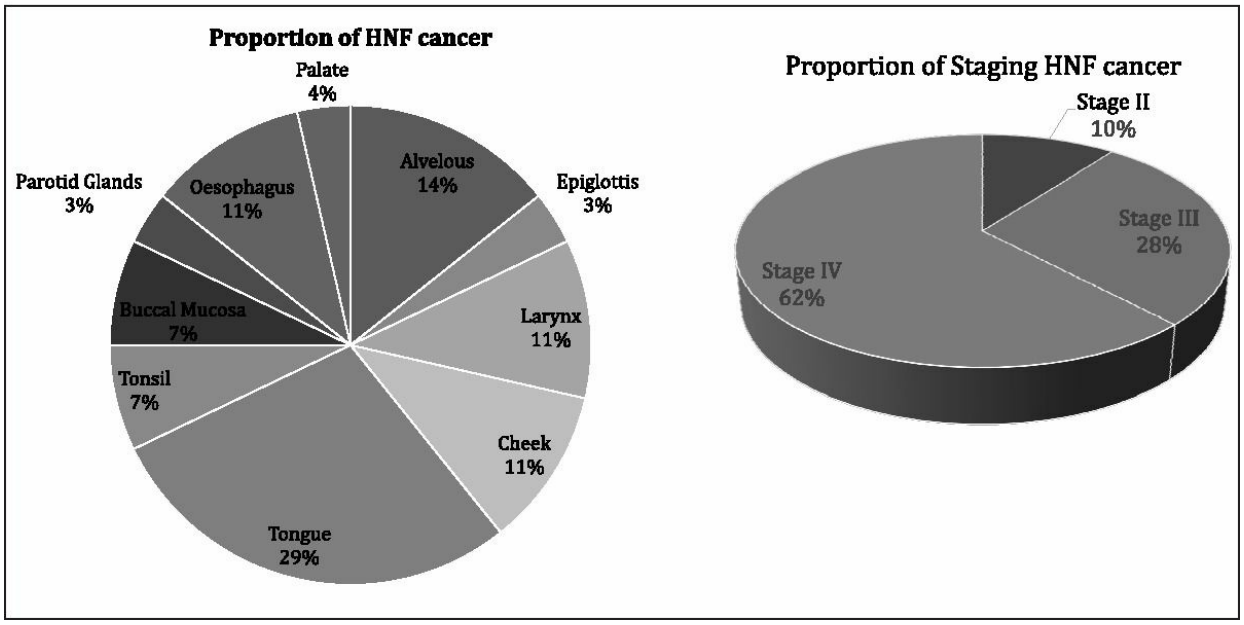
The use and dosage of pain killers by the patients was noted in the beginning. In the first two weeks, the dose of pain killers was unchanged but subsequently, the dosage was reduced to observe the effect of homoeopathic medicine on the pain due to radiation dermatitis.

Detailed homoeopathic evaluation of the patients was done, determining their past and family history, physical constitution, physical general symptoms and life space. Single homoeopathic drugs were selected in different potencies and administered by a special ‘5 cup method’ dose and patients were observed for minimum 6 months duration.

The outcome of the treatment was evaluated using Karnofsky Performance Scale, European Organization for Research and Treatment of Cancer QLQ-C30 (Version 3) and Brief Pain Inventory.

Observations





**HNF: Head, Neck, Face*

Figure 1: Demographical Findings

Among 30 patients:

- 93% patient had metastasis,
- 80% had underwent in surgical intervention,
- 50% were on chemotherapy & radiotherapy,
- 3% were only on chemotherapy,
- 47% were only on radiotherapy.

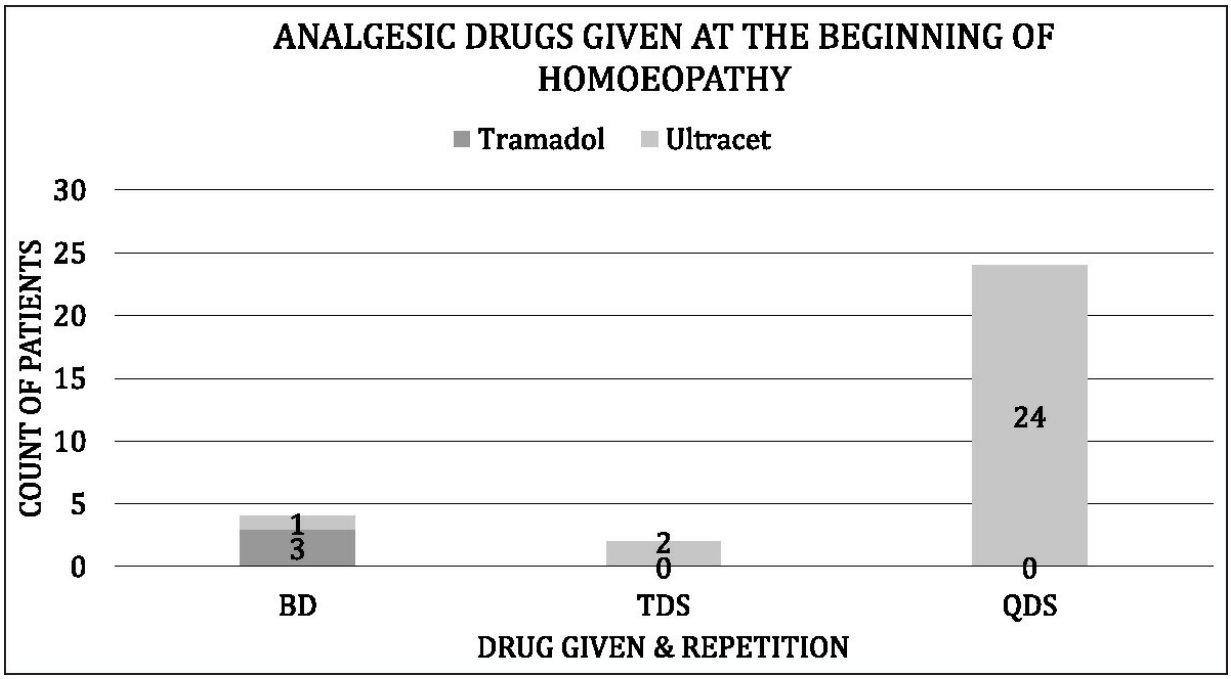


Figure 2: Analgesic History

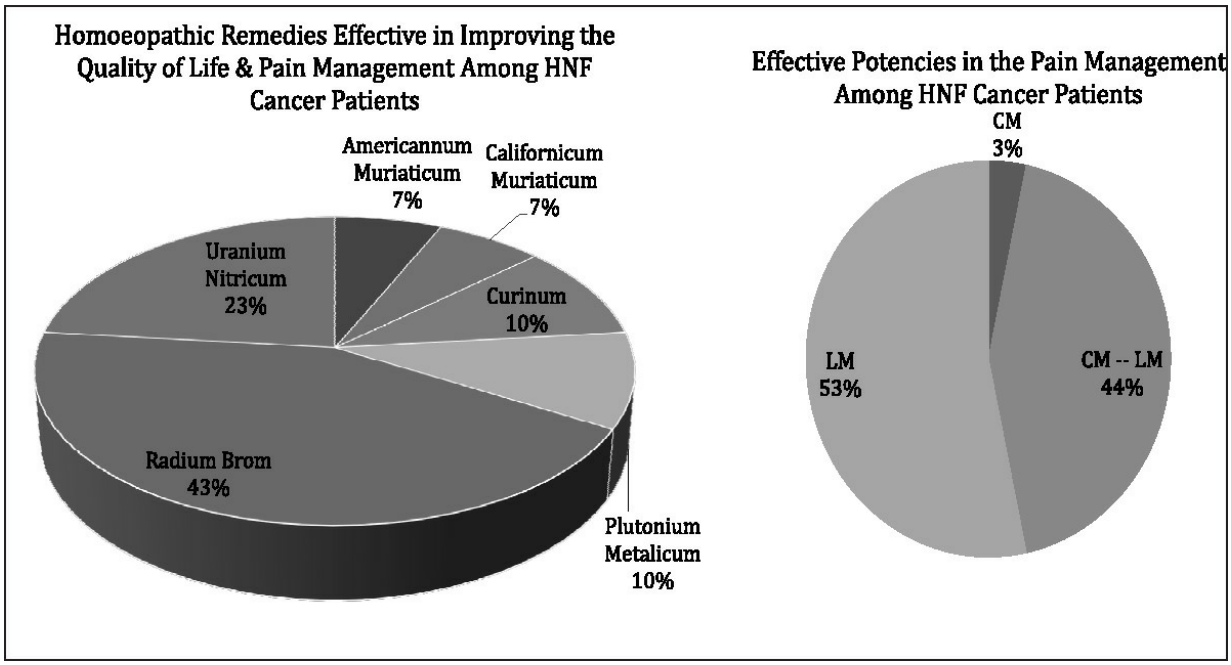


Figure 3: Homoeopathic Remedies and Potencies Used

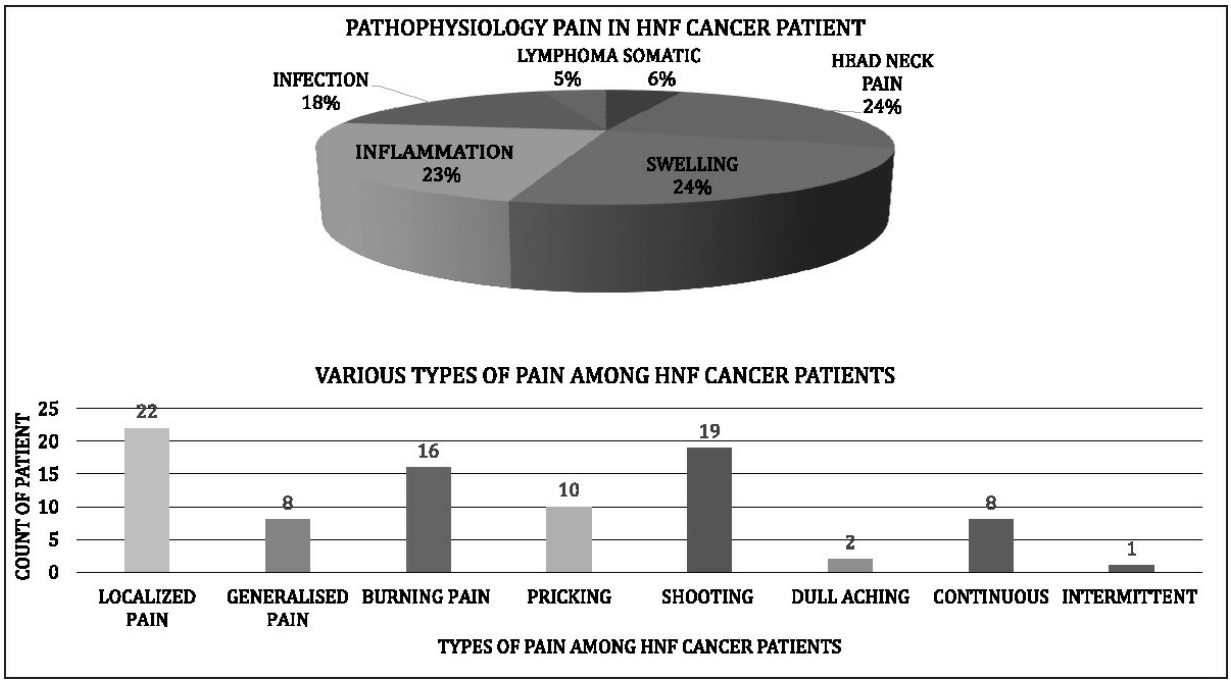


Figure 4: Pathophysiological Data

Data Analysis

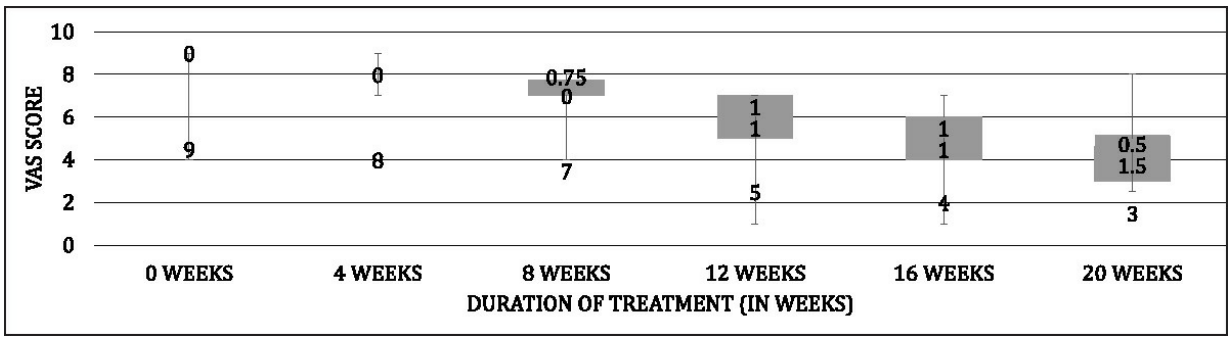


Figure 5: Effect of Homoeopathic Medicine Along with Existing Management on VAS Score [Friedman Test was applied. There was a statistically significant difference on the VAS score after Homoeopathic treatment along with existing management, $\chi 2(5) = 124.25$, $p = 0.000$.]

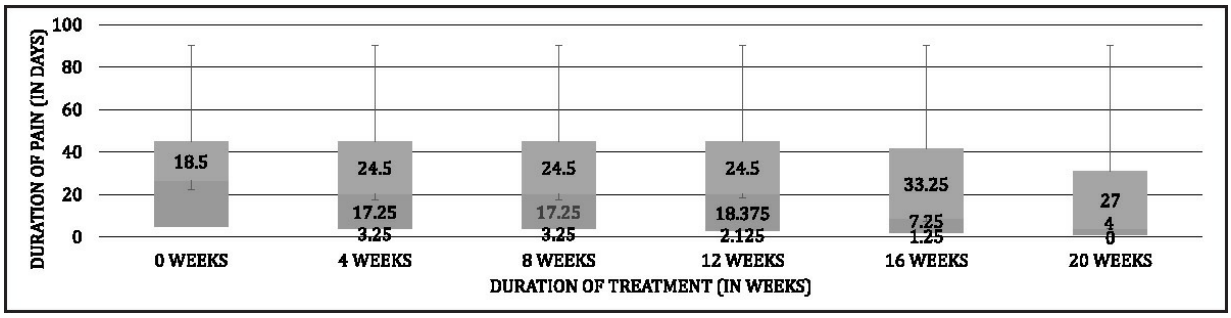


Figure 6: Effect of Homoeopathic Treatment along with Existing Management on Duration of Pain in HNF Cancer Patients [Friedman Test Applied. There was a statistically significant difference on the duration of pain (in days) after Homoeopathic treatment along with existing management, $\chi2(5) = 11.16$, $p = 0.048$]

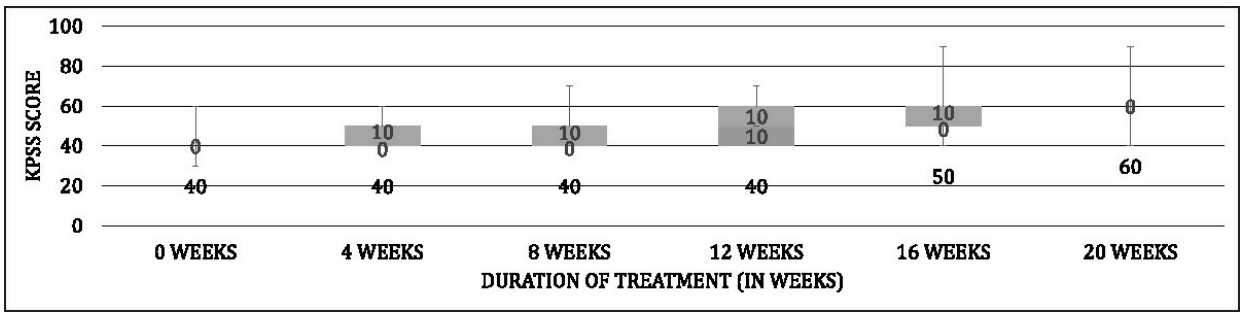


Figure 7: Effect of Homoeopathic Treatment Along with Existing Management Over Functional Impairment on HNF Cancer Patients [Friedman Test Applied. There was a statistically significant difference on the improvement in functional impairment after Homoeopathic treatment along with existing management, $\chi2(5) = 108.84$, $p = 0.000$.]

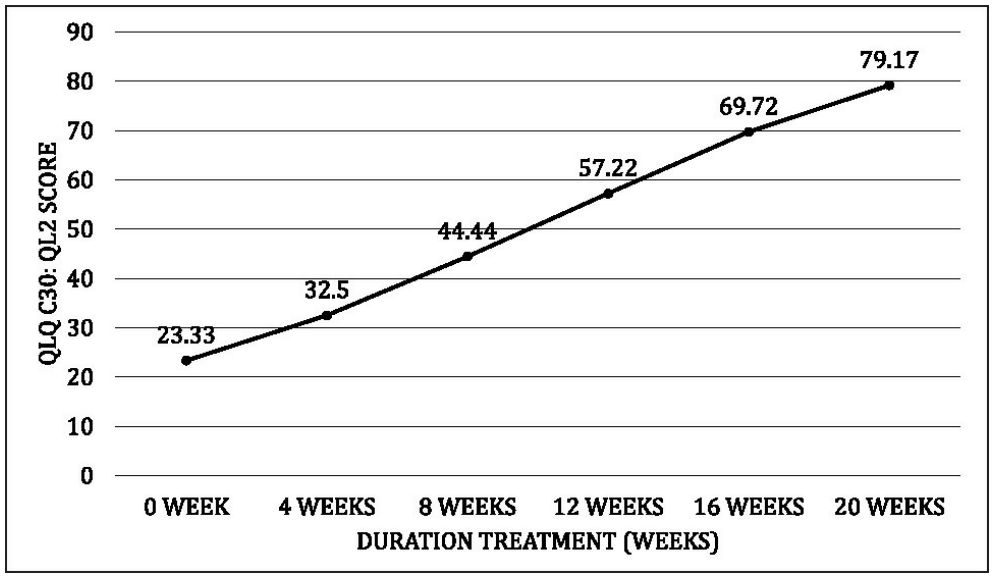


Figure 8: Effect of Homoeopathic Treatment Along with Existing Management on the Global Health Status

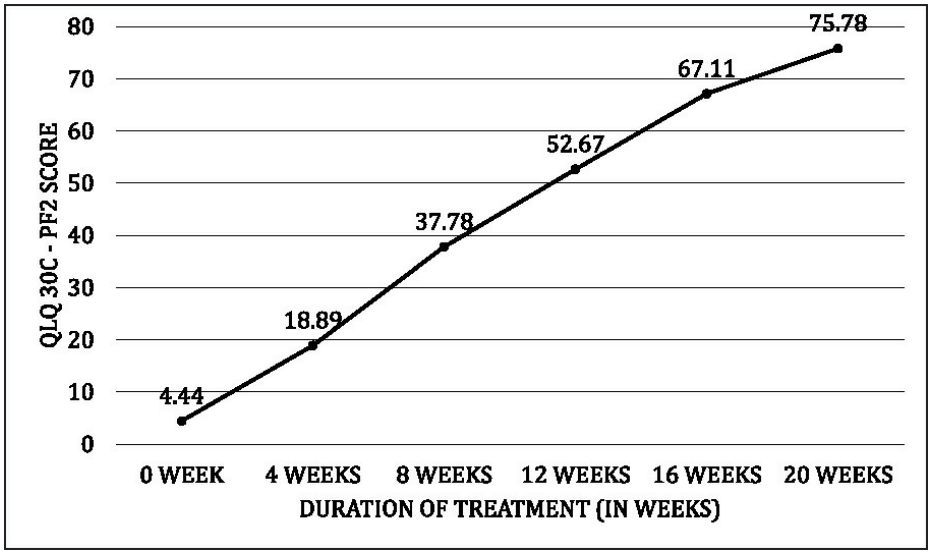


Figure 9: Effect of Homoeopathic Treatment Along with Existing Management on Physical Functioning

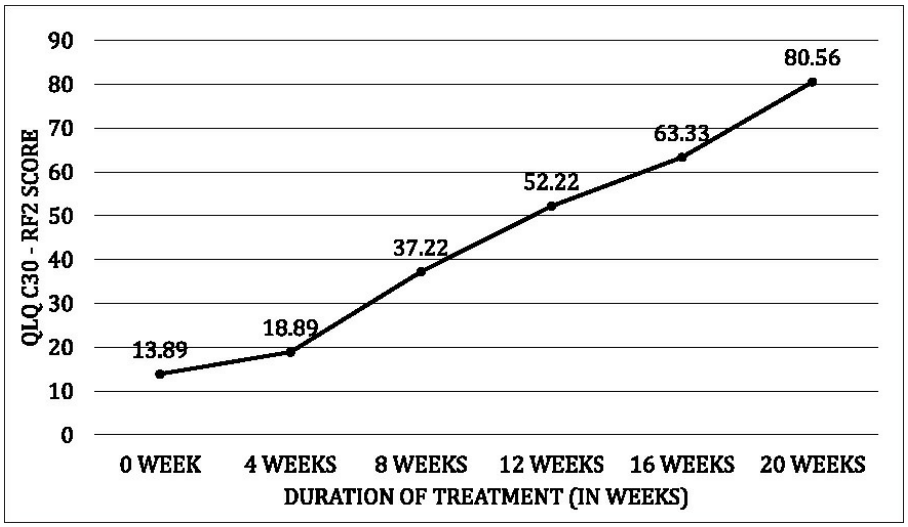


Figure 10: Effect of Homoeopathic Treatment Along with Existing Management in Improvement of Role Functioning

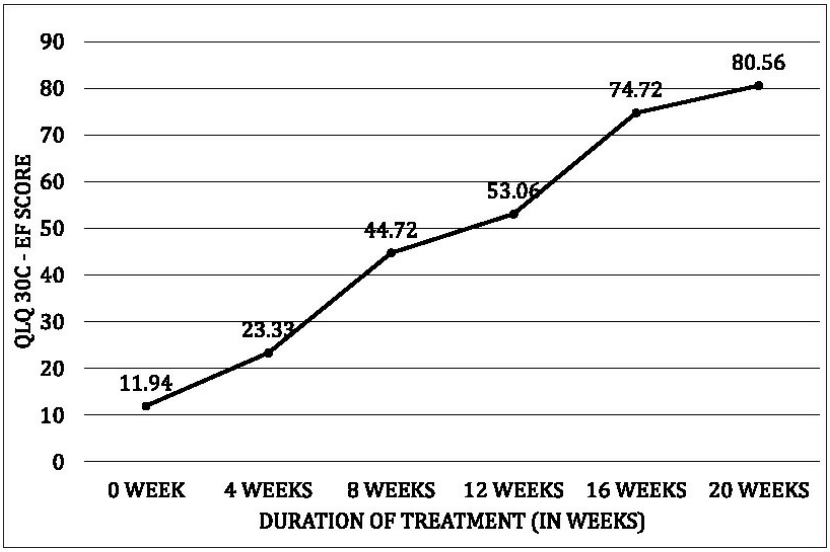


Figure 11: Effect of Homoeopathic Treatment Along with Existing Management on the Emotional Functioning

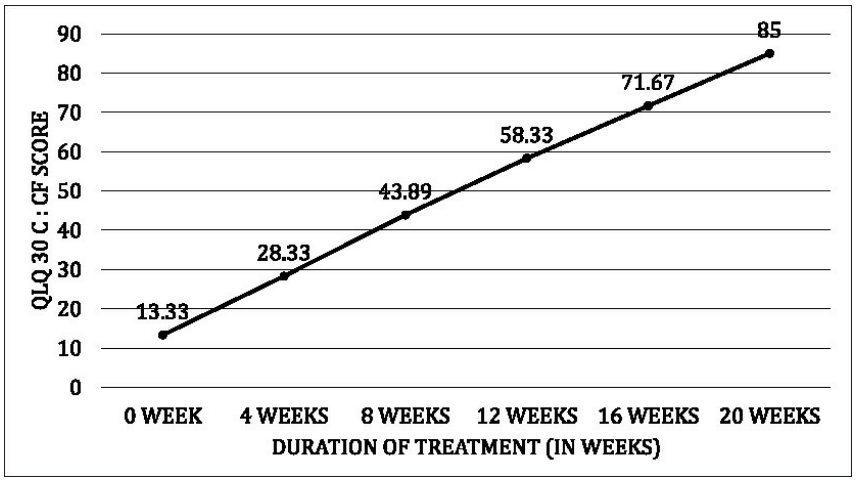


Figure 12: Effect of Homoeopathic Treatment Along with Existing Management on Cognitive Functioning

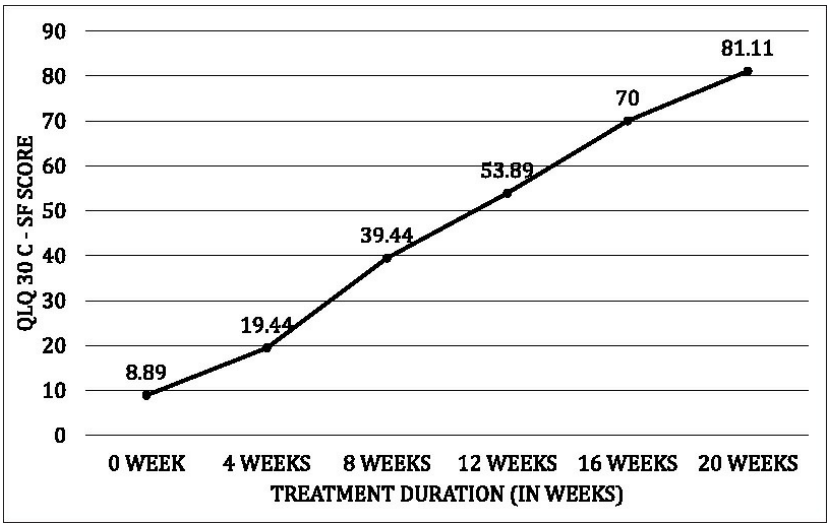


Figure 13: Effect of Homoeopathic Treatment Along with Existing Management on Social Functioning

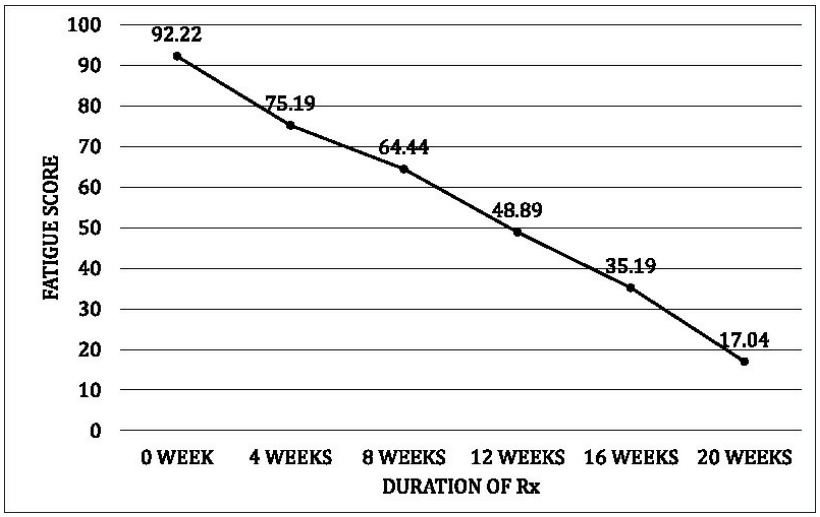


Figure 14: Effect of Homoeopathic Treatment Along with Existing Management on the Fatigue Levels among HNF Cancer Patients

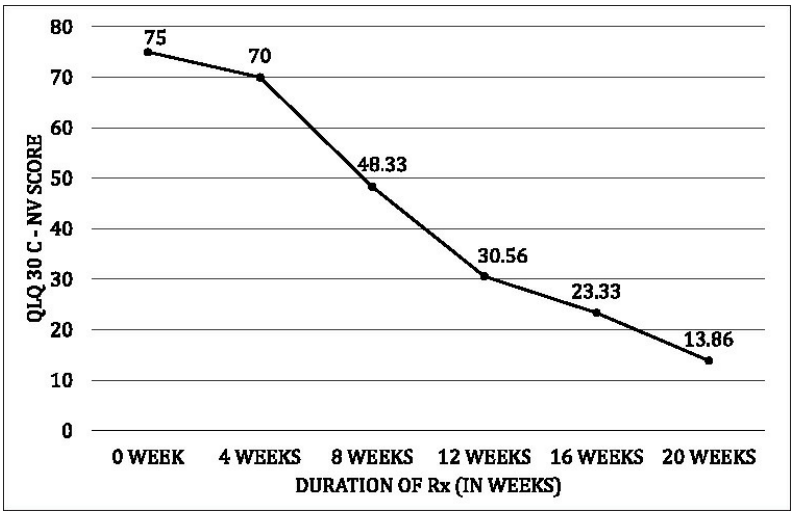


Figure 15: Effect of Homoeopathic Treatment Along with Existing Management on Nausea and Vomiting among HNF Cancer Patients

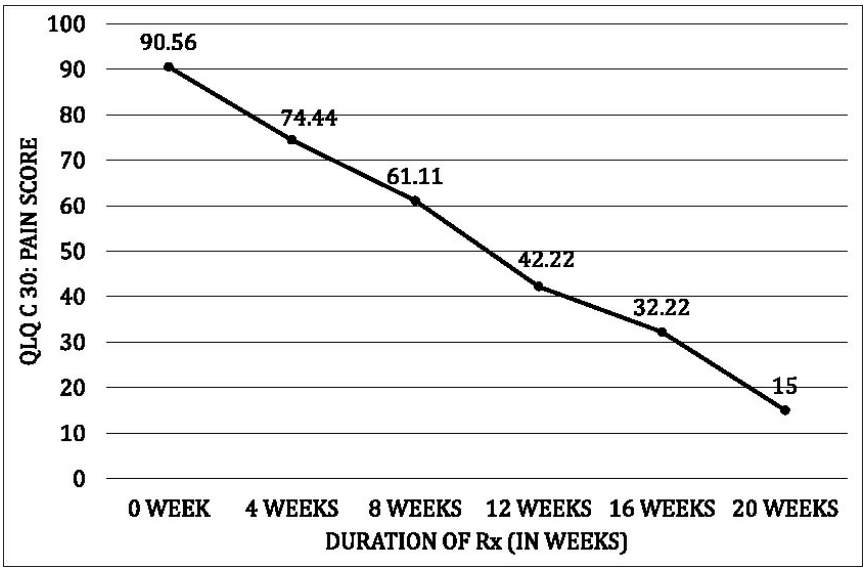


Figure 16: Effect of Homoeopathic Treatment Along with Existing Management on Pain among HNF Cancer Patients

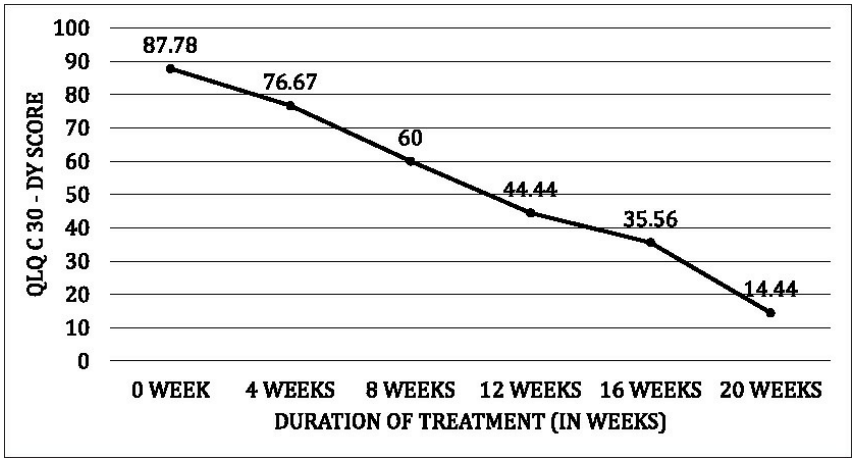


Figure 17: Effect of Homoeopathic Treatment Along with Existing Management on Dyspnoea among HNF Cancer Patients

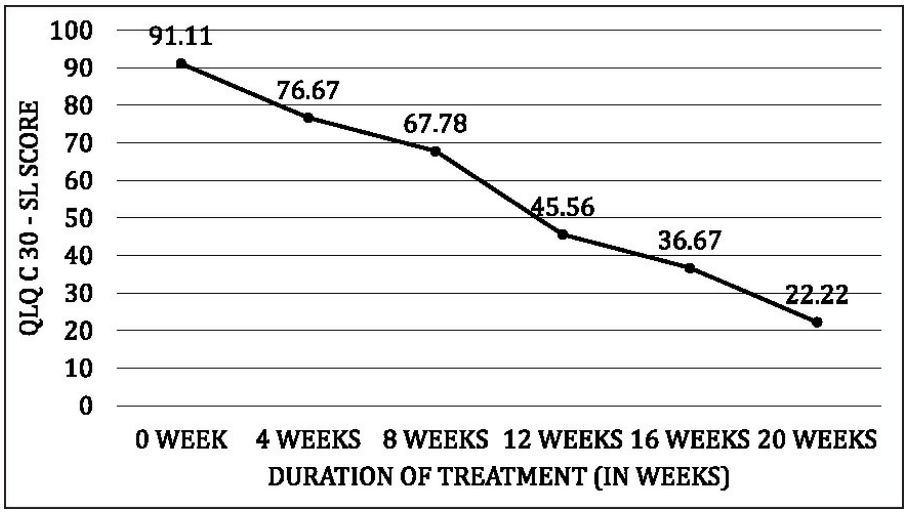


Figure 18: Effect of Homoeopathic Treatment Along with Existing Management on Insomnia among HNF Cancer Patients

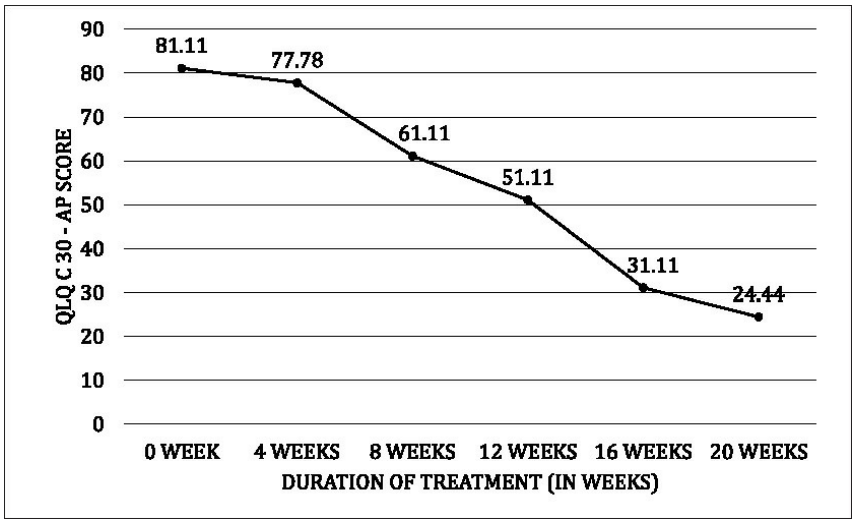


Figure 19: Effect of Homoeopathic Treatment Along with Existing Management on Appetite Improvement among HNF Cancer Patients [There was a statistically significant difference on the improvement in Appetite after Homoeopathic treatment along with existing management, $\chi 2(5) = 87.52$, $p = 0.000$.]

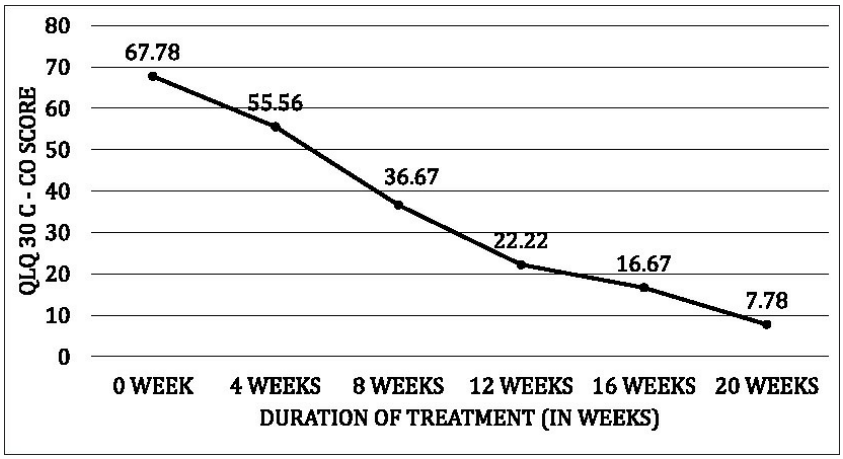


Figure 20: Effect of Homoeopathic Treatment Along with Existing Management on Constipation among HNF Cancer Patients

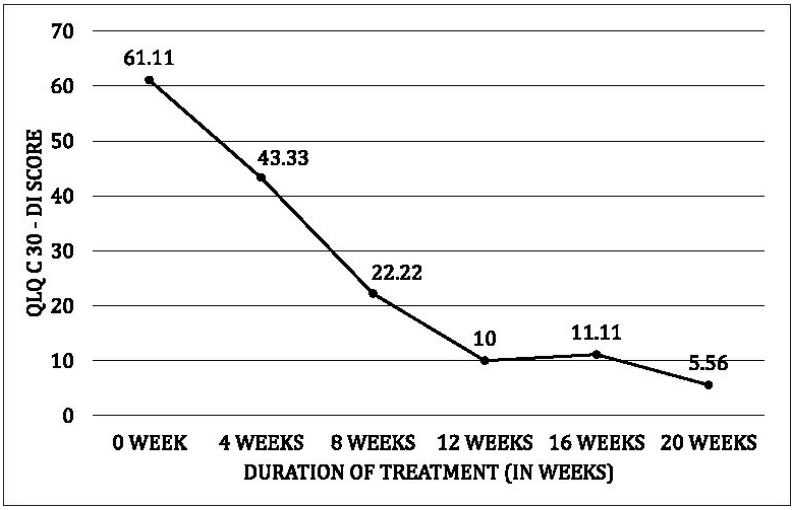


Figure 21: Effect of Homoeopathic Treatment Along with Existing Management on Diarrhoea among HNF Cancer Patients

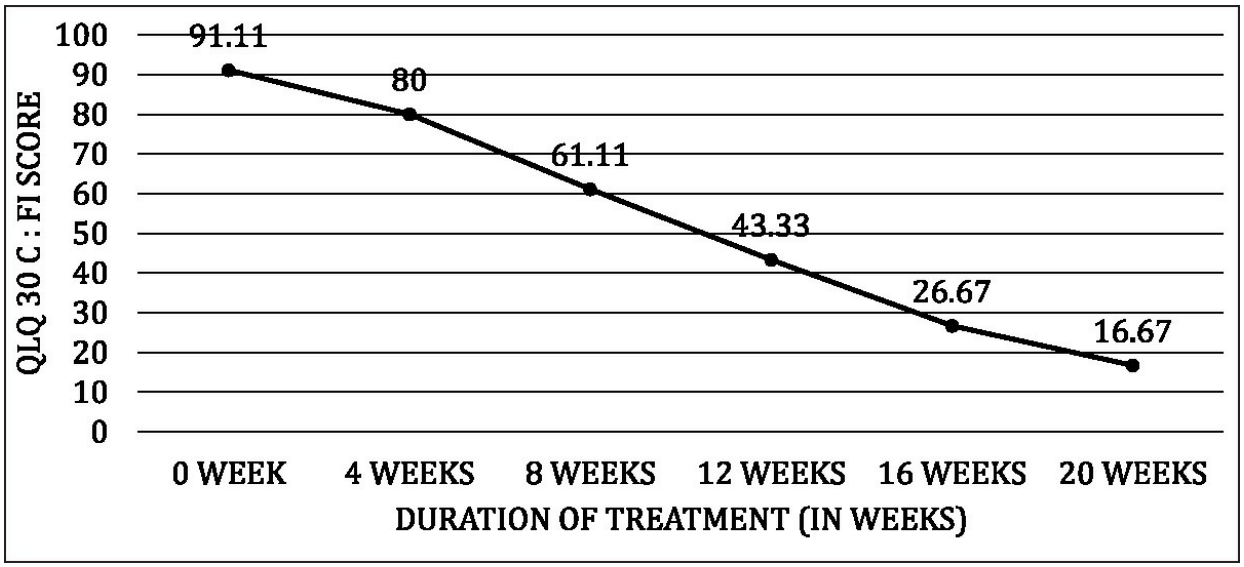


Figure 22: Effect of Homoeopathic Treatment Along with Existing Management on Financial Stress among HNF Cancer Patients

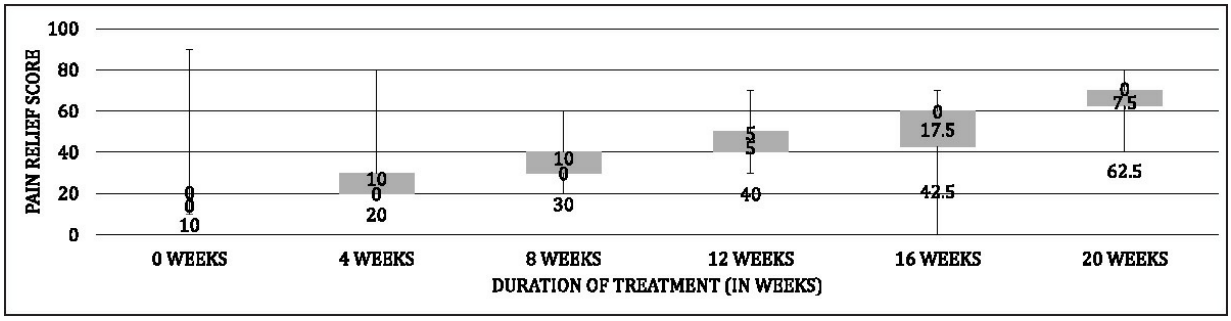


Figure 23: Effect of Homoeopathic Treatment Along with Existing Management on Pain Relief Score among HNF Cancer Patients [There was a statistically significant difference on the improvement in pain relief after Homoeopathic treatment along with existing management, $\chi 2(5) = 123.20$, $p = 0.000$.]

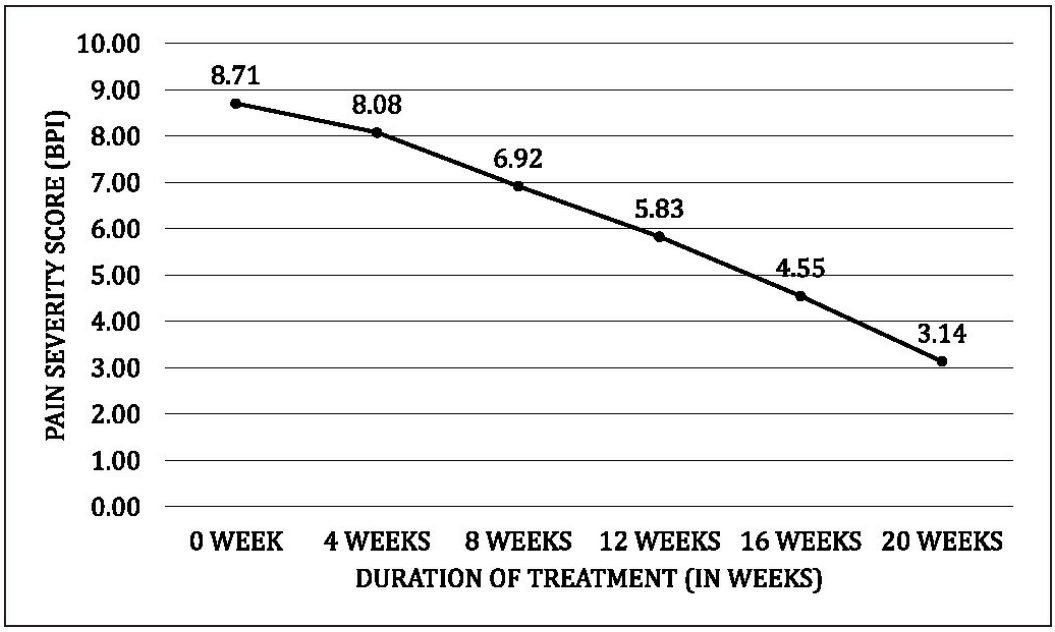


Figure 24: Effect of Homoeopathic Treatment Along with Existing Management on Pain Severity Score among HNF Cancer Patients

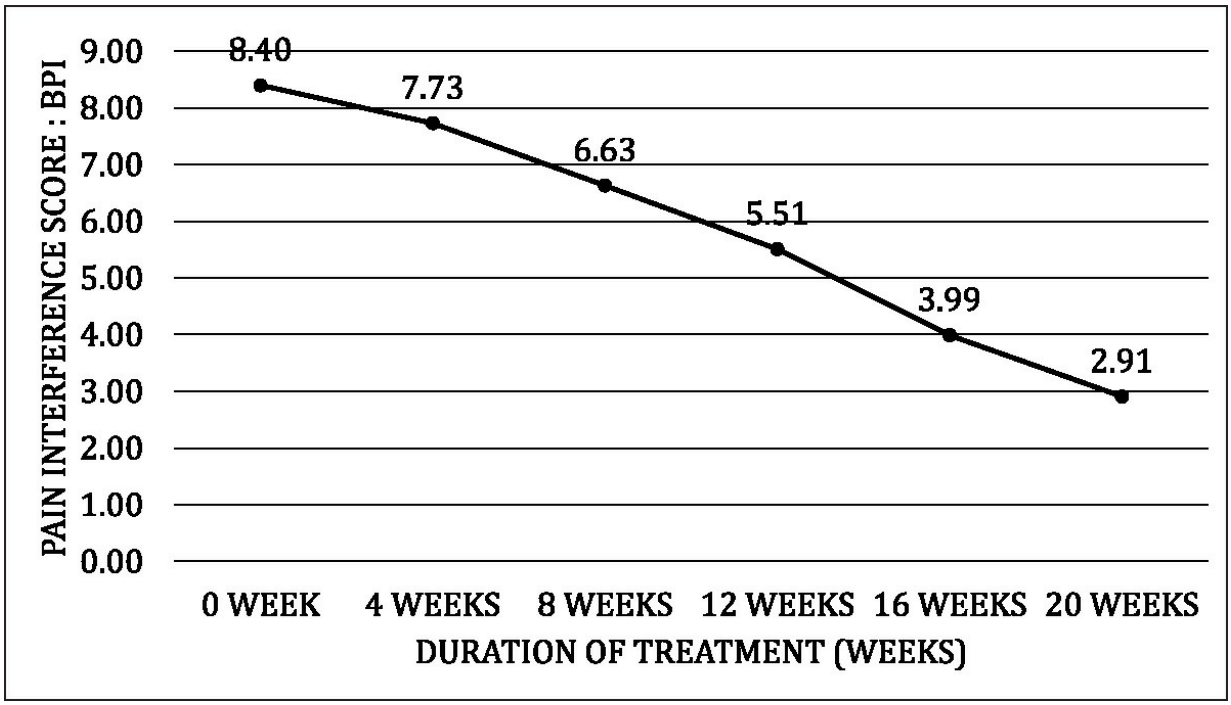


Figure 23: Effect of Homoeopathic Treatment Along with Existing Management on Pain Interference among HNF Cancer Patients

Results

The results were very encouraging and statistically significant.

- More than 80% of the patients experienced lesser pain.
- More than 90% of the patients were able to reduce their painkiller medications.
- More than 70% of the patients felt their energy levels and feeling of well-being improved by almost 80%.

Conclusion

From this study, we could positively conclude that homoeopathic medicines were able to reduce the intensity of pain in the cancer patients without causing any adverse effects. In fact, with this homoeopathic treatment, the patients reported an improvement in their energy levels and overall condition with an enhanced sense of well being.

Evaluation of Analgesic Effect of Homoeopathic Pharmacotherapy in Refractory Bone Metastasis Pain and Reducing Bone Complications

Dr Farokh Master, Dr Rukshin Master

Paper presented at 15th World Congress on Pain, Buenos Aires (2014)

Aim

To understand the analgesic effect of homoeopathic medicines and their role in reducing bone complications of cancer patients taking morphine.

Objectives

- To explore the effect of homoeopathy in reducing the pain by using pain score (Numeric Rating Scale).
- To explore the possibility of reducing the need of morphine by using

homoeopathic medicines.

- To understand the quality of life of patients after homoeopathic intervention by using scale EORTC / C / 30 QLC / C / 30.
- To evaluate the effect of homoeopathic medicine on function of liver and kidney.

Methodology

The study was conducted at Homoeopathic Health Center, K.E.M. Hospital (Mumbai) and Ruby Hall Hospital (Pune).

Study Design: Prospective Case Series Method

Sample Size: 30

Inclusion criteria: Patients having cancer who are taking morphine **60** mg for at least **7** days.

Observations

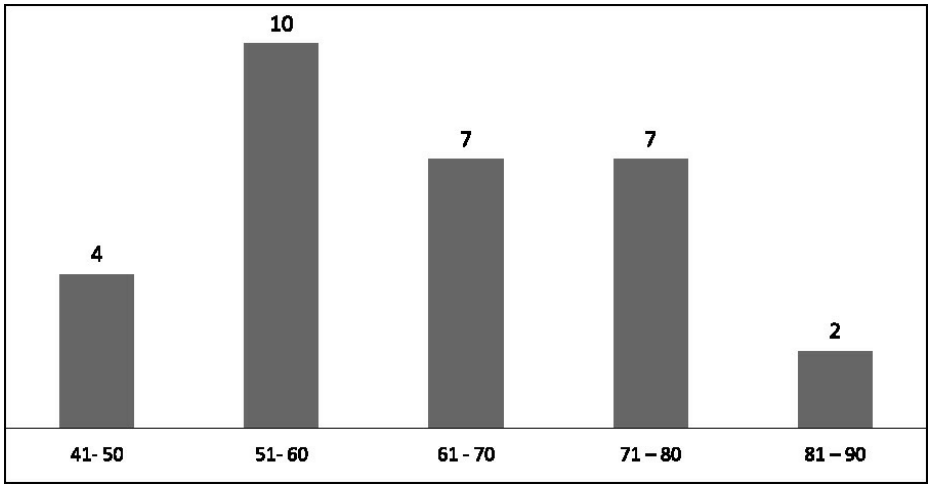


Figure 1: Age Distribution

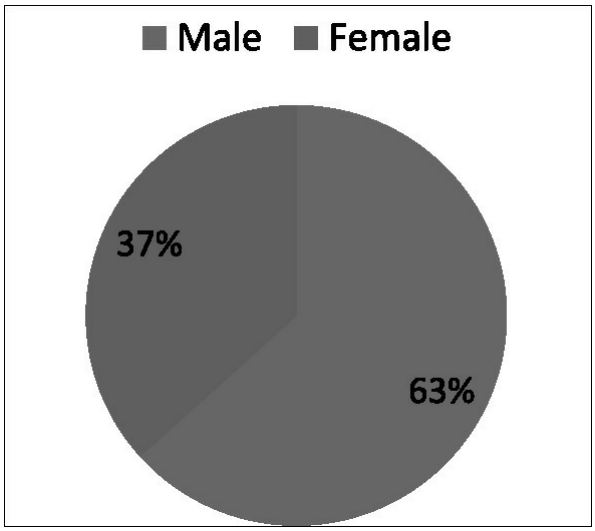


Figure 2: Sex Distribution

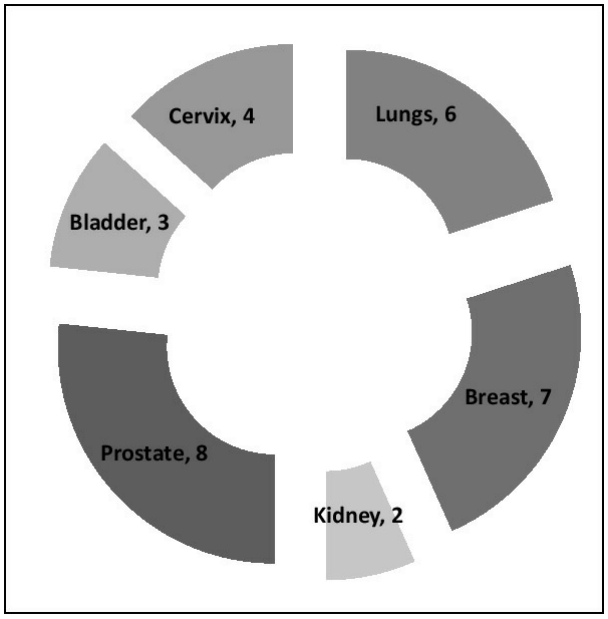


Figure 3: Primary Diagnosis of Cancer

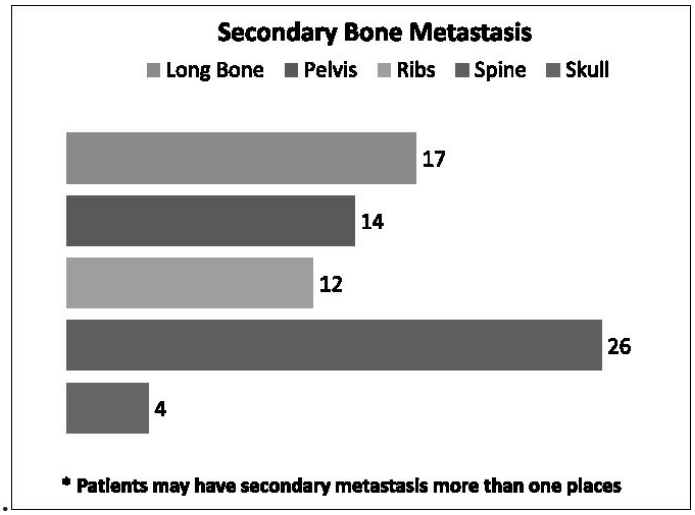


Figure 4: Secondary Bone Metastasis

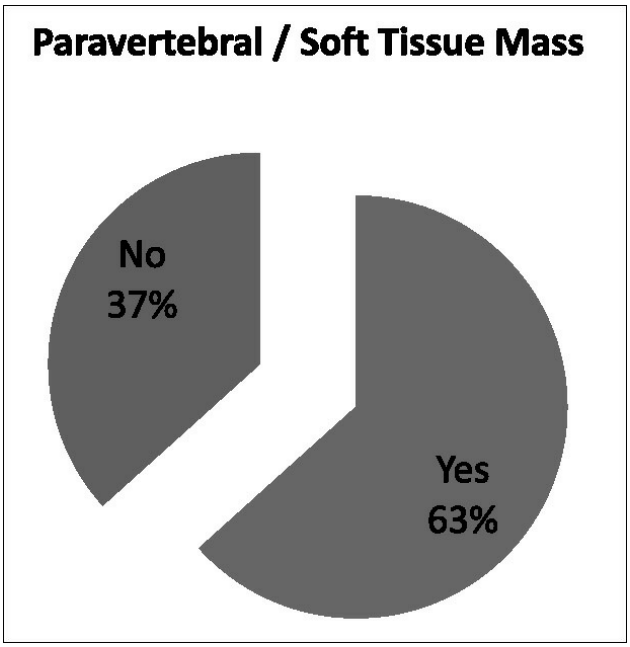


Figure 5: Paravertebral/Softissue Mass Presence

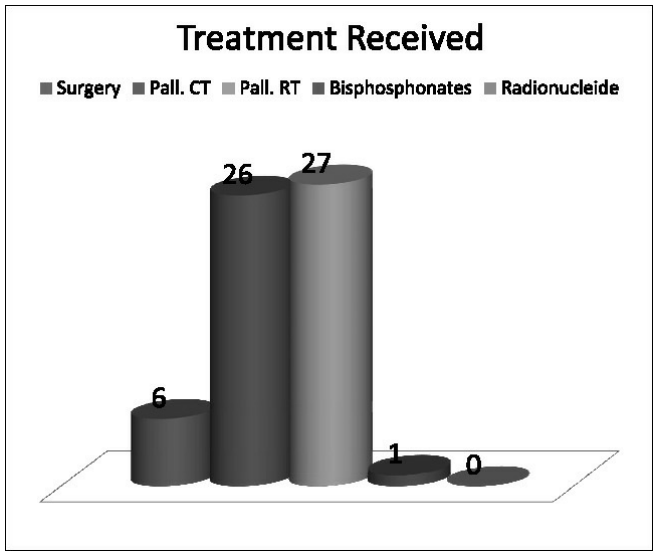


Figure 6: Treatment Received

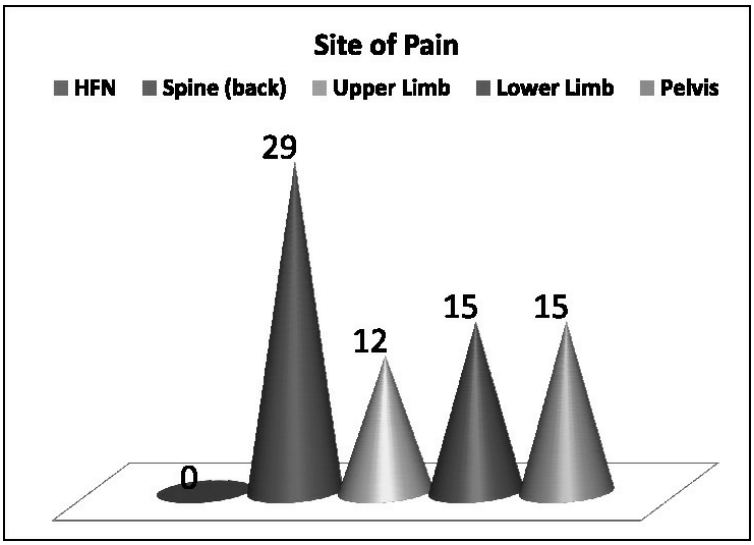


Figure 7: Site of Pain

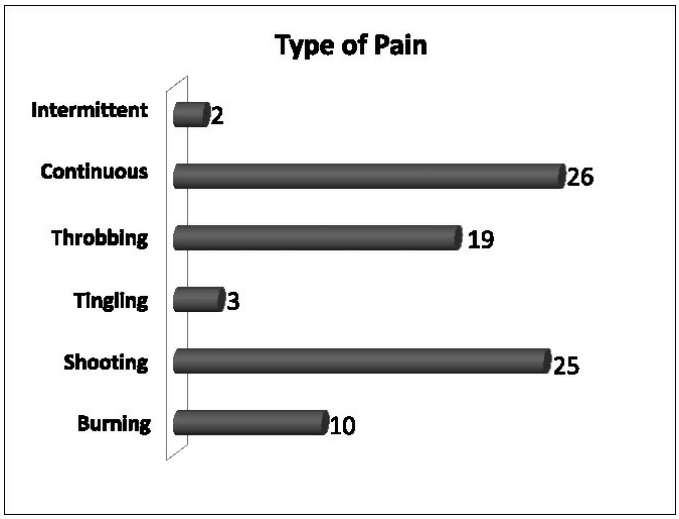


Figure 8: Site of Pain

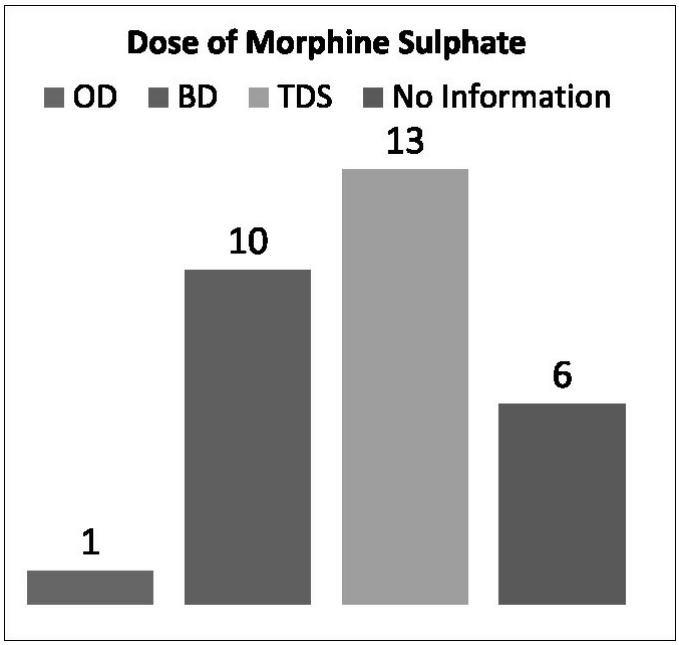


Figure 9: Dose of Morphine Sulphate

Homeopathic Medicine	No. of Patients
Vitrium Antimonii	5
Syphillinum	21
Symphytum	6
Ruta	17
Nitric Acid	11
Mezerium	4
Kalmia	1

Gurea Trichiloides	4
Fluric Acid	1
Belladona	2
Aurum Met	10
Aur Mur Nat	3
Asafoetida	2

Table 1: Homoeopathic Medicines Used

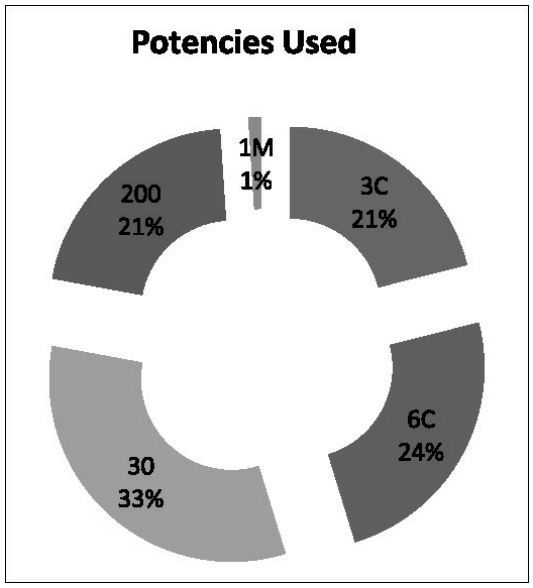


Figure 10: Potencies Used

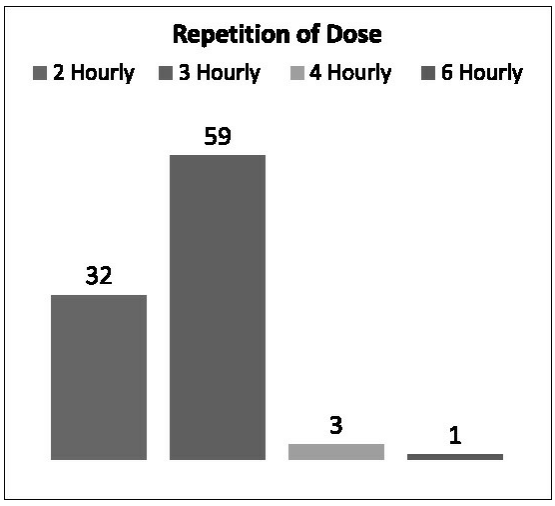


Figure 11: Repetition of Doses

Results

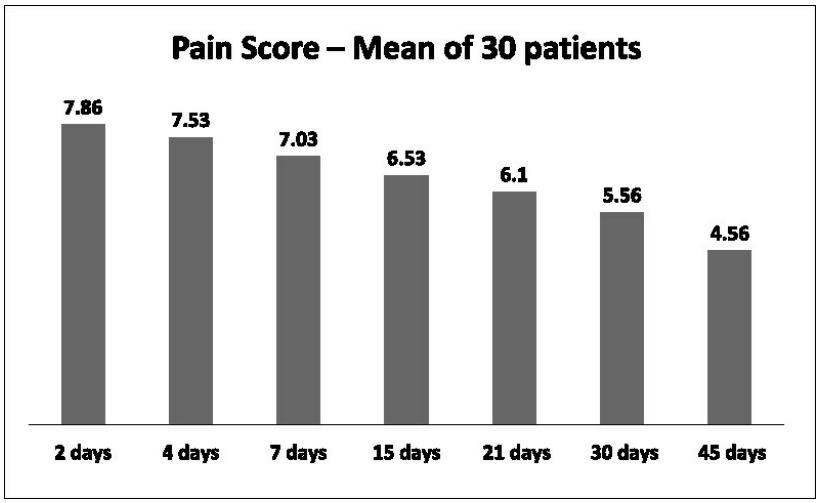


Figure 12: Changes in Pain score after Homoeopathic Intervention [Statistical Test –t test t value 2.42E-20 p < 0.0001]

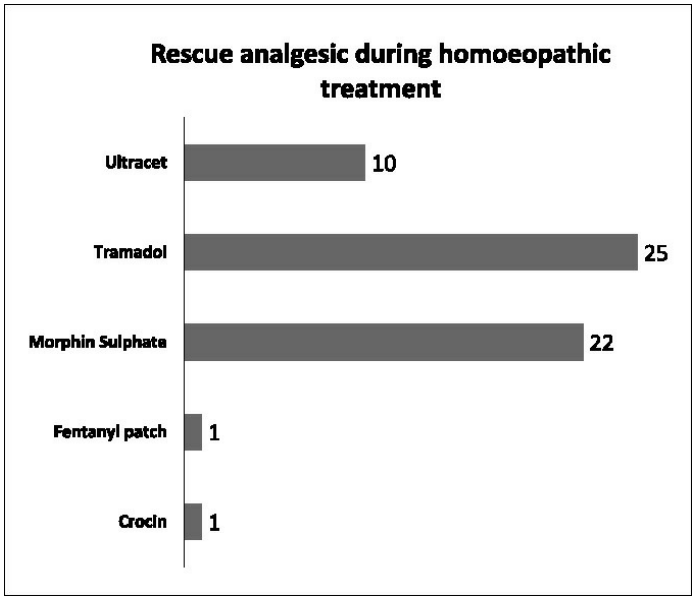


Figure 13: Rescue Analgesic during Homoeopathic Treatment

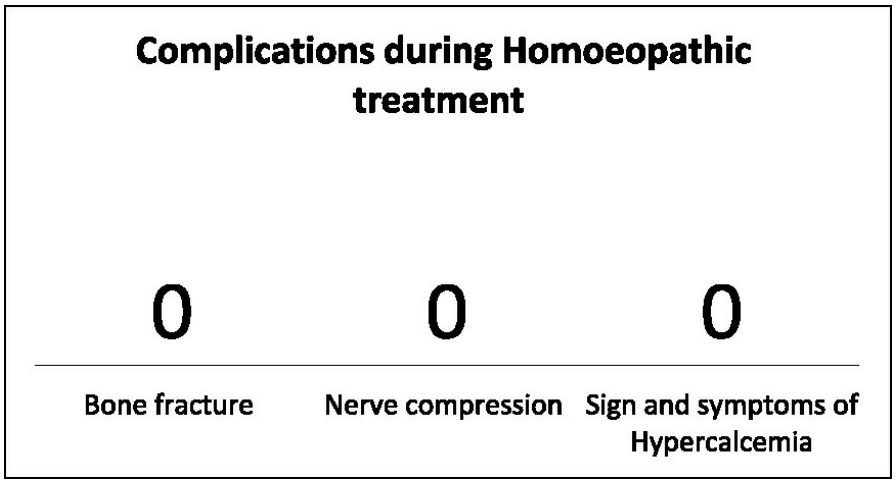


Figure 14: Complications during Homoeopathic Treatment

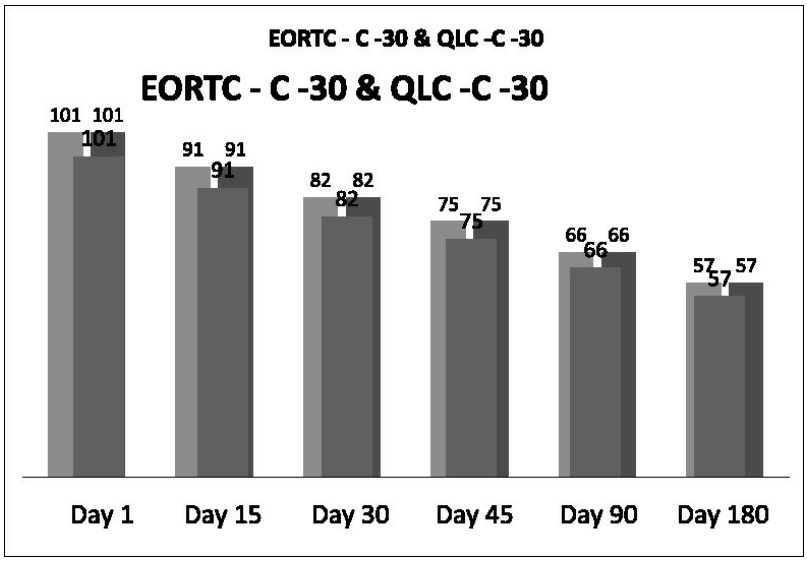


Figure 15: Changes in EORTC–C–30 & QLC–C– 30 Scale

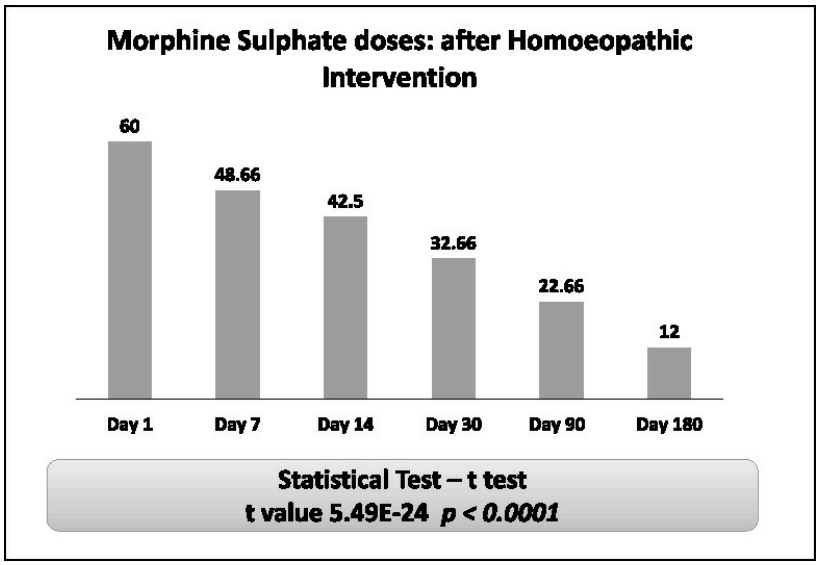


Figure 16: Reduction in Morphine Sulphate doses after Homoeopathic Interventions

Conclusions

- Homoeopathic medicines significantly reduce the pain of the cancer patients needing morphine sulphate.
- Homoeopathic medicines reduce the doses of morphine sulphate significantly.
- Homoeopathic medicines improve the quality of life of cancer patients which is deteriorated due to pain.
- Homoeopathic medicines can be used for reducing pain in all types of cancer.
- Homoeopathic medicines can be used for all types of cancer pain.

Efficacy of Alternative Medicine (Homoeopathy) for the Relief of Cancer Pain – A Prospective Study

Dr Farokh Master, Dr P N Jain

Paper presented at the IASP's 14th World Congress on Pain, Milan, Italy (2012)

Aim

The aim of this prospective study was to uncover the efficacy of Homoeopathic drugs in controlling the pain of the patients suffering from different types of cancer.

Methodology

Sample Size: 30 [Male: 21; Female: 09]

Study Duration: 1 year

Before starting Homoeopathy, the use of painkillers was evaluated. After the first two weeks of administration of homoeopathic medicines, the dosage of pain-killers was subsequently reduced to observe the effect of homoeopathic medicines.

Detailed evaluation of the patients was done, determining their past and family history, physical constitution, physical general symptoms, mental symptoms and life space. Single homoeopathic drugs were selected in different potencies, and administered by a special ‘5 cup method’ dose and patients were observed over a minimum period of 1 year.

Outcome was measured using Karnofsky Performance Scale and European Organization for Research and Treatment of Cancer QLC-C30 (Version 3).

Observations

Type of Pain Observed: Acute Pain: 1 case; Chronic Pain: 29 cases

Nerve Pain: 6 cases

Bone Pain: 18 cases

Soft Tissue Pain: 1 case

Phantom Pain: 2 cases

Referred Pain: 3 cases

Pathophysiology of Pain

Burning: 7 cases

Stabbing: 4 cases

Cutting: 7 cases

Shooting: 2 cases

Numbness: 4 cases

Spasmodic: 5 cases

Pricking: 1 case

Causes of Cancer Pain

Tumour pain: 20 cases

Chemotherapy: 4 cases

Surgery: 1 case

Radiotherapy: 5 cases

Homoeopathic Drugs Used

Aurum metallicum: 3 cases

Aurum Mur Natronatum: 5 cases

Plumbum metallicum: 2 cases

Calcarea Carbonica: 1 case

Carcinosin: 7 cases

Cuprum Metalicum: 4 cases

Lycopodium: 3 cases

Natrum muriaticum: 2 cases

Sepia: 1 case

Thuja: 1 case

Nitric Acid: 1 case

Potency Used

30C: 22 cases

200C: 2 cases

1M: 2 cases

10M: 4 cases

Dose/Repetitions

Once a Day: 4 cases

Twice Day: 16 cases

Thrice a Day: 2 cases

Four times a Day: 4 cases

4 hourly: 1 case

2 hourly: 3 cases

Results

- More than 70% patients felt improvement in their pain.
- More than 60% of the patients reduced their pain killers by more than 75%.
- They felt their energy levels and feeling of well being improved by almost 80%.

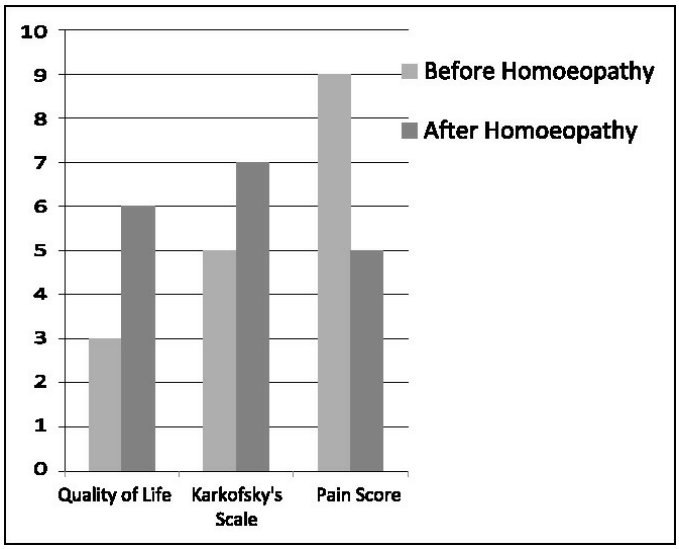


Figure 1: Comparison of scores before and after homoeopathic treatment

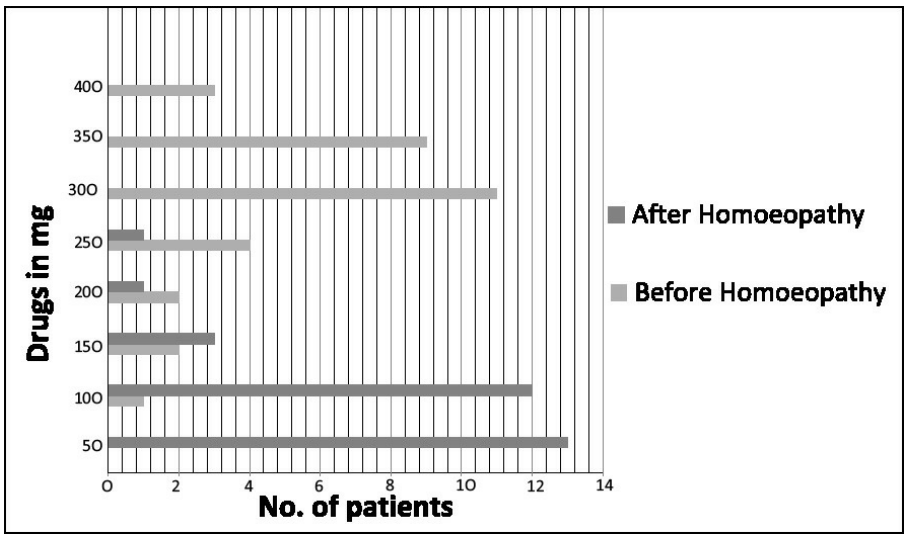


Figure 2: Comparison of doses of NSAID's before and after homoeopathy

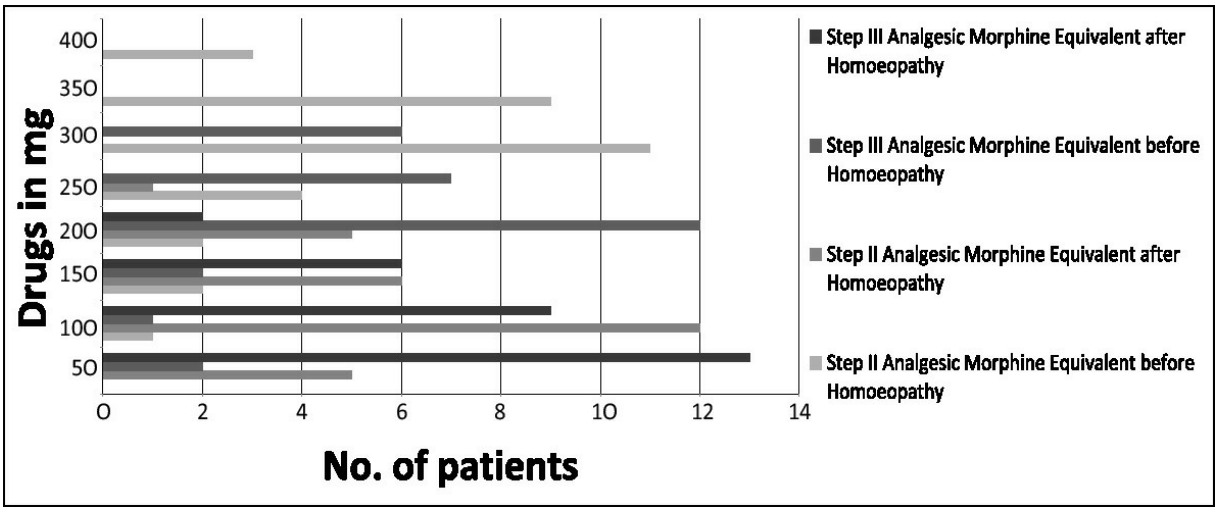


Figure 3: Comparison of doses of pain medication before and after homoeopathy

Conclusion

From this study we could positively conclude that Homoeopathic medicines were able to provide the cancer patients with a significant relief in their pain without causing any adverse effects. In fact they were able to improve the overall condition of the patient and give them a sense of well being along with an improvement in their energy levels.

Efficacy of Alternative Medicine in Advanced Metastatic Cancer Pain with Tramadol Hydrochloride as Control

Dr Farokh Master

Background

Tramadol, is an opioid pain medication used to treat moderate to moderately severe pain (cancer Pain). When taken as an immediate-release oral formulation, the onset of pain relief usually occurs within about an hour. It has two different mechanisms. First, it binds to the μ-opioid receptor. Second,

it inhibits the reuptake of serotonin and norepinephrine. Serious side effects may include seizures, increased risk of serotonin syndrome, decreased alertness, and drug addiction, although the risk of serotonin syndrome appears to be low. Common side effects include: constipation, itchiness and nausea, among others. Its use is not recommended in women who are breastfeeding or those who are at risk of suicide.

Aim

The aim of this prospective study was to uncover the efficacy of Homoeopathic drugs in controlling the pain of cancer patients who were already on heavy doses of Tramadol.

Methodology

The study was conducted at Homoeopathic Health Center, K.E.M. Hospital (Mumbai) and Ruby Hall Hospital (Pune)

Study design: Prospective Case Series Method

Sample Size: 20

Inclusion criteria: Patients having cancer who are taking Tramadol 50 mg for at least 7 days.

We selected 20 patients who regularly attended our cancer clinic for a minimum period of 6 months. Evaluation was based on their type of pain, e.g. burning, stabbing, spasmodic, etc. The duration of the pain was noted along with its pathophysiology, e.g. somatic, visceral, neuropathic, etc. Most importantly the pain score from 0 to 10 was used to label the intensity of pain. Furthermore, every patient was evaluated using Karnofsky Performance Scale, European Organization for Research and Treatment of Cancer QLC - C30 (Version 3) and The Short Form (36) Health Survey.

Before starting Homoeopathy, the use and dosage of Tramadol hydrochloride tablets was evaluated and noted. In the first two weeks of homoeopathic treatment, the dosage of Tramadol hydrochloride was unchanged, but subsequently its dosage was reduced to see the effect of homoeopathic medicine on the cancer pain.

Detailed homoeopathic evaluation of the patient was done, determining his past and family history, his physical constitution, his physical general symptoms, his mental symptoms and his life space. Single homoeopathic drugs were selected in different potencies and administered by a special '5 cup method' dose and patients were observed over a minimum period of 6 months. Outcome was measured using Karnofsky Performance Scale, European Organization for Research and Treatment of Cancer QLC -C30 (Version 3) and the Short Form (36) Health Survey.

Observations

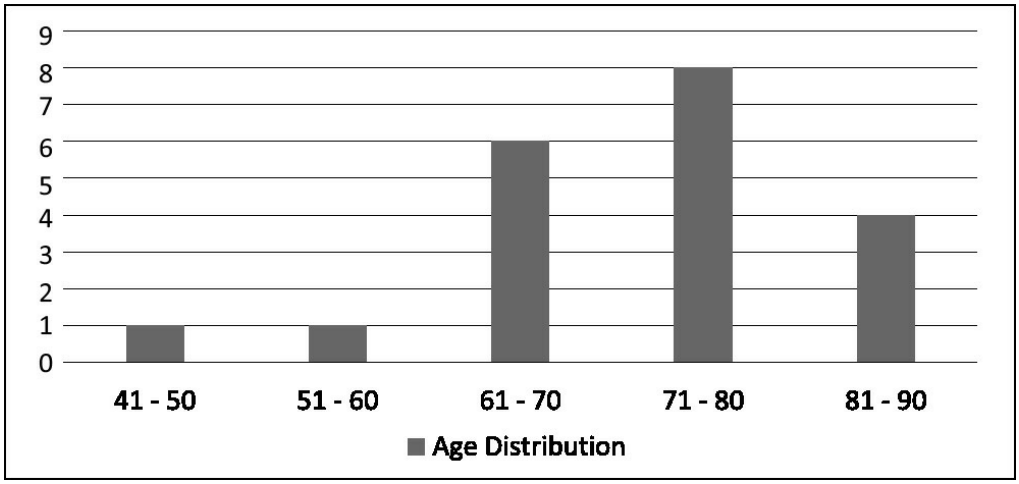


Figure 1: Age Distribution

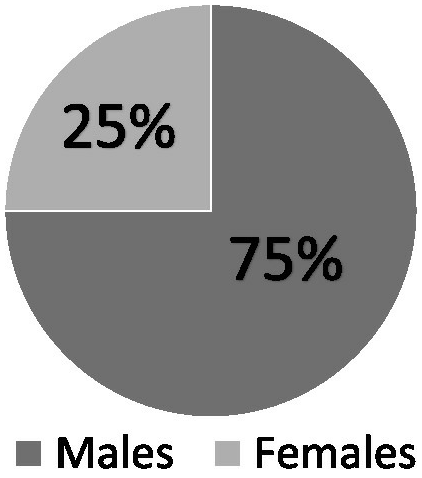


Figure 2: Sex Distribution

Site of cancer	No. of Patients
Alveolus	1
Tongue	1
Cheek	4
Bladder	1
Stomach	1
Rectum	2
Prostrate	2
Ovaries	3
Larynx	1
Oesophagus	1
Colon	2
Myloma	1

Table 1: Primary Site of Cancer

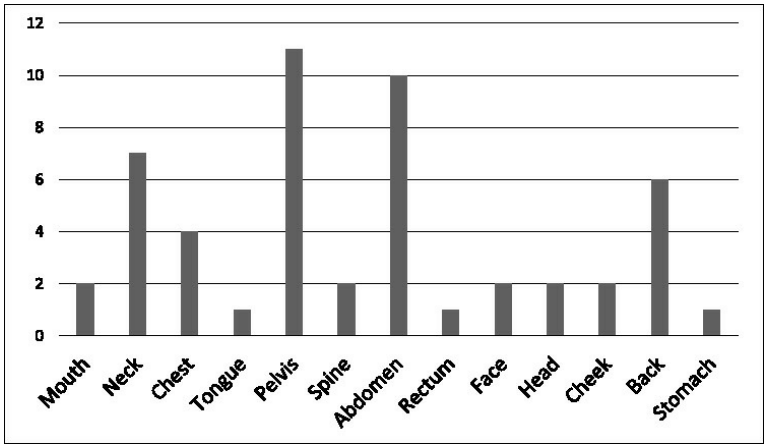


Figure 3: Site of Pain

The area of pain was maximum felt in the pelvis (11 patients) followed by abdominal pain (10 patients). Neck pain was seen in 7 patients, back pain in 6 patients, chest pain in 4 patients. 2 patients complained of pain in the mouth, spine, face head and cheek. 1 patient complained of pain in tongue region, rectum and stomach. This shows that many patients suffered from pain in more than 1 area. (Figure 4)

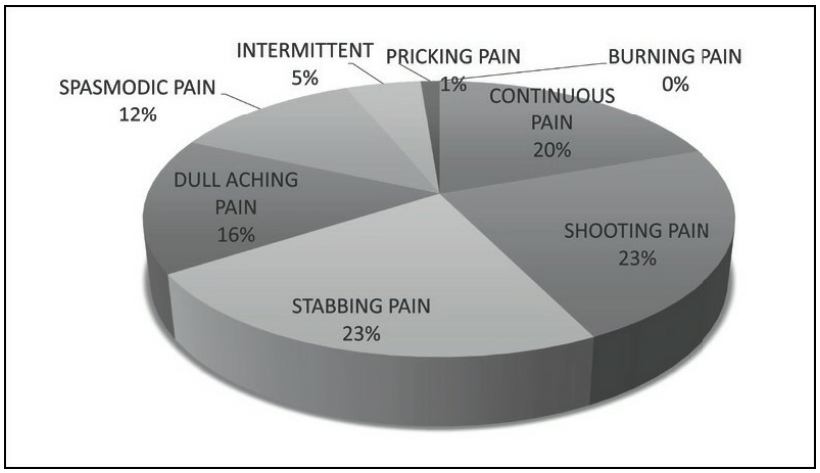


Figure 4: Type of Pain

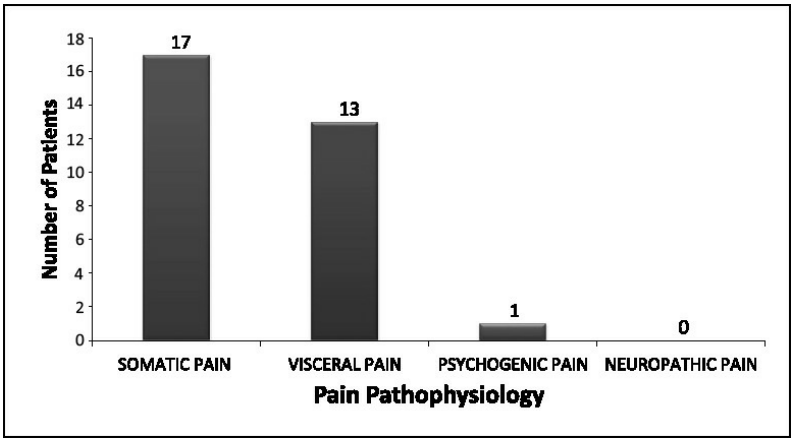


Figure 5: Pathophysiological type of Pain in Ca Patients

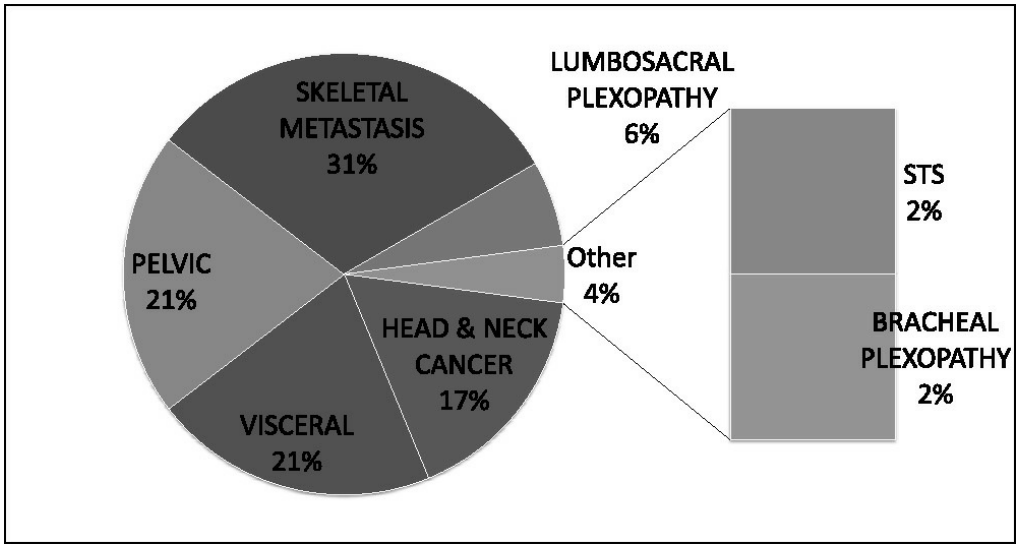


Figure 6: Proportion: Pain Syndrome

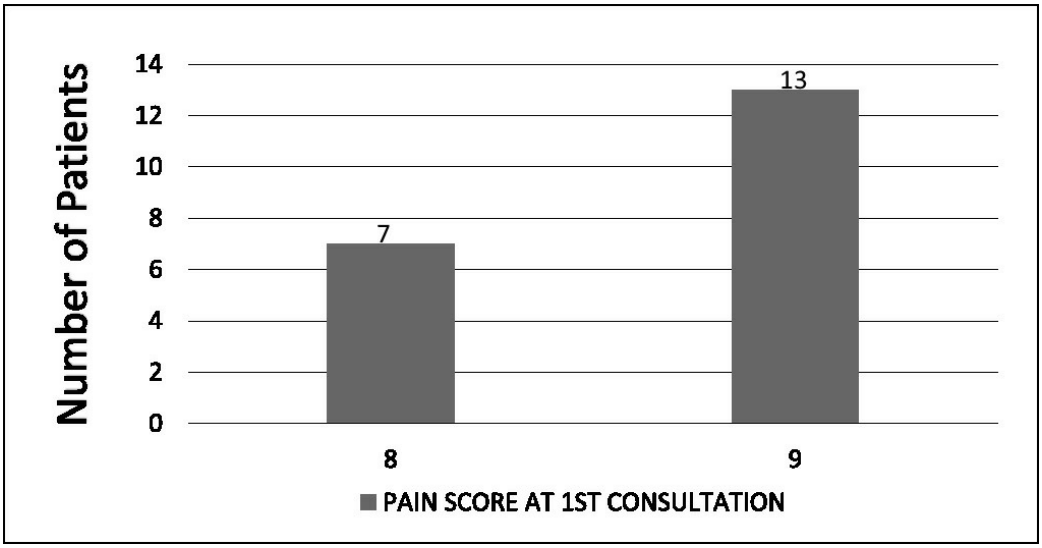


Figure 7: Pain Score at 1st Consultation

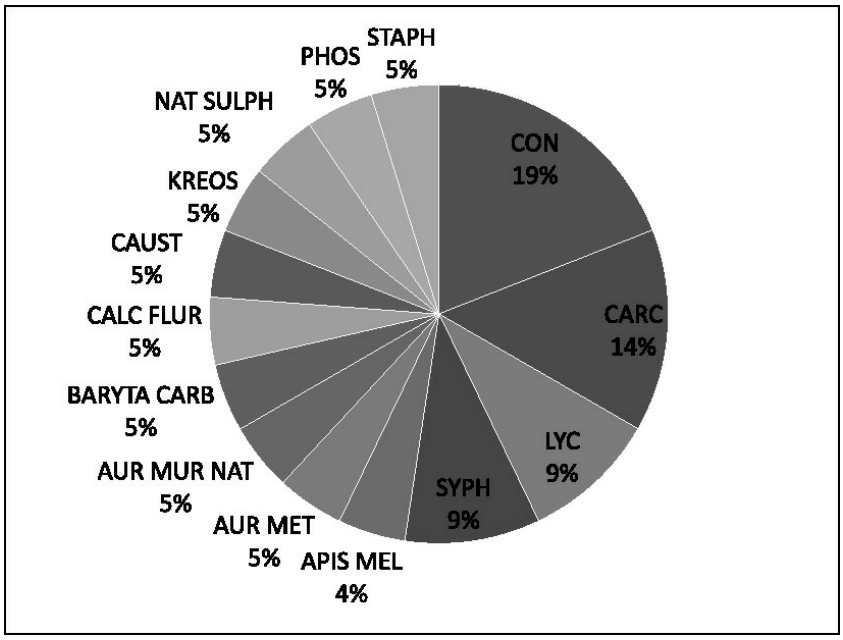


Figure 8: Chronic Remedies Used In Pain Management

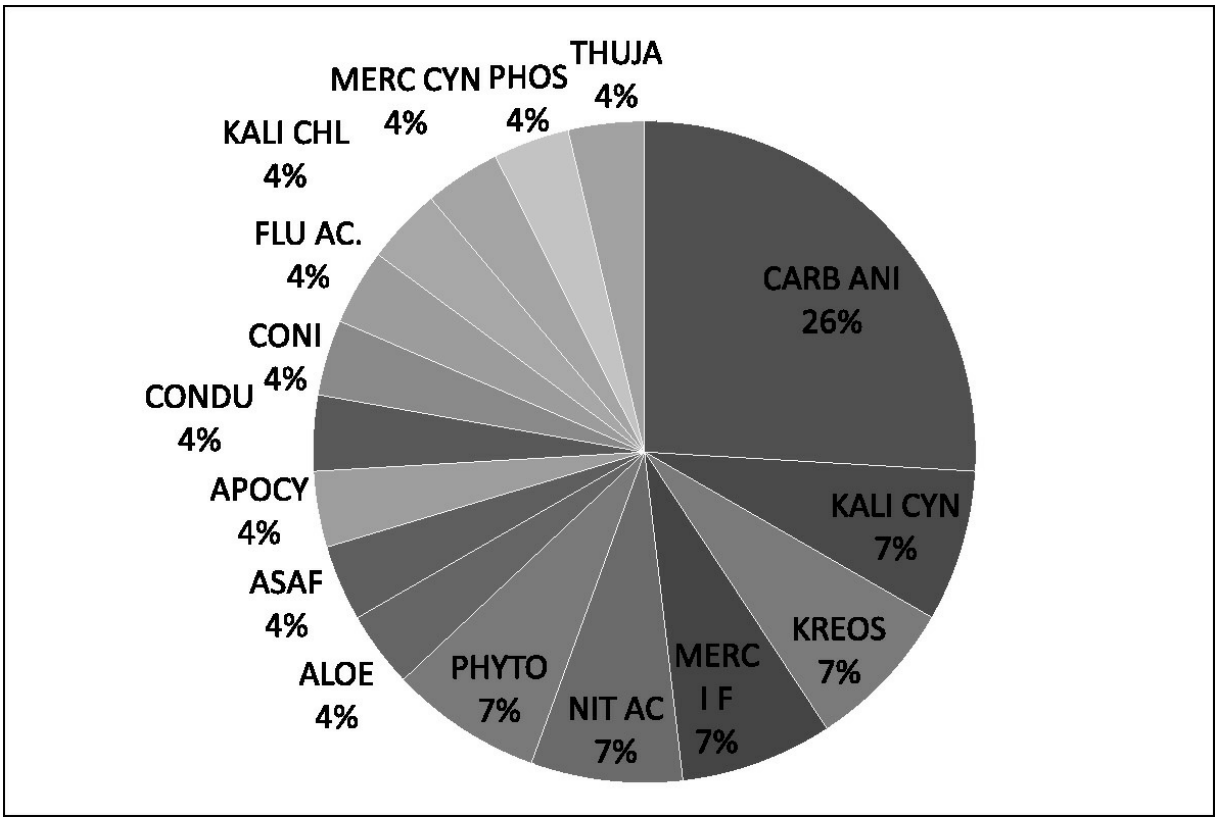


Figure 9: Acute Remedies Used In Pain Management

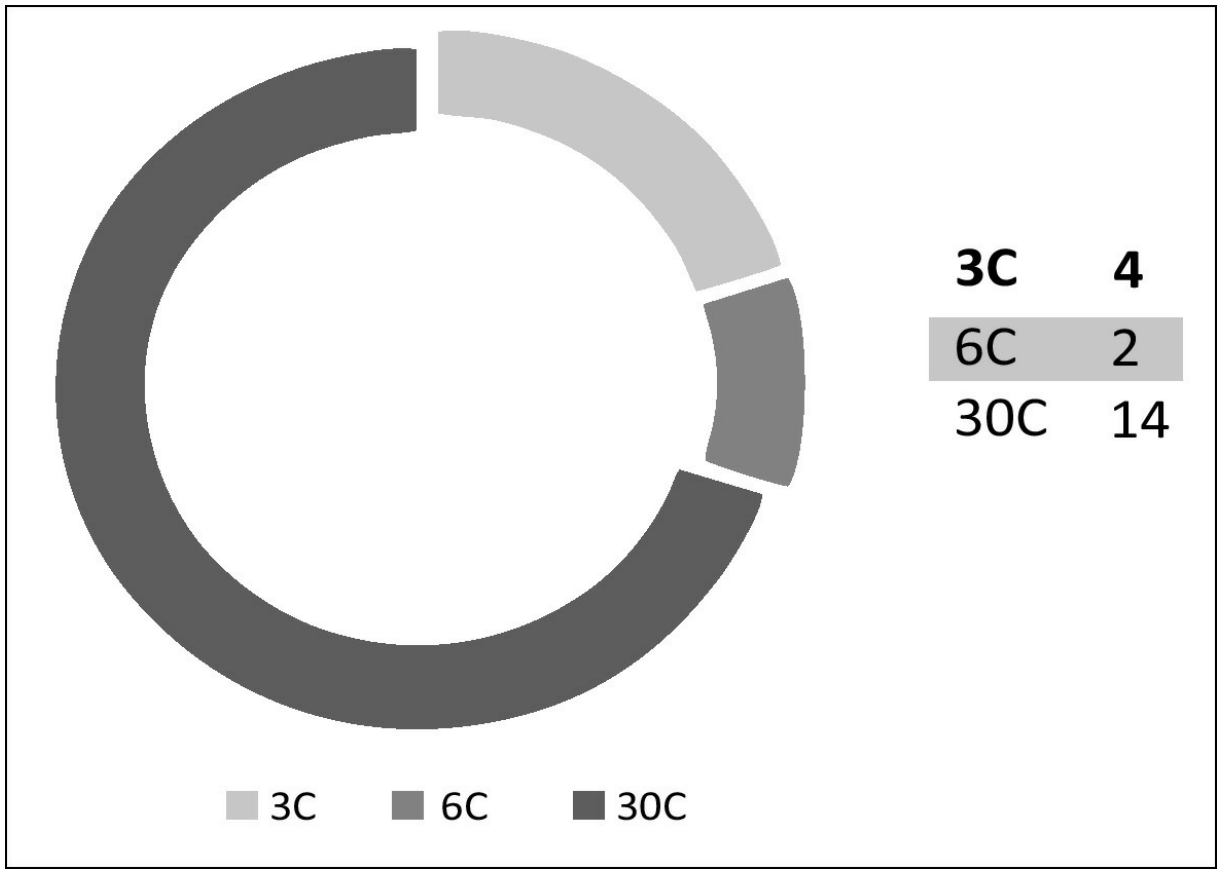


Figure 10: The potencies used for the patients—3C was used for 4 patients, 6C was used for 2 patients and 30C was used in 14 patients.

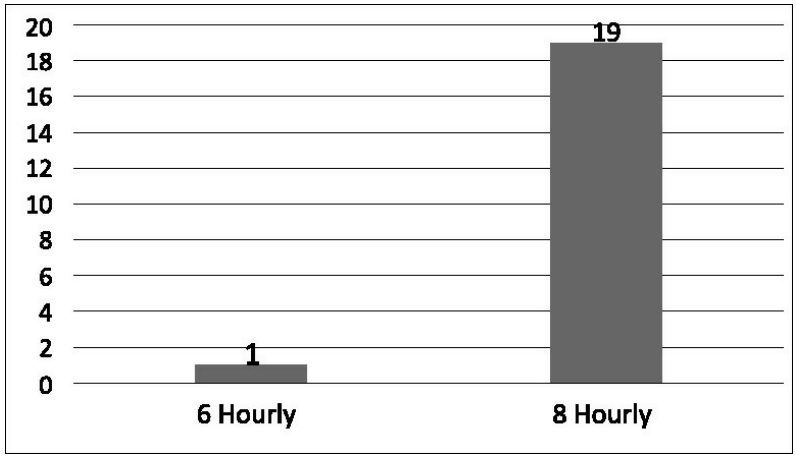


Figure 11: Repetition of Dose—19 patients received the medicines 3 times a day i.e. 8 hourly and 1 patient received it 4 times a day i.e. 6 hourly.

Results

1. Changes in pain score after homoeopathic intervention

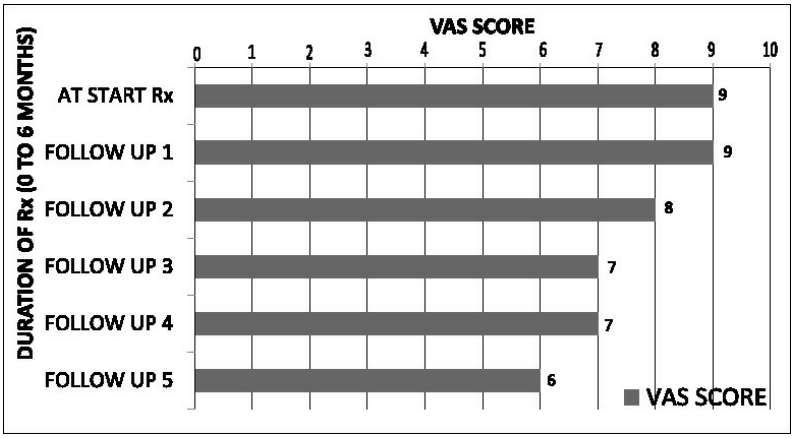


Figure 12a: VAS— Wilcoxon Signed Rank Test Applied on at start Rx and End Rx: The W value is 0. The critical value of W for N = 20 at $p \leq 0.05$ is 52. Therefore, the result is significant at $p \leq 0.05$

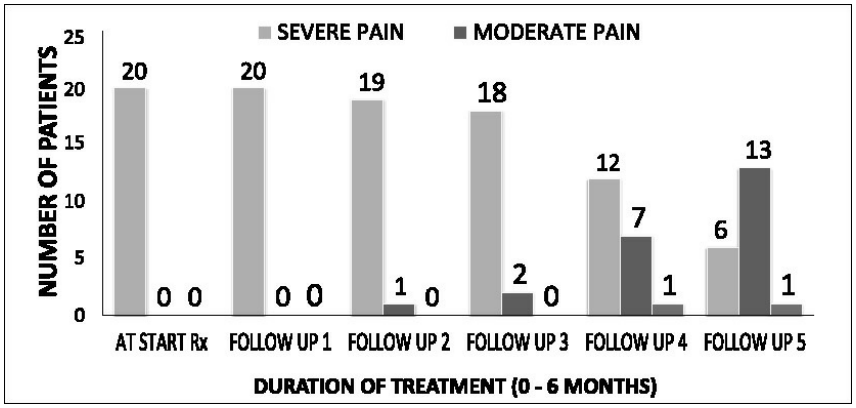


Figure 12b: Comparison of grades of the pain during Homoeopathic treatment

2. Changes in E.O.R.T.C. –C – 30; QLC –C – 30 scale : The QLC scale measuring the Quality of Health went from 2.1 (average of the 20 patients) from Day 1 to 2.9 on day 30 and 3.35 on Day 60, to 4 on Day 90 and 4.35 on day 120 and ending with 4.75 on Day 150. The QLC scale determining Quality of Life went from 2.21 in Day 1 to 2.5 on day 30, 3 on day 60 to 3.55 on day 90 followed by 4.1 on day 120 and ending with 4.5 on Day 150. This shows that consistently over the

months both the scales have shown significant relief.

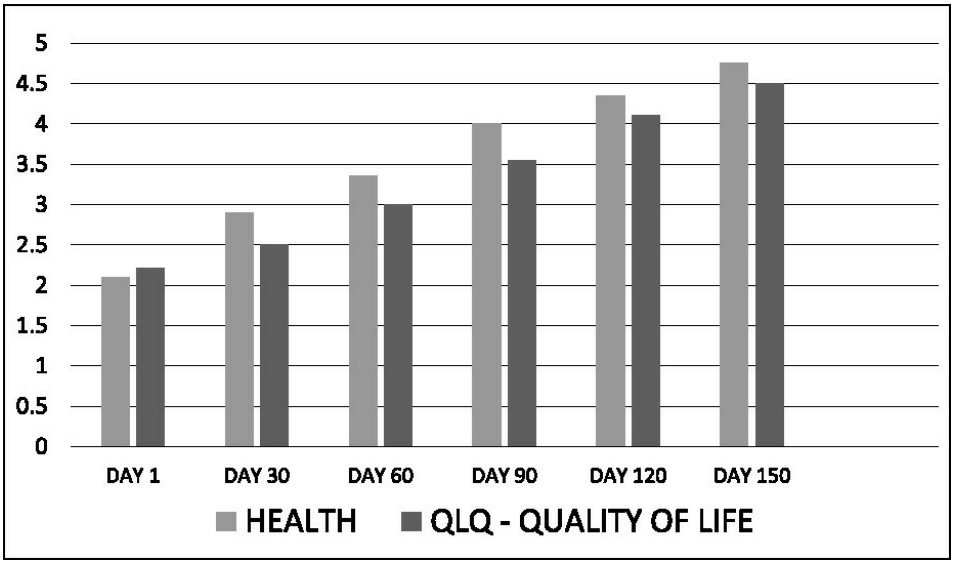


Figure 13: Changes on Overall Health from Day 1 to Day 150

3. Changes in SF 36 domains after homoeopathic treatment

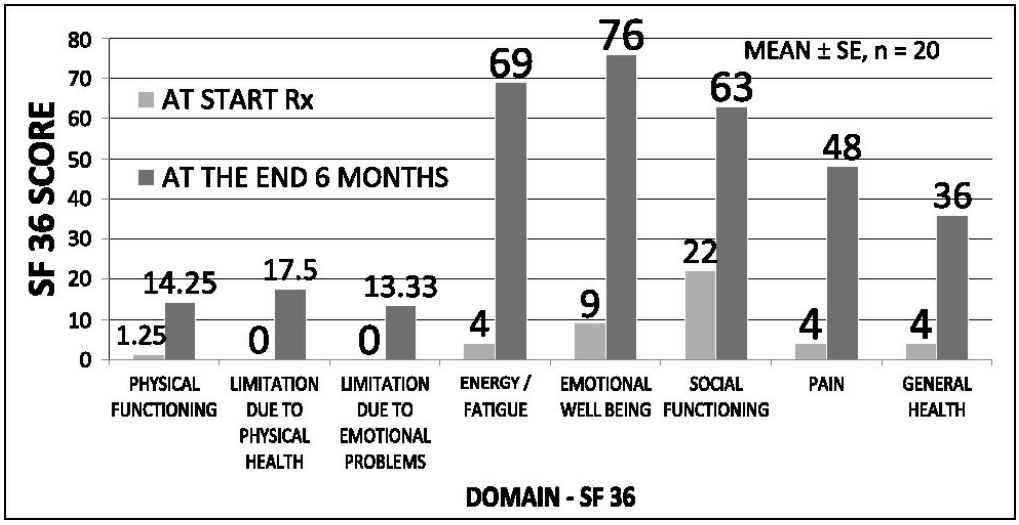


Figure 14: Changes in SF 36 domains after Homoeopathic treatment

4. Reduction in Tramadol doses after homoeopathic Interventions: The dosage of Tramadol amongst the 20 patients on day 1 was highest for 250 mgs in 7 patients, followed by 5 patients with 200 mgs, 4 patients with 225 mgs, 3 patients with 300mgs and 1 patient taking 100 mgs. By Day 30 of treatment the dosage reduced significantly. Now no patient

took 300 mgs, 250 mgs was being taken by 4 patients, 10 patients took 200 mgs, 2 patients took 175 mgs, 3 patients took 150 mgs and 1 patient took 100 mgs. On Day 60 of treatment – No patient was on 300 mgs, 1 patient only took 250 mgs, 5 patients took 200 mgs, 4 patients each took 175 mgs, 150 mgs and 125 mgs. 1 patient each took 100 mgs and 75 mgs. On Day 90 of treatment – No patient took 300 mgs, 250 mgs, 225 mgs. 2 patients took 200 mgs, 1 patient took 175 mgs, 4 patients took 150 mgs, 7 patients took 125 mgs, 5 patients took 100 mgs and 1 patient took 75 mgs.

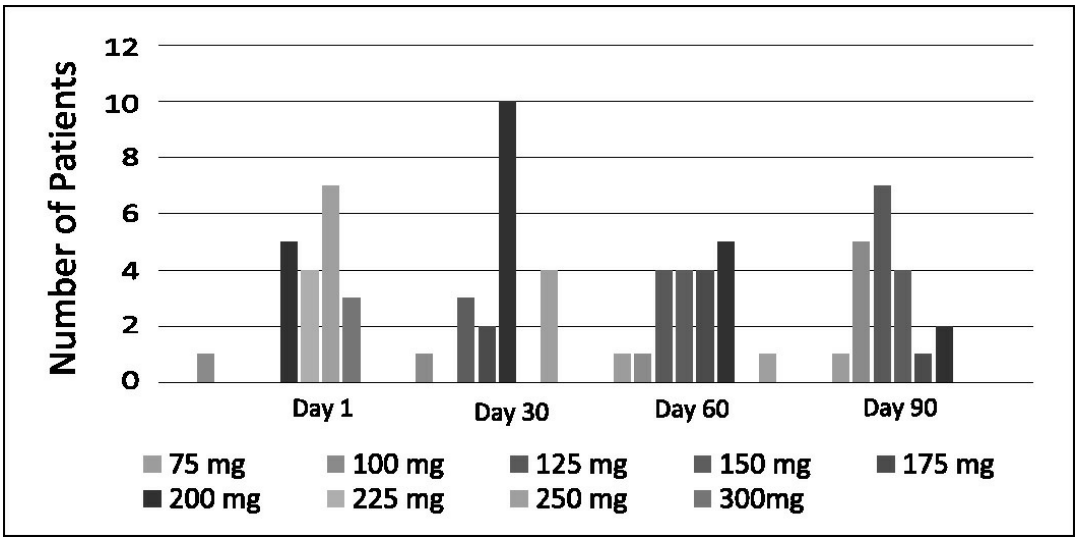


Figure 15a: Changes in tramadol dose from day 1 to day 90

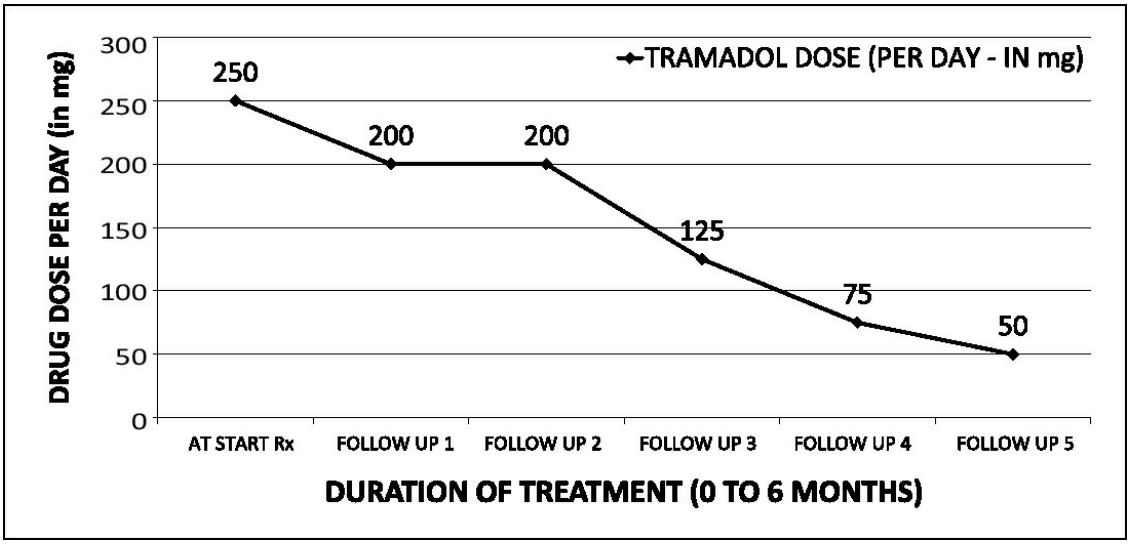


Figure 15b: Trend of reducing tramadol doses after homoeopathic treatment

Some indications of *Conium* repeatedly confirmed clinically in pain:

GENERALS - PAIN - grasping, griping, clutching pain

GENERALS - PAIN - gnawing pain

GENERALS - PAIN - digging pain

GENERALS - PAIN - cutting pain

GENERALS - PAIN - compressed; as if forcefully

GENERALS - PAIN - cancerous affections, in

GENERALS - PAIN - burning

GENERALS - PAIN - burning - stinging

GENERALS - PAIN - boring pain

GENERALS - PAIN – benumbing

GENERALS - PAIN - appear gradually

GENERALS - PAIN – night

GENERALS - PAIN - extending to - Upward

GENERALS - PAIN - extending to - Outward

GENERALS - PAIN - extending to - Inward

GENERALS - PAIN - violent - tearing pain

GENERALS - PAIN - ulcerative pain

GENERALS - PAIN - tearing pain - asunder

GENERALS - PAIN - stitching pain - needles; as from - hot needles

GENERALS - PAIN - stitching pain - needles; as from

GENERALS - PAIN - sleep - during - agg.

GENERALS - PAIN - scraped; as if

GENERALS - PAIN - pressing pain - load; as from a

GENERALS - PAIN - pinching pain

GENERALS - PAIN - paralyzed; as if

GENERALS - PAIN - oppressive

GENERALS - PAIN - Glands - burning

GENERALS - PAIN - Externally - stitching pain

GENERALS - PAIN - Externally - stitching pain - burning

GENERALS - PAIN - Externally - sore

GENERALS - PAIN - Externally - pinching pain

GENERALS - PAIN - Externally - cutting pain

GENERALS - PAIN - Externally - constricting

GENERALS - PAIN - Externally - burning

GENERALS - PAIN - extending to - Upward

GENERALS - PAIN - extending to - Outward

GENERALS - PAIN - extending to – Inward

GENERALS - PAIN - violent - tearing pain

GENERALS - PAIN - ulcerative pain

GENERALS - PAIN - tearing pain - asunder

GENERALS - PAIN - stitching pain - needles; as from - hot needles

GENERALS - PAIN - stitching pain - needles; as from

GENERALS - PAIN - sleep - during - agg.

GENERALS - PAIN - scraped; as if

GENERALS - PAIN - pressing pain - load; as from a

GENERALS - PAIN - pinching pain

GENERALS - PAIN - paralyzed; as if

GENERALS - PAIN – oppressive

GENERALS - PAIN - Internally - tearing pain

GENERALS - PAIN - Internally - pinching pain

GENERALS - PAIN - Internally - cutting pain

GENERALS - PAIN - Internally - constricting

GENERALS - PAIN - Internally - burning

GENERALS - PAIN - Glands - stitching pain

GENERALS - PAIN - Glands - cutting pain

GENERALS - PAIN - Muscles - tearing pain

GENERALS - PAIN - Muscles - cramping

Some indications of *Carcinosin* repeatedly confirmed clinically in pain:

GENERALS - PAIN - Internally - tearing pain

GENERALS - PAIN - Internally - burning

EXTREMITIES - PAIN - Legs - warmth - amel.

EXTREMITIES - PAIN - warm - applications - amel. - aching

EXTREMITIES - PAIN - warm - applications - amel.

HEAD - PAIN - Brain

HEAD - PAIN - pulsating pain - deep inside

MIND - SUICIDAL disposition - pains, from

MIND - FEAR - pain - of the pain - unbearable; that the pain will become

MIND - FEAR - pain - of the pain

ABDOMEN - PAIN - bending - amel. - constricting pain

RECTUM - PAIN - bending double - amel.

ABDOMEN - PAIN - Umbilicus - Region of umbilicus - Above umbilicus, comes and goes slowly

ABDOMEN - PAIN - increasing - gradually - decreasing - gradually

ABDOMEN - PAIN - digging pain

ABDOMEN - PAIN - bending - forward - amel.

Results

The results were very encouraging and statistically significant. More than 70% of the patients irrespective of the type of cancer and type of pain felt improvement in their pain. More than 60% of the patients reduced their Tramadol hydrochloride tablets by more than 60%. They felt their energy levels and feeling of well being improved by almost 80%.

Conclusions

From this study we could positively conclude that Homoeopathic medicines were able to provide the cancer patients with a significant relief in their pain without causing any adverse effects. In fact they were able to improve the overall condition of the patient and give them a sense of well being along with an improvement in their energy levels.

Other Studies

1. Use of complementary and alternative medicine in children with cancer: a study at a Swiss University Hospital.
   Journal reference: PLoS ONE, Volume 10, Issue 12, 2015, Page e0145787; DOI: 10.1371/journal.pone.0145787.

   Authors: Magi T, Kuehni CE, Torchetti L, Wengenroth L, Lüer S, Frei-Erb M.

   Summary: Background: Though complementary and alternative medicines (CAM) are frequently used by children and adolescents with cancer, there is little information on how and why they use it. This study examined prevalence and methods of CAM, the therapists who applied it, reasons for and against using CAM and its perceived effectiveness. Parent-perceived communication was also evaluated. Parents were asked if medical staff provided information on CAM to patients, if parents

reported use of CAM to physicians, and what attitude they thought physicians had toward CAM.

Study design: All childhood cancer patients treated at the University Children's Hospital Bern between 2002–2011 were retrospectively surveyed about their use of CAM.

Results: Data was collected from 133 patients (response rate: 52%). Of those, 53% had used CAM (mostly classical Homoeopathy) and 25% of patients received information about CAM from medical staff. Those diagnosed more recently were more likely to be informed about CAM options. The most frequent reason for choosing CAM was that parents thought it would improve the patient's general condition. The most frequent reason for not using CAM was lack of information. Of those who used CAM, 87% perceived positive effects.

Conclusions: Since many pediatric oncology patients use CAM, patients' needs should be addressed by open communication between families, treating oncologists and CAM therapists, which will allow parents to make informed and safe choices about using CAM.

Source: journals.plos.org/plosone/article?id=10.1371/journal.pone.0145787

2. Influence of adjunctive classical Homoeopathy on global health status and subjective wellbeing in cancer patients–a pragmatic randomised controlled trial.
Journal reference: Complementary Therapies in Medicine, Volume 23, Issue 3, 2015, Pages 309-317.

Authors: Frass M, Friehs H, Thallinger C, Sohal NK, Marosi C, Muchitsch I, Gaertner K, Gleiss A, Schuster E, Oberbaum M.

Summary: Objectives: The use of complementary and alternative medicine has increased over the past decade. The aim of this study was to evaluate whether Homoeopathy influenced global health status and subjective wellbeing when used as an adjunct to conventional cancer therapy.

Design: In this pragmatic randomised controlled trial, 410 patients, who were treated by standard anti-neoplastic therapy, were randomised to

receive or not receive classical Homoeopathic adjunctive therapy in addition to standard therapy. The study took place at the Medical University Vienna, Department of Medicine I, Clinical Division of Oncology.

Source: http://www.ncbi.nlm.nih.gov/pubmed/26051564

3. Additive Homoeopathy in cancer patients: retrospective survival data from a Homoeopathic outpatient unit at the Medical University of Vienna.
Journal reference: Complementary Therapies in Medicine, Volume 22, Issue 2, 2014, Pages 320-332.

Authors: Gaertnera K, Müllnera M, Friehsa H, Schusterc E, Marosia C, Muchitsche I, Frassa M, Kayef AD.

Summary: Background: Current literature suggests a positive influence of additive classical Homoeopathy on global health and well-being in cancer patients. Besides encouraging case reports, there is little if any research on long-term survival of patients who obtain Homoeopathic care during cancer treatment.

Design: Data from cancer patients who had undergone Homoeopathic treatment complementary to conventional anticancer treatment at the Outpatient Unit for Homoeopathy in Malignant Diseases, Medical University Vienna, Department of Medicine I, Vienna, Austria, were collected, described and a retrospective subgroup analysis with regard to survival time was performed. Patient inclusion criteria were at least three Homoeopathic consultations, fatal prognosis of disease, quantitative and qualitative description of patient characteristics, and survival time.

Results: In four years, a total of 538 patients were recorded to have visited the Outpatient Unit Homoeopathy in Malignant Diseases, Medical University Vienna, Department of Medicine I, Vienna, Austria. 62.8% of them were women, and nearly 20% had breast cancer. From the 53.7% (n = 287) who had undergone at least three Homoeopathic consultations within four years, 18.7% (n = 54) fulfilled inclusion criteria for survival analysis. The surveyed neoplasms were glioblastoma, lung, cholangiocellular and pancreatic carcinomas,

metastasised sarcoma, and renal cell carcinoma. Median overall survival was compared to expert expectations of survival outcomes by specific cancer type and was prolonged across observed cancer entities ($p < 0.001$).

Conclusion: Extended survival time in this sample of cancer patients with fatal prognosis but additive Homoeopathic treatment is interesting. However, findings are based on a small sample, and with only limited data available about patient and treatment characteristics. The relationship between Homoeopathic treatment and survival time requires prospective investigation in larger samples possibly using matched-pair control analysis or randomised trials.

Source: http://www.ncbi.nlm.nih.gov/pubmed/24731904

4. Classical Homoeopathy in the treatment of cancer patients–a prospective observational study of two independent cohorts.
Journal reference: BMC Cancer, Volume 11, 2011, ePage 19. DOI:10.1186/1471-2407-11-19.

Authors: Rostock M, Naumann J, Guethlin C, Guenther L, Bartsch HH, Walach H.

Summary: Background: Many cancer patients seek Homoeopathy as a complementary therapy. It has rarely been studied systematically, whether Homoeopathic care is of benefit for cancer patients.

Methods: We conducted a prospective observational study with cancer patients in two differently treated cohorts: one cohort with patients under complementary Homoeopathic treatment (HG; n = 259), and one cohort with conventionally treated cancer patients (CG; n = 380). For a direct comparison, matched pairs with patients of the same tumour entity and comparable prognosis were to be formed.

Main outcome parameter: change of quality of life (FACT-G, FACIT-Sp) after 3 months.

Secondary outcome parameters: change of quality of life (FACT-G, FACIT-Sp) after a year, as well as impairment by fatigue (MFI) and by anxiety and depression (HADS).

Results: HG: FACT-G, or FACIT-Sp, respectively improved statistically significantly in the first three months, from 75.6 (SD 14.6) to 81.1 (SD 16.9), or from 32.1 (SD 8.2) to 34.9 (SD 8.32), respectively. After 12 months, a further increase to 84.1 (SD 15.5) or 35.2 (SD 8.6) was found. Fatigue (MFI) decreased; anxiety and depression (HADS) did not change. CG: FACT-G remained constant in the first three months: 75.3 (SD 17.3) at t0, and 76.6 (SD 16.6) at t1. After 12 months, there was a slight increase to 78.9 (SD 18.1). FACIT-Sp scores improved significantly from t0 (31.0 - SD 8.9) to t1 (32.1 - SD 8.9) and declined again after a year (31.6 - SD 9.4). For fatigue, anxiety, and depression, no relevant changes were found. 120 patients of HG and 206 patients of CG met our criteria for matched-pairs selection. Due to large differences between the two patient populations, however, only 11 matched pairs could be formed. This is not sufficient for a comparative study.

Conclusion: In our prospective study, we observed an improvement of quality of life as well as a tendency of fatigue symptoms to decrease in cancer patients under complementary Homoeopathic treatment. It would take considerably larger samples to find matched pairs suitable for comparison in order to establish a definite causal relation between these effects and Homoeopathic treatment.

Source: http://www.ncbi.nlm.nih.gov/pubmed/21241504

5. Calcarea carbonica induces apoptosis in cancer cells in p53-dependent manner via an immune-modulatory circuit.
Journal reference: BMC Complementary and Alternative Medicine, Volume 13, 2013, ePage 230. DOI: 10.1186/1472-6882-13-230.

Authors: Saha S, Hossain DMS, Mukherjee S, Mohanty S, Mazumdar M, Mukherjee S, Ghosh UK, Nayek C, Raveendar C, Khurana A, Chakrabarty R, Sa G, Das T.

Summary: Background: Complementary medicines, including Homoeopathy, are used by many patients with cancer, usually alongside with conventional treatment. However, the molecular mechanisms underneath the anti-cancer effect, if any, of these medicines have still remained unexplored. To this end we attempted to evaluate the efficacy of calcarea carbonica, a Homoeopathic medicine, as an anti-cancer agent and to delineate the detail molecular mechanism(s) underlying calcarea

carbonica-induced tumour regression.

Methods: To investigate and delineate the underlying mechanisms of calcarea carbonica-induced tumour regression, Trypan blue dye-exclusion test, flow cytometric, Western blot and reverse transcriptase-PCR techniques were employed. Further, siRNA transfections and inhibitor studies were used to validate the involvement of p53 pathway in calcarea carbonica-induced apoptosis in cancer cells.

Results: Interestingly, although calcarea carbonica administration to Ehrlich's ascites carcinoma (EAC) and Sarcoma-180 (S-180) bearing Swiss albino mice resulted in 30-35% tumour cell apoptosis, it failed to induce any significant cell death in ex vivo conditions. These results prompted us to examine whether calcarea carbonica employs the immune-modulatory circuit in asserting its anti-tumour effects. Calcarea carbonica prevented tumour-induced loss of effector T cell repertoire, reversed type-2 cytokine bias and attenuated tumour-induced inhibition of T cell proliferation in tumour-bearing host. To confirm the role of immune system in calcarea carbonica-induced cancer cell death, a battery of cancer cells were co-cultured with calcarea carbonica-primed T cells. Our results indicated a "two-step" mechanism of the induction of apoptosis in tumour cells by calcarea carbonica i.e., (1) activation of the immune system of the host; and (2) induction of cancer cell apoptosis via immunomodulatory circuit in p53-dependent manner by down-regulating Bcl-2: Bax ratio. Bax up-regulation resulted in mitochondrial transmembrane potential loss and cytochrome c release followed by activation of caspase cascade. Knocking out of p53 by RNA interference inhibited calcarea carbonica-induced apoptosis thereby confirming the contribution of p53.

Conclusion: These observations delineate the significance of immuno-modulatory circuit during calcarea carbonica mediated tumour apoptosis. The molecular mechanism identified may serve as a platform for involving Calcarea carbonica into immunotherapeutic strategies for effective tumour regression.

Source: http://www.ncbi.nlm.nih.gov/pubmed/24053127

6. Who accesses complementary therapies and why? An evaluation of a cancer care service.

Journal reference: Complementary Therapies in Clinical Practice, Volume 21, Issue 1, 2015, Pages 19-25.

Authors: Matthews M, Glackin M, Hughes C, Rogers KMA.

Summary: Introduction: Advances in cancer diagnosis and treatment have resulted in longer survival, meaning patients are living with a chronic-type condition. Therefore the needs of such patients have changed placing greater emphasis on survivorship, such as impact on quality of life and sleep patterns. Evidence suggests complementary therapies positively impact not only on the cancer patient's quality of life but also on family members and friends.

Methodology: This service evaluation examines self-reported benefits following a course of complementary therapy offered by a local cancer charity.

Results: Analysis of self-reported sleep scores and perceived quality of life experiences confirmed a number of trends relating to the demographics of people accessing the complementary therapy service.

Conclusion: Results suggest the complementary therapies provided by Action Cancer significantly improved clients' quality of life. Based on these findings the authors make a number of recommendations in relation to the use of complementary therapies by cancer patients.

Source: http://www.ncbi.nlm.nih.gov/pubmed/25544064

7. Complementary medicine for fatigue and cortisol variability in breast cancer survivors: a randomised controlled trial.
Journal reference: Cancer, Volume 118, Issue 3, 2012, Pages 777-787.

Authors: Jain S, Pavlik D, Distefan J, Bruyere RRL, Acer J, Garcia R, Coulter I, Ives J, Roesch SC, Jonas W, Mills PJ.

Summary: Background: Fatigue is a chief complaint in cancer patients, and warrants effective treatment. Biofield therapies are complementary medicine approaches used by cancer populations. There is little information about their efficacy.

Methods: This blinded, randomised controlled trial examined the effects of 4 weeks (eight 1-hour sessions) of biofield healing compared with

mock healing and a waitlist control group on fatigue in 76 fatigued breast cancer survivors (stages I-IIIa). Secondary outcomes were diurnal cortisol variability (via estimates of cortisol slope), depression, and quality of life (QOL). Treatment belief was assessed to explore whether belief predicted outcomes. Data were analysed via hierarchical linear modeling.

Results: There were no significant differences between biofield healing and mock healing on belief; 75% thought they received biofield healing. Compared with controls, biofield healing significantly decreased total fatigue ($P < .0005$, Cohen's $d = 1.04$), as did mock healing ($P = .02$, Cohen's $d = 0.68$), with no significant differences between biofield healing and mock healing. Cortisol slope significantly decreased for biofield healing versus both mock healing and control ($P < .04$ in both cases; Cohen's $d = 0.58$). Belief predicted changes in QOL over and above group ($P = .004$, Cohen's $d = 0.84$). Belief did not impact fatigue or cortisol variability.

Conclusion: Non-specific factors are important in responses to biofield interventions for fatigue. Belief predicts QOL responses but not fatigue or cortisol variability. Biofield therapies increase cortisol variability independent of belief and other non-specific factors. There is a need to further examine the effects of specific processes of biofield healing on outcomes for cancer populations.

Source: http://www.ncbi.nlm.nih.gov/pubmed/21823103

8. Complementary therapies in palliative cancer care.
Journal reference: Cancer, Volume 91, Issue 11, 2001, Pages 2181-2185.

Authors: Ernst E.

Source: Background: Complementary medicine has become an important aspect of palliative cancer care. This overview is primarily aimed at providing guidance to clinicians regarding some commonly used complementary therapies.

Methods: Several complementary therapies were identified as particularly relevant to palliative cancer care. Exemplary studies and, where available, systematic reviews are discussed.

Results: Promising results exist for some treatments, e.g. acupuncture, enzyme therapy, Homoeopathy, hypnotherapy, and relaxation techniques. Unfortunately, the author finds that the evidence is not compelling for any of these therapies.

Conclusion: These results point to some potential for complementary medicine in palliative care. They also demonstrate an urgent need for more rigorous research into the value (or otherwise) of such treatments in palliative and supportive cancer care.

Source: http://www.ncbi.nlm.nih.gov/pubmed/11391600

9. The prevalence of complementary/alternative medicine in cancer: a systematic review.
Journal reference: Cancer, Volume 83, Issue 4, 1998, Pages 777-782.

Authors: Ernst E, Cassileth BR.

Summary: Background: Complementary/alternative cancer treatments are believed to be prevalent. However, reliable prevalence rates do not exist. The aim of this review was to summarise the existing data on this topic.

Methods: A series of computerised literature searches was performed to locate all published studies documenting the prevalence of complementary and/or alternative therapy (CAM) use among patients with cancer.

Results: A total of 26 surveys from 13 countries, including 4 studies of pediatric patients, was retrieved. The use of CAM therapies in adult populations ranged from 7-64%. The average prevalence across all adult studies was 31.4%.

Conclusion: This large degree of variability most likely is due to different understandings of “complementary/alternative medicine” on the part of both investigators and patients. It is likely that the results of the current study reflect the primarily adjunctive use of CAM treatments. Future studies should use a standardised protocol to determine the true prevalence of these therapies more closely.

Source: http://www.ncbi.nlm.nih.gov/pubmed/9708945

10. Pursuit and practice of complementary therapies by cancer patients receiving conventional treatment.
    Journal reference: BMJ, Volume 309, Issue 6947, 1994, Pages 86-89.

    Authors: Downer SM, Cody MM, Cluskey PM, Wilson PD, Arnott SJ, Lister TA, Slevin ML.

    Summary: Objectives: To determine what proportion of oncology patients receiving conventional medical treatment also use complementary treatments; to assess which complementary treatments are the most popular and to assess patients' motivation for using them; to evaluate associated advantages and risks.

    Design: Postal screening questionnaire followed by semistructured interview.

    Setting: Two hospitals in inner London.

    Subjects: 600 unselected oncology patients aged 18 or over who had known their diagnosis of cancer for at least three months.

    Main outcome measures–Prevalence and demography of use of complementary therapies; patients' motivation and expectations of complementary therapies; areas of satisfaction and dissatisfaction associated with conventional and complementary therapies.

    Results: 415 (69%) patients returned the questionnaire. 16% had used complementary therapies. The most popular were healing, relaxation, visualisation, diets, Homoeopathy, vitamins, herbalism, and the Bristol approach. Patients using complementary therapies tended to be younger, of higher social class, and female. Three quarters used two or more therapies. Therapies were mostly used for anticipated anti-tumour effect. Ill effects of diets and herb treatments were described. Satisfaction with both conventional and complementary therapies was high, although diets often caused difficulties. Patients using complementary therapies were less satisfied with conventional treatments, largely because of side effects and lack of hope of cure. Benefits of complementary therapies were mainly psychological.

    Conclusions: A sizeable percentage of patients receiving conventional treatments for cancer also use complementary therapies. Patient

satisfaction with complementary therapies, other than dietary therapies, was high even without the hoped for anti-cancer effect. Patients reported psychological benefits such as hope and optimism.

Source: http://www.ncbi.nlm.nih.gov/pubmed/8038672

11. A population-based study of prevalence of complementary methods use by cancer survivors: a report from the American Cancer Society's studies of cancer survivors.
Journal reference: Cancer, Volume 113, Issue 5, 2008, Pages 1048-1057.

Authors: Gansler T, Kaw C, Crammer C, Smith T.

Summary: Background: The use of complementary methods (CMs) is widespread and increasing in the United States. Most literature on CM use among cancer survivors focuses on the treatment period, whereas only a few studies address use further along the cancer continuum.

Methods: This study analysed the prevalence and the medical and demographic associations of CM use among cancer survivors surveyed 10 to 24 months after diagnosis. The study's sample–4139 survivors of 1 of 10 adult cancers–was selected from stratified random samples provided by state-wide cancer registries and surveyed by mail and telephone. Three logistic regression models examined associations between medical and demographic factors and CM use among survivors of sex-specific and non-sex-specific cancers.

Results: Of the 19 CMs included in the survey, the CMs most frequently reported were prayer/spiritual practice (61.4%), relaxation (44.3%), faith/spiritual healing (42.4%), nutritional supplements/vitamins (40.1%), meditation (15%), religious counselling (11.3%), massage (11.2%), and support groups (9.7%). Among these 19 CMs, the least prevalent were hypnosis (0.4%), biofeedback therapy (1.0%), and acupuncture/acupressure (1.2%). Survivors more likely to use CMs were female, younger, white, higher income, and more educated.

Conclusion: This study provides information regarding prevalence and medical demographic determinants of CM use reported by a large, population-based sample of survivors of 10 cancers surveyed 10 to 24 months after diagnosis. These findings may be used by clinicians and

researchers to inform their decisions regarding which CMs to address in practice and research.

Source: http://www.ncbi.nlm.nih.gov/pubmed/18680170

12. Use of complementary and alternative medicine by cancer patients is not associated with perceived distress or poor compliance with standard treatment but with active coping behaviour: a survey.
Journal reference: Cancer, Volume 89, Issue 4, 2000, Pages 873-880.

Authors: Sollner W, Maislinger S, Vries AD, Steixner E, Rumpold G, Lukas P.

Summary: Background: Complementary and alternative medicine (CAM) is often used by cancer patients. Data on characteristics of users, concomitant psychologic disturbance, and compliance with standard treatment continue to be controversial. Use of and interest in CAM and their correlation with psychologic disturbance, ways of coping with illness, and compliance with standard treatment were examined in this study.

Methods: The authors conducted a survey in a consecutive sample of 205 cancer patients undergoing radiotherapy, using a structured questionnaire to record use of and interest in CAM, the Hospital Anxiety and Depression Scale, the Hornheide Questionnaire to assess patient distress and social support, and the Freiburg Questionnaire of Coping with Illness.

Results: Of the 172 participants, 24.4% (response rate, 83.9%) reported use of CAM, and 31.4% reported not having used but being interested in such methods. Logistic regression analysis including clinical, demographic, and psychologic characteristics as independent variables yielded 3 predictors of use of or interest in CAM: younger age (P = 0.004; odds ratio (or), 0.96), progressive cancer (P = 0.064; or, 1.47), and active coping behaviour (P = 0.016; OR, 1.65). Patients interested in or using CAM did not show more psychologic disturbance, poorer social support, or less trust in medicine or compliance with radiotherapy than subjects without such interest.

Conclusion: Use of CAM by cancer patients is not associated with perceived distress or poor compliance with medical treatment but with

active coping behaviour. Patients seem to consider CAM as supplementary to standard medical methods and one way of avoiding passivity and of coping with feelings of hopelessness.

Source: http://www.ncbi.nlm.nih.gov/pubmed/10951352

13. The role of psychological functioning in the use of complementary and alternative methods among disease-free colorectal cancer survivors: a report from the American Cancer Society's studies of cancer survivors.
Journal reference: Cancer, Volume 115, Issue 18, 2009, Pages 4397-4408.

Authors: Stein KD, Kaw C, Crammer C, Gansler T.

Summary: Background: The medical and demographic correlates of complementary and alternative medicine (CAM) use among cancer survivors have been well documented. However, the role of psychological functioning in cancer survivors' CAM use and the degree to which such factors apply to survivors of colorectal cancer require additional study. In addition, sex differences in CAM use and its correlates among colorectal cancer survivors are not well understood.

Methods: By using data from a large-scale national population-based study of quality of life and health behaviours among cancer survivors, the authors examined the prevalence and psychological correlates of CAM use among 252 male and 277 female colorectal cancer survivors.

Results: Use of CAM was more common among women, those with more education, and recipients of chemotherapy and radiation therapy. Several psychological factors predicted increased use of CAM among female colorectal cancer survivors, including anxiety, fear of cancer recurrence, fatigue, vigor, anger, mental confusion, and overall emotional distress. Depression was associated with decreased CAM use among female survivors, both for overall CAM use and across several standard CAM domains. In contrast, psychological functioning had little impact on male colorectal cancer survivors' CAM use. The only non-medical/demographic variable associated with men's use of CAM was fatigue, which predicted use only of biologically based practices, such as diet and nutritional supplements.

Conclusion: Psychological functioning has a significant impact on CAM

use among female colorectal cancer survivors. Decreased use of CAM among women with depressive symptoms was unexpected and warrants additional investigation.

Source: http://www.ncbi.nlm.nih.gov/pubmed/19731355

14. Alternative medicine use worldwide: the International Union Against Cancer survey.
Journal reference: Cancer, Volume 91, Issue 7, 2001, Pages 1390-1393.

Authors: Cassileth BR, Schraub S, Robinson E, Vickers A.

Summary: Background: In the current study, the authors attempted to surmount the deficiencies of previous surveys and elicit information regarding the use of alternative treatments of cancer worldwide.

Methods: The International Union Against Cancer (UICC), an international, non-government volunteer organisation, E-mailed a questionnaire concerning alternative therapy use to its members.

Results: A total of 83 responses from 33 countries were received. Descriptive analyses of this dataset were conducted, indicating the existence of a large and heterogeneous group of unproved remedies used to treat cancer in both developed and developing countries around the world.

Conclusion: Improved public education concerning the importance of early medical attention and the value of documented cancer therapies, the wider availability of useful cancer treatments, and public policies that are sensitive to the patient's need to play a meaningful role in his or her own care are required.

Source: http://www.ncbi.nlm.nih.gov/pubmed/11283941

15. Homoeopathy as a supportive therapy in cancer.
Journal reference: Homoeopathy, Volume 93, Issue 2, 2004, Pages 99-102.

Authors: Rajendran ES.

Summary: Three cases of cancer in which Homoeopathic treatment was

used in a complementary role are described: A 64 year old male with metastatic adenocarcinoma of the rectum. The patient refused surgery. He was treated constitutionally with Lycopodium. He survived nearly 3 years with no further hospitalisation or other complications. A 77 year old female with terminal squamous cell carcinoma of the cheek previously treated with radiotherapy. There was intense pain not relieved by available treatment. Calcarea carbonica was prescribed on constitutional grounds and gave very good pain relief. A 70 year old male presented with carcinoma of the larynx. He had been receiving Homoeopathic treatment after the diagnosis because of his faith in it. He was advised to have surgery, radiation and chemotherapy, which he underwent immediately. This treatment was followed by Homoeopathic constitutional treatment. *Ferrum-phos* was prescribed. There was a good response. The patient was symptom-free at 3 year follow-up. Homoeopathic medicines prescribed on constitutional grounds may play a useful role in supportive and palliative for patients with malignant disease.

Source: http://www.ncbi.nlm.nih.gov/pubmed/15139095

16. Homoeopathy for menopausal symptoms in breast cancer survivors: a preliminary randomised controlled trial.
Journal reference: Journal of Alternative and Complementary Medicine, Volume 11, Issue 1, 2005, Pages 21-27.

Authors: Jacobs J, Herman P, Heron K, Olsen S, Vaughter L.

Summary: Objectives: To carry out a preliminary trial evaluating the effectiveness of two types of Homoeopathy for the treatment of menopausal symptoms in breast cancer survivors.

Design: Randomised, double-blinded, placebo-controlled.

Settings/location: Private medical clinic, Seattle, WA.

Subjects: Women with a history of breast cancer who had completed all surgery, chemotherapy, and radiation treatment and who had an average of at least three hot flashes per day for the previous month.

Interventions: Subjects were randomised to receive either an individualised Homoeopathic single remedy, a Homoeopathic

combination medicine, or placebo. Patients were seen by Homoeopathic providers every 2 months for 1 year.

Outcome measures: Hot flash frequency and severity, Kupperman Menopausal Index (KMI), Short Form 36 (SF-36).

Results: There was no significant difference found in the primary outcome measure, the hot flash severity score, although there was a positive trend in the single remedy group during the first 3 months of the study ($p = 0.1$). A statistically significant improvement in general health score in both Homoeopathy groups ($p < 0.05$) on the SF-36 after 1 year was found. Evidence of a Homoeopathic "drug proving" in the subjects receiving the Homoeopathic combination medicine who were not taking tamoxifen also was found.

Conclusions: Small sample size precludes definitive answers, but results from this preliminary trial suggest that Homoeopathy may be of value in the treatment of menopausal symptoms and improving quality of life, especially in those women not on tamoxifen. Larger studies should be carried out that also include healthy women who want to avoid hormone replacement therapy.

Source: http://www.ncbi.nlm.nih.gov/pubmed/15750360

17. A pilot, randomised, double-blinded, placebo-controlled trial of individualised Homoeopathy for symptoms of estrogen withdrawal in breast-cancer survivors.
Journal reference: Journal of Alternative and Complementary Medicine, Volume 11, Issue 1, 2005, Pages 13-20.

Authors: Thompson EA, Montgomery A, Douglas D, Reilly D.

Summary: Objective: To pilot an investigation of individualised Homoeopathy for symptoms of estrogen withdrawal in breast cancer survivors.

Design: Randomised, double-blinded, placebo-controlled trial.

Setting: Outpatient department of a National Health Service (NHS) Homoeopathic hospital.

Participants: Fifty seven (57) women met inclusion criteria and 53 were

randomised to the study.

Intervention: After 2 weeks of baseline assessment, all participants received a consultation plus either oral Homoeopathic medicine or placebo, assessed every 4 weeks for 16 weeks.

Outcome measures: The primary outcome measures were the activity score and profile score of the Measure Yourself Medical Outcome Profile (MYMOP).

Results: Eighty-five percent (85%) (45/53) of women completed the study. There was no evidence of a difference seen between groups for either activity (adjusted difference = –0.4, 95% confidence interval CI –1.0 to 0.2, p = 0.17) or profile scores (adjusted difference = –0.4, 95% CI –0.9 to 0.1, p = 0.13) using this trial design, although post hoc power calculations suggests that 65-175 would be needed per group to detect differences of this magnitude with sufficient precision. Clinically relevant improvements in symptoms and mood disturbance were seen for both groups over the study period.

Conclusion: Improvements were seen for symptom scores over the study period. However, presuming these improvements were caused by the individualised Homoeopathic approach, the study failed to show clearly that the specific effect of the remedy added further to the nonspecific effects of the consultation. Future trial design must ensure adequate power to account for the nonspecific impact of such complex individualised interventions while pragmatic designs may more readily answer questions of clinical and cost effectiveness.

Source: http://www.ncbi.nlm.nih.gov/pubmed/15750359

18. Efficacy of Homoeopathic therapy in cancer treatment.

    Journal reference: European Journal of Cancer, Volume 42, Issue 3, 2006, Pages 282-289.

    Authors: Milazzoa S, Russellb N, Ernst E.

    Summary: Many cancer patients use Homoeopathic approaches to increase their body’s ability to fight cancer, improve their physical and emotional well-being, and alleviate their pain resulting from the disease

or conventional treatments. Homoeopathy is highly controversial as there is no plausible mode of action for these highly diluted remedies. The aim of this systematic review is to summarise and critically evaluate the efficacy of Homoeopathic remedies used as a sole or additional therapy in cancer care. We have searched the literature using the databases: Amed (from 1985); CINHAL (from 1982); EMBASE (from 1974); Medline (from 1951); and CAMbase (from 1998). Randomised and non-randomised controlled clinical trials including patients with cancer or past experience of cancer receiving single or combined Homoeopathic interventions were included. The methodological quality of the trials was assessed by Jadad score. Six studies met our inclusion criteria (five were randomised clinical trials and one was a non-randomised study); but the methodological quality was variable including some high standard studies. Our analysis of published literature on Homoeopathy found insufficient evidence to support clinical efficacy of Homoeopathic therapy in cancer care.

Source: http://www.ncbi.nlm.nih.gov/pubmed/16376071

19. Perceptions and attitudes of clinical oncologists on complementary and alternative medicine: A nationwide survey in Japan.
Journal reference: Cancer, Volume 97, Issue 11, 2003, Pages 2861-2888.

Authors: Hyodo I, Eguchi K, Nishina T, Endo H, Tanimizu M, Mikami I, Takashima S, Imanishi J.

Summary: Background: The prevalence of complementary and alternative medicine (CAM) is increasing worldwide because of the growing public interest in natural or holistic therapies and because of the flow of information through the Internet. However, there is a lack of communication between cancer patients and their physicians on topics relating to CAM. The authors performed a cross-sectional survey to evaluate the perceptions and attitudes of Japanese clinical oncologists toward cancer CAM.

Methods: The CAM questionnaires were sent to 2118 clinical oncologists. The questionnaires gathered data on background (age, gender, years in practice, specialty, and knowledge of cancer CAM), perception (effectiveness/ineffectiveness, scientific evidence, and drug

interactions), and attitude (experience with and response to CAM users). Questions about oncologists' perceptions and attitudes to CAM were limited to herbs and other natural products that were sold over the counter.

Results: One hundred sixty-six questionnaires were returned as undeliverable. Of the remaining questionnaires, 751 were returned (a response rate of 39%). Two-thirds of the responders were surgical oncologists and most of the remaining responders were medical oncologists. The majority of oncologists (82%) believed that CAM products were ineffective against cancer. The main reason for this belief was a lack of reliable information (as cited by 85% of oncologists). Only 13% of oncologists had experienced CAM-associated disease improvement in their cancer patients. Of all the oncologists, 84% considered the possibility of drug interactions between anti-cancer drugs and CAM products. The majority of oncologists (80%) replied that they could neither promote the use of CAM products nor recommend quitting the products, when they were asked about the use of CAM products by cancer patients.

Conclusion: Negative perceptions of CAM products persist among clinical oncologists. A lack of proven effectiveness of CAM products and concerns about drug interactions with anticancer treatment suggest a need for both accurate information on CAM products and clinical trials.

Source: http://www.ncbi.nlm.nih.gov/pubmed/12767101

20. Awareness and practice concerning oral cancer among Ayurveda and Homoeopathy practitioners in Davangere district: a speciality-wise analysis.

    Journal reference: Journal of National Science and Biological Medicine, Volume 6, Issue 1, 2015, Pages 116-119.

    Authors: Kulkarni RS, Arun PD, Rai R, Kanth S, Sargaiyan V, Kandasamy S.

    Summary: Context: In India, oral cancer accounts for one-third of all cancers. Early detection and immediate intervention can lead to marked reduction in the morbidity and mortality. In India, Ayurveda and Homoeopathy practitioners are distributed widely in rural and urban

areas and are easily accessible. Until date, no assessment on their oral cancer knowledge and practice has been done.

Aims: The present study was undertaken to evaluate the knowledge, awareness, and practice concerning oral cancer.

Subjects and Methods: Questionnaire comprising 15 questions was distributed to 42 Ayurveda and 38 Homoeopathy doctors in Davangere District, Karnataka, India, assessing their oral examination habits, knowledge on the risk factors, patient education, clinical signs of the disease and its treatment.

Statistical analysis used: The results were analysed using Chi-square test.

Results: Lesser number of the practitioners routinely examined oral mucosa (16.7% and 5.3%, respectively). Fewer advised their patients about the risk factors (2.4% and 2.6%). Less positive response was obtained for the correct method for confirmation of diagnosis (28.6% and 15.8%). Many doctors agreed that they had not undergone training in cancer institute (P = 0.29). Twenty-three (54.8%) Ayurveda and 28 (73.7%) Homoeopathy doctors opined that they did not have sufficient knowledge regarding early detection and prevention of oral cancer and many were desirous of receiving further information (97.6% and 84.2% respectively).

Conclusions: This study attempts to highlight the need for improving the oral cancer knowledge and awareness among practicing Ayurveda and Homoeopathy doctors.

Source: http://www.ncbi.nlm.nih.gov/pubmed/25810647

21. Psorinum therapy in treating stomach, gallbladder, pancreatic, and liver cancers: a prospective clinical study.

    Journal reference: Evidence-Based Complementary and Alternative Medicine, Volume 2011, Article ID 724743, 7 pages, DOI:10.1155/2011/724743.

    Authors: Chatterjee A, Biswas J, Chatterjee A, Bhattacharya S, Mukhopadhyay B, Mandal S.

Summary: We prospectively studied the clinical efficacy of an alternative cancer treatment “Psorinum Therapy” in treating stomach, gallbladder, pancreatic and liver cancers. Our study was observational, open level and single arm. The participants’ eligibility criteria included histopathology/cytopathology confirmation of malignancy, inoperable tumour, and no prior chemotherapy or radiation therapy. The primary outcome measures of the study were (i) to assess the radiological tumour response (ii) to find out how many participants survived at least 1 year, 2 years, 3 years, 4 years and finally 5 years after the beginning of the study considering each type of cancer. Psorinum-6x was administered orally to all the participants up to 0.02 ml/Kg body weight as a single dose in empty stomach per day for 2 years along with Allopathic and Homoeopathic supportive cares. 158 participants (42 of stomach, 40 of gall bladder, 44 of pancreatic, 32 of liver) were included in the final analysis of the study. Complete tumour response occurred in 28 (17.72%) cases and partial tumour response occurred in 56 (35.44%) cases. Double-blind randomised controlled clinical trial should be conducted for further scientific exploration of this alternative cancer treatment.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3004411/

22. The social implications of questionable cancer therapies.

    Journal reference: Cancer, Volume 63, 1989, Pages 1247-1250.

    Authors: Cassileth BR.

    Summary: Questionable or “unorthodox” treatments are not selected in a vacuum; their degree of popularity and the particular types used are functions of their social and cultural context. The liquid preparations that were popular earlier in this century reflected fascination with bottled medicinals, consistent with the growing era of pharmaceutical medicine. Today’s questionable remedies are similarly consistent with their social and cultural context. “Metabolic” therapies emphasising diet, self care, vitamins, and internal cleansing, along with “immune-enhancing” regimens, represent today’s reigning “alternatives”. Such approaches reflect underlying social trends and values, such as belief in assuming personal responsibility for one’s health, the importance of self care and physical fitness, patients’ rights movements, dietary emphases

encouraged by conventional and alternative medicine alike, the holistic medicine movement, and general disaffection with organised medicine. Just as questionable therapies are born of the values and beliefs of their culture, so these treatments and their use affect the social environment in which they exist. The relationship is reciprocal and cyclic, with social trends encouraging particular forms of questionable regimens and these regimens, in turn, reinforcing prevailing social beliefs. Public beliefs about cancer were reflected in responses to our studies of unorthodox cancer therapies and of psychosocial correlates of survival. Responses revealed widely held values and beliefs about cancer, cancer treatment, and medicine generally. These themes are described.

Source: http://www.ncbi.nlm.nih.gov/pubmed/2513103

23. Using a randomised controlled trial (RCT) methodology in CAM research with gynaecological cancer patients: A commentary on the perks and pitfalls.

    Journal reference: Complementary Therapies in Clinical Practice, Volume 21, Issue 1, 2015, Pages 11-18.

    Authors: Archer S, Forshaw MJ.

    Summary: This paper provides a commentary on several challenges faced by researchers when conducting randomised controlled trials (RCTs) utilising complementary therapies with cancer patients. Several factors, such as research design and recruitment to the intervention are discussed. Examples are drawn from an RCT conducted by the lead author regarding the use of yoga to improve the quality of life of gynaecological cancer patients undergoing treatment for their cancer. This paper gives methodological insights into some of the difficulties experienced when conducting research with cancer patients, and provides a number of recommendations based on the available evidence and practical application of these methods.

    Source: http://www.ncbi.nlm.nih.gov/pubmed/25582376

24. Open-label uncontrolled pilot study to evaluate complementary therapy with *Ruta graveolens* 9c in patients with advanced cancer.

    Journal reference: Homoeopathy, Volume 103, Issue 4, 2014, Pages

232 -238.

Authors: Freyer G, You B, Villet S, Tartas S, Federico CF, Trillet-Lenoir V, Hamizi S, Colomban O, Chavernoz N and Falandry C.

Summary: Background: Patients with advanced metastatic disease are often treated aggressively with multiple lines of chemotherapy, even in the last month of life. The benefit of such an approach remains uncertain. The objective of the study was to investigate whether *Ruta graveolens* 9c Homoeopathic medicine can improve quality of life (QoL) and tumour progression in patients with advanced cancer.

Material and methods: This was a single-centre, open-label, uncontrolled, pilot study. Patients (>18-years, life-expectancy 3 months, performance status £2) with locally advanced solid tumours or metastases, previously treated with all available standard anti-cancer treatments were recruited. Oral treatment consisted of two 1-mL ampoules of Ruta graveolens (9c dilution) given daily for a minimum of 8 weeks, or until tumour and/or clinical progression. Primary outcome was QoL measured using the EORTC QLQC30 questionnaire. Secondary outcome measures were anxiety/depression measured using the Hospital Anxiety and Depression Scale (HADS), WHO performance status (PS), tumour progression assessed using RECIST criteria and tumour markers, survival and tolerance.

Results: Thirty one patients were included (mean age: 64.3 years). Mean duration of treatment was 3.3 months (median: 2.1). QoL global health status improved significantly between baseline and week 8 ($P < 0.001$) and week 16 ($P = 0.035$), but was at the limit of significance ($P = 0.057$) at the end of the study. There was no significant change in anxiety/ depression or PS during treatment. Ruta graveolens 9c had no obvious effect on tumour progression. Median survival was 6.7 months [95% CI: 4.8-14.9]. Ruta graveolens 9c was well-tolerated.

Conclusion: Some patients treated with Ruta graveolens 9c had a transitory improvement in QoL, but the effectiveness of this treatment remains to be confirmed in further studies.

Source: http://www.ncbi.nlm.nih.gov/pubmed/25439039

25. A randomised, controlled clinical trial of the Homoeopathic medication

Traumeel S in the treatment of chemotherapy-induced stomatitis in children undergoing stem cell transplantation.

Journal reference: Cancer, Volume 92, Issue 3, 2001, Pages 684-690.

Authors: Oberbaum M, Yaniv I, Ben-Gal Y, Stein J, Ben-Zvi N, Freedman LS, Branski D,

Summary: Background: Stomatitis is a common consequence of chemotherapy and a condition for which there is little effective treatment. Although the management of patients with other chemotherapy-related toxicities has improved in recent years, the incidence of stomatitis is increasing because of more intensive treatment and is often a dose limiting factor in chemotherapy. The authors assessed the efficacy of a Homoeopathic remedy, TRAUMEEL S, in the management of chemotherapy induced stomatitis in children undergoing bone marrow transplantation.

Methods: A randomised, placebo-controlled, double-blind clinical trial was conducted in 32 patients aged 3-25 years who had undergone allogeneic (16 patients) or autologous (16 patients) stem cell transplantation. Of the 30 evaluable patients, 15 were assigned placebo, and 15 were assigned TRAUMEEL S both as a mouth rinse, administered five times daily from 2 days after transplantation for a minimum of 14 days, or until at least 2 days after all signs of stomatitis were absent. Stomatitis scores were evaluated according to the World Health Organization grading system for mucositis.

Results: A total of five patients (33%) in the TRAUMEEL S treatment group did not develop stomatitis compared with only one patient (7%) in the placebo group. Stomatitis worsened in only 7 patients (47%) in the TRAUMEEL S treatment group compared with 14 patients (93%) in the placebo group. The mean area under the curve stomatitis scores were 10.4 in the TRAUMEEL S treatment group and 24.3 in the placebo group. This difference was statistically significant ($P = 0.01$).

Conclusion: This study indicates that TRAUMEEL S may reduce significantly the severity and duration of chemotherapy-induced stomatitis in children undergoing bone marrow transplantation.

Source: http://www.ncbi.nlm.nih.gov/pubmed/11505416

26. Efficacy and safety of Mistletoe preparations (*Viscum album*) for patients with cancer diseases: a systematic review.

Journal reference: Forschende Komplementärmedizin, Volume 16, Issue 4, 2009, Pages 217-226.

Authors: Melzer J, Iten F, Hostanska K, Saller R.

Summary: Background: Mistletoe is often used as a complementary approach in oncology. Despite experimental anti-tumour effects and several review there remains controversy about its clinical role.

Patients and Methods: Potentially relevant trials were identified to perform a systematic review (databases: e.g. EMBASE, MEDLINE; hand search: e.g. bibliographies; search terms: e.g. mistletoe). To be included, randomised or comparative clinical trials at least had to examine mistletoe preparations standardised according to manufacturing process and to describe interventions explicitly. Additionally, cohort studies were included for reasons of external validity. Results were summarised in tables.

Results: 18 clinical trials (>6,800 participants) were included. Their internal quality was mostly low. Due to heterogeneity between trials a meta-analysis was impossible. Regarding efficacy, findings were inconsistent regarding life expectancy, relation to tumour entity, dosing and treatment duration. Yet, studies indicate that quality of life (QoL) is improved. As these findings do not seem to be limited to one of the different parenteral mistletoe preparations reviewed, the treatment may be summarised under the umbrella term ‘mistletoe therapy’. Regarding safety, 1 serious adverse event (AE) related to mistletoe was described; non-serious AEs were local reactions at injection site. Allergic reactions were rare.

Conclusion: Supportive ‘mistletoe therapy’ seems safe and beneficial for QoL in adult patients with solid tumours. But there is an urgent need to confirm its efficacy in patient-centred care in a complex oncological setting. This has to be evaluated systematically in prospective observational trials with validated, multidimensional patient-rated QoL questionnaires and comparisons of different preparations and dosages.

Source: http://www.ncbi.nlm.nih.gov/pubmed/19729932

Common Conventional Medications Used by the Cancer Patients

Conventional medicines are introduced every few months in the field of cancer and hence it is difficult to keep pace with all the new information coming, working in a cancer department. I come across every day prescriptions that help me as a Homoeopath to discover its side effect and how to handle such side effects Homoeopathically using simple home remedies and Homoeopathic drugs. Given below are few medications which I handle regularly. The side effects listed are that occur more frequently. Other side effects may also occur.

Diphenhydramine (Benadryl)

Uses: To relieve symptoms of allergic reactions, to relieve or prevent symptoms caused by some anti-nausea medications and to assist in falling asleep.

Administration: Oral, intravenous or intra muscular

Potential side effects:

1. Drowsiness
2. Dry mouth
3. Increased sensitivity to sun

Warnings (Applicable to all the medicines listed here): Inform your doctor if you are:

1. Allergic to any food or medicine.
2. Taking any non-cancer related prescriptions or over the counter drugs.
3. Ask your doctor or pharmacist before using any new medications including: prescriptions, over the counter drugs, vitamins or herbal

supplements.

Additional Instructions:

1. Avoid drinking alcohol while taking this medicine.
2. Do not drive vehicle or operate machinery if you feel drowsy after taking the drug.
3. Avoid staying in direct sunlight for an extended period of time to prevent sunburn.
4. Tell your doctor if you have an enlarged prostate.
5. This medication will add to drowsiness caused by alcohol or other medications for colds/allergies, sleep, pain, muscle spasm or nausea. Use combinations of these medications with caution. Be sure to discuss their use with your doctor.

Prednisone

Uses: To treat asthma, serious skin problems, arthritis and allergic reactions and to minimise the side effects of chemotherapy.

Administration: Oral

Potential Side Effects:

1. Increase in white blood cell count, blood sugar and blood pressure.
2. Increase appetite and fluid retention resulting in possible weight gain and leg swelling.
3. Increased risk of infections.
4. Stomach irritation.
5. Loss of muscle mass and strength in upper thighs.
6. Sleep disturbances, hyperactivity, increased irritability, changes in mood and psychosis.
7. Increased facial hair.
8. Glaucoma.
9. Increased tendency to get blood clots.
10. Acne.

Additional Instructions:

1. Always take this medication with food.

2. Avoid alcohol.
3. Do not suddenly stop taking this medication. Call your doctor if you have accidentally missed a dose.

GM-CSF, Sargramostim (Leukine)

Uses: To help speed the recovery of the infection-fighting white blood cells this can be lowered by some chemotherapy drugs.

Administration: Intravenous

Potential Side Effects:

1. Shortness of breath, flushing, hypotension.
2. General swelling and fluid retention.
3. Flu-like symptoms such as headache and fever.
4. Chills, weakness, malaise.
5. Redness, inflammation, rash and pain at injection site.
6. High fever.
7. Mild to moderate bone pain.
8. Difficulty breathing.

Additional Instructions:

1. Your doctor will require routine blood tests to check your complete blood count.
2. You can take acetaminophen (Tylenol, not Aspirin) with your doctor's approval if bone pain, "achiness" and flu-like symptoms occur.

Pegfilgrastim (Neulasta)

Uses: To treat or prevent infections caused by cancer medicines (chemotherapy)

Administration: Subcutaneous

Potential Side Effects:

1. Pain at injection site.
2. Muscles, joint or bone pain.
3. Allergic reaction: skin rash, itching.

Ceftriaxone (Rocephin)

Uses: To treat bacterial infections

Administration: Intravenous

Potential Side Effects:

1. Dizziness, headache.
2. Allergic reactions such as skin rash.
3. Vaginal itching.
4. Diahorrea (mild or severe).
5. Fatigue.
6. Loss of appetite.

Additional instructions:

1. This medication causes diarrhoea, check with your doctor prior to taking any over-the-counter medication for it.
2. A dosage of once a day is necessary and requires coming to the Cancer Centre daily for therapy and for monitoring your infection/fever. The dose will be given over 45 to 60 min in the Infusion centre.
3. The antibiotic will be stopped when your white cell count increases to a safer level or when your doctor determines that you no longer have an infection.

Metronidazole (Flagyl)

Uses: To treat infections

Administration: Oral

Additional Information:

1. It is important to finish all of this medication even if you start to feel better.
2. Take this medication with food or a full glass of water or milk to prevent upset stomach.
3. Do not drink alcoholic beverages while taking this medication. They may cause severe upset, nausea, vomiting and flushing if taken with this medication.

Heparin Infusion

Uses: An anticoagulant used to decrease clotting ability of blood therefore preventing harmful clots from forming in blood vessels.

Administration: Intravenous

Potential Side Effects:

1. Skin rash, itching, hives.
2. Unusual bleeding from gums or nose, blood in urine, coughing of blood or unexplained bruising.
3. Difficulty breathing.

Additional Instructions:

1. Inform your doctor if you have stomach ulcers, diabetes, kidney or liver disease before taking this medication. Also inform your doctor if you have had any type of surgery, radiation treatments, falls or injuries.
2. Do not take alcohol. Aspirin, ibuprofen (Motrin, Advil) or any other products containing these drugs.
3. It is very important that you avoid sports and other activities that may cause injury.
4. Take special care when brushing your teeth and shaving. Use a soft tooth-brush and floss gently. It is best to use an electric shaver rather than a blade.
5. Contact your doctor if you have any signs of bleeding or symptoms of allergic reaction.
6. Do not make sudden changes in the amount of Vitamin K in your diet. A consistent eating pattern is necessary to maintain effectiveness of the medicine.

Zoledronic Acid (Zometa)

Uses: To lower the amount of calcium in the blood and to prevent and treat bone metastasis associated with cancer.

Administration: Intravenous

Potential Side Effects:

1. Lowered blood pressure.
2. Mild fever.
3. Flu-like symptoms such as fever, chills, bone pain and aching muscles.
4. Bone pain.
5. Fatigue, insomnia, anxiety.
6. Allergic symptoms such as itching, hives, rash or swelling in extremities, chest pain and trouble breathing.

Additional Instructions: Decrease blood levels of calcium, phosphate and magnesium will be monitored by your doctor.

Granisetron (Kytril)

Uses: To decrease nausea and/or vomiting before, during and after chemotherapy treatments.

Administration: Oral or Intravenous

Potential Side Effects:

1. Headache.
2. Diarrhoea, constipation.
3. Skin rash, severe itching or hives.

Lorazepam (Ativan)

Uses: to decrease nausea/vomiting associated with chemotherapy, to relieve mild anxiety and tension, to aide in sleep difficulties

Administration: Oral, Intravenous, Intramuscular or Sublingual

Potential Side Effects:

1. Drowsiness, clumsiness, trouble concentrating.
2. Dry mouth.
3. Short-term memory loss while on drug.
4. Blurred vision or headache.
5. Depression.
6. Severe muscle weakness or trouble standing.
7. Slurred speech or severe drowsiness.
8. Irritability, agitation or “hangover” effects.

9. Difficulty breathing.

Additional Instructions:

1. Inform your doctor if you have myasthenia, liver or lung disease or glaucoma.
2. Do not drive a vehicle or operate machinery if you feel drowsy after taking the drug.

Metoclopramide (Reglan)

Administration: Oral, intravenous or intramuscular

Potential Side Effects:

1. Restlessness, drowsiness.
2. Anxiety, irritability, confusion, trouble sleeping.
3. Diarrhoea, constipation, stomach cramps.
4. Unexplained high fever, muscle stiffness.
5. Tremors, trouble speaking.
6. Skin rash, itching, hives.
7. Fast, slow or irregular heartbeat. Breathing trouble.
8. Extra pyramidal symptoms: Facial or neck tightness, thick tongue or slurred speech, droopy mouth, lip smacking, muscles spasms or jerky movements of the head, tongue, jaw, arms or legs.

Additional Instructions:

1. If you experience any of the extrapyramidal symptoms mentioned above, immediately take 25 mg of Benadryl and notify your doctor.
2. If you take insulin for diabetes, ask your doctor if you need to adjust your dose while on Reglan.
3. Tell your doctor if you have liver or kidney problems, high blood pressure, Parkinson’s disease or if you are allergic to procainamide.
4. Do not drive a vehicle or operate machinery if you feel drowsy after taking the drugs.
5. This medication will add to the drowsiness caused by alcohol or other medications for cold/allergies, sleep, pain, muscles spasm or nausea. Use combinations of these medications with caution. Be sure to discuss their use with your doctor.

Oxycodone Sustained-Release (OxyCotin)

Uses: Treats mild to moderate pain when around the-clock pain relief is needed for a long period of time

Administration: Oral

Potential Side Effects:

1. Itching.
2. Clumsiness, unsteadiness.
3. Constipation.
4. Decrease or difficulty passing urine.
5. Dizziness, drowsiness.
6. Dry mouth.
7. Nausea, vomiting.
8. Anxiety, mood changes.
9. Confusion, lightheadedness or fainting spells.
10. Legs or arm ‘jerk’ or have spasms.
11. **Trouble breathing.**

Additional instructions:

1. Do not break, crush or chew OxyContin tablets; this will cause the release of a large amount of oxycodone to be absorbed into your body at once, which can be dangerous and result in an overdose and serious adverse reactions.
2. This medicine may be taken with food or milk to lessen stomach upset.
3. To avoid dizziness, get up slowly from a lying or sitting position.
4. Talk to your doctor before you stop taking this medicine. You may need smaller and smaller amounts before stopping completely.
5. To avoid constipation, take a laxative and/or a stool softener. Try to have a bowel movement every 2–3 days, if not then inform your doctor.
6. Your mouth may feel dry. Drinking plenty of water, chewing gum, or sucking hard candy may help dry mouth symptoms.

Acetaminophen; Hydrocodone (Vicodin)

Uses: Treats moderate to severe pain

Administration: Oral

Potential Side Effects:

1. Anxiety, mood changes.
2. Constipation.
3. Mild skin rash or itching.
4. Dizziness, drowsiness.
5. Dry mouth.
6. Nausea, vomiting, loss of appetite, pain in the upper stomach.
7. **Allergic reaction: Severe rash, itching or hives, swelling in face or hands, swelling or tingling in the mouth or throat, tightness in chest, trouble breathing.**

Additional Instructions:

1. Many non-prescription medicines contain acetaminophen (Tylenol), always read the labels carefully to avoid taking an accidental overdose.
2. This medicine may be taken with food or milk to lessen stomach upset.
3. To avoid dizziness, get up slowly from lying or sitting position.
4. To avoid constipation, take a laxative and/or a stool softener. Try to have a bowel movement every 2–3 days, if not then inform your doctor.
5. Your mouth may feel dry. Drinking plenty of water, chewing gums or sucking hard candy may help relieve dry mouth symptoms.

Prochlorpezarine (Compazine)

Uses: To decrease nausea and/or vomiting before, during and after chemotherapy treatments.

Administration: Oral, suppository, intravenous or intramuscular

Potential Side Effects:

1. Drowsiness, dry mouth, constipation.
2. **Trouble urinating, skin rash.**
3. **Rapid breathing or heartbeat.**
4. **Extra-pyramidal symptoms such as facial or neck tightness, thick tongue or slurred speech, droopy mouth, lip smacking, muscle spasms or jerky movements of the tongue, head, jaws, legs or arms.**

Additional Instructions:

1. If you experience any of the extrapyramidal symptoms mentioned above, immediately take 25 mg of Benadryl and notify your doctor.
2. Do not drive a vehicle or operate machinery if you feel drowsy after taking the drugs.
3. Do not drink alcohol while taking this medicine.
4. Inform your doctor if you have seizure disorder, heart, liver or lung disease, or any other medical problem.
5. Stand up slowly after you have been sitting or lying down to decrease dizziness.
6. This medicine may make your skin more sensitive to the sun. Try not to spend long periods in direct sunlight and protect your skin from the sun.

Ondansetron (Zofran)

Uses: To decrease nausea and/or vomiting before, during and after chemotherapy treatments.

Administration: Oral or Intravenous

Potential Side Effects:

1. Diarrhoea or constipation.
2. Headache, blurred vision, dizziness.

Aloxi (Palonosetron)

Uses: To decrease nausea and or vomiting before, during and after chemotherapy treatments.

Administration: Intravenous

Potential Side Effects:

1. Diarrhoea or constipation.
2. Headache.

Etoposide (VP - 16)

Uses: To treat cancer of the testicles, lung cancer, lymphoma, non-

lymphocytic leukaemia and other kinds of cancer.

Administration: Intravenous

Potential side effects:

1. Hair loss (thinning) is temporary and will grow back.
2. Loss of appetite.
3. Loss of weight.
4. Muscle cramps.
5. Nausea and vomiting.
6. Low blood pressure.
7. Drop in blood cell counts within 7–14 days after treatment.

Additional Instructions: This drug is given slowly to prevent dizziness or weakness.

Vincristine (Oncovin)

Uses: To treat many types of cancer, usually in combination with other medicine.

Administration: Intravenous

Potential Side Effects:

1. Swelling, redness or pain where IV was given.
2. Headache.
3. Hair loss (thinning) is temporary and will grow back.
4. Loss of appetite.
5. Nausea and vomiting.
6. Numbness and tingling in the arms or legs.
7. Drop in blood cell counts within 10–14 days after treatment.

Additional instructions:

1. Leakage outside the vein during infusion of the drug may cause pain and skin damage. Contact your doctor if there is any pain, burning, swelling, redness or tenderness in the area.
2. Increase the amount of bulky foods in diet and drink more fluids if mild constipation with abdominal discomfort or pain occurs.

Capecitabine (Xeloda)

Uses: To treat breast and colon cancer.

Administration: Oral

Potential Side Effects:

1. Mild diarrhoea, nausea, loss of appetite.
2. Mild numbness, tingling, swelling, pain, redness, scaling, or blistering on the hands or feet.
3. Sunburn/photosensitivity if skin is exposed to the sun.
4. Mouth sores.

Additional Instructions:

1. Each dose of the medicine may consist of a combination of two different tablet strengths (150 mg and 500 mg). If combination of tablets is prescribed, it is very important to take proper dose.
2. If you miss a dose, skip that dose unless your physician tells you otherwise. Do not take double or extra doses.
3. If diarrhoea occurs, avoid use of laxatives, antacids containing magnesium, or foods which may cause or worsen diarrhoea. Maintain adequate fluid intake to prevent dehydration.
4. If mouth sore occurs, avoid commercial mouthwashes, use a soft toothbrush and avoid alcohol and spicy food.

Streptozocin (Zanosar)

Uses: To treat cancer of the pancreas and other types of cancer.

Administration: Intravenous

Potential Side Effects:

1. Nausea and vomiting
2. Mouth sores

Additional Instructions: Brush your teeth with a soft bristle toothbrush or mouth swab.

Mechlorethamine, Nitrogen Mustard (Mustargen)

Uses: To treat Hodgkin's lymphoma and leukaemia.

Administration: Intravenous

Potential Side Effects:

1. Redness, swelling, or pain where IV is given.
2. Loss of appetite and change in taste sensations (metallic taste in mouth).
3. Tiredness and weakness.
4. Diarrhoea, nausea and vomiting.
5. Drop in blood cell counts within 7–14 days after treatment.
6. Hair loss (thinning) is temporary and will grow back.

Additional Instructions: Leakage outside the vein during infusion of the drug may cause pain and skin damage. Contact your doctor if there is any pain, burning, swelling, redness or tenderness in the area.

Paclitaxel (Taxol)

Uses: To treat cancer of the ovaries, breast, lung and Kaposi's sarcoma.

Administration: Intravenous

Potential Side Effects:

1. Numbness or tingling on hands, feet, arms and legs.
2. Mouth sores may occur.
3. Hair loss (thinning) is temporary and will grow back.
4. Muscle pain or bone pain may occur.
5. Drop in blood cell counts within 7–14 days after treatment.
6. **Difficulty in breathing.**
7. **Changes in heart rhythm or rate may occur.**
8. **Allergic reactions may occur, causing fever, rash, facial flushing, difficulty breathing and possibly lowering of blood pressure.**

Additional Instructions: To prevent allergic reactions, your physician has prescribed medications to be given before Taxol therapy is started.

Vinblastine (Velban)

Uses: To treat many forms of cancer and may be given in combination with other chemotherapeutic agents.

Administration: Intravenous

Potential Side Effects:

1. Pain, burning, redness or swelling where the IV is given.
2. Hair loss (thinning) is temporary and will grow back.
3. Nausea, vomiting and constipation with abdominal pain.
4. Fatigue or weakness.
5. Dizziness, loss of balance.
6. Drop in blood cell counts within 4–10 days after treatment.
7. Pain, numbness, or tingling in the hands or feet.

Additional Instructions:

1. Leakage outside the vein during infusion of the drug may cause pain and skin damage. Contact your doctor if there is any pain, burning, swelling, redness or tenderness in the area.
2. Increase amount of bulky foods in your diet and drink more fluids if mild constipation with abdominal pain occurs.

Topotecan (Hycamtin)

Uses: To treat various gynaecological cancers and small cell lung cancer.

Administration: Intravenous

Potential side effects:

1. Nausea and vomiting.
2. Headache may also occur.
3. Diarrhoea, constipation and abdominal pain.
4. Hair loss (thinning) is temporary and will grow back.
5. Drop in blood cell counts within 7–14 days after treatment.
6. Tingling sensation in fingers and toes.
7. Slight difficulty in breathing may occur.

Vinorelbine (Navelbine)

Uses: To treat many forms of cancer and may be used with other chemotherapy agents.

Administration: Intravenous

Potential Side Effects:

1. Swelling, redness or pain where IV was given.
2. Hair loss (thinning) is temporary and will grow back.
3. Nausea, vomiting, diarrhoea.
4. Fatigue.
5. Drop in blood cell counts within 7–14 days after treatment.
6. Numbness or tingling in hands or feet.
7. Mild constipation and abdominal discomfort or pain.

Additional Instructions: Leakage outside the vein during infusion of the drug may cause pain and skin damage. Contact your doctor if there is any pain, burning, swelling, redness or tenderness in the area.

Thalidomide (Thalomid)

Uses: To treat many forms of cancer and may be used with other chemotherapy agents.

Administration: Oral

Potential Side Effects:

1. Drowsiness.
2. Rash.
3. Dizziness.
4. Peripheral neuropathy (i.e. numbness, tingling, or pain in the hands and/or feet).
5. Constipation.
6. Swelling or fluid retention in the feet, ankles and legs.
7. Birth defects.

Additional Instructions: Inform your physician if there is a possibility you may be pregnant. A pregnancy test will be done if you are menopausal.

Oxaliplatin (Eloxatin)

Uses: To treat many types of cancer, including cancer of the colon and rectum (colorectal cancer).

Administration: Intravenous

Potential Side Effects:

1. Nausea, vomiting.
2. Hair loss (thinning) is temporary and will grow back Headache.
3. Rash of hives.
4. **Sensitivity to cold temperature.**
5. **Sudden dry cough.**
6. **Swelling of lips or tongue.**
7. **Tingling pain or burning (pins and needles, numbness) in hands, feet, mouth or tongue, which may cause problems walking or performing daily activities like swallowing, writing or buttoning.**
8. Difficulty breathing.
9. Difficulty swallowing or saying words, jaw tightness.

Leuprolide (Lupron)

Uses: To treat prostate cancer, endometriosis, fibroid tumours and breast cancer.

Administration: Intramuscular

Potential Side Effects:

1. Redness or irritation at injection site.
2. Dizziness, headache.
3. An initial worsening of symptoms including bone and prostate pain, or difficulty in urination.
4. Hot flushes, sweating.
5. Testicular atrophy.
6. Breast swelling/tenderness.
7. Decreased sexual desire/impotence.
8. Acne.
9. Skin rash, swelling or puffiness in extremities.

10. Vaginal itching, swelling, discharge.

Irinotecan (Camptosar)

Uses: To treat cancer of the colon and rectum (colorectal cancer).

Administration: Intravenous

Potential Side Effects:

1. Nausea, vomiting, diarrhoea.
2. Hair loss (thinning) is temporary and will grow back.
3. Loss of appetite.
4. Mouth sores.
5. Drop in blood cell counts within 7–14 days after treatment.
6. **Difficulty breathing (rare).**

Additional Instructions: Diarrhoea may be severe and may continue up to eleven days after initial treatment. Your doctor will prescribe an antidiarrhoeal agent (Loperamide) to help minimise this effect. Take Loperamide (also known as Imodium A-D) at the first episode of poorly formed or loose stools or the earliest onset of bowel movements more frequent than normal. Take as directed until diarrhoea resolves. Avoid use of laxatives, magnesium containing antacids, or foods which may cause or worsen diarrhoea. It is important to maintain adequate fluid intake to prevent dehydration.

Gefitinib (Iressa)

Uses: To treat non-small cell cancer of the colon and rectum (colorectal cancer).

Administration: Oral

Potential Side Effects:

1. Nausea, vomiting, diarrhoea.
2. Loss of appetite, weight loss.
3. Dry skin, skin rash, including acne.
4. Weakness.

Additional Instructions: Be sure your doctor knows if:

1. You have history of kidney or liver impairment.
2. Previous chemotherapy or radiation therapy.

Tamoxifen (Nolvadex)

Uses: To treat breast cancer in men and women; may also prevent breast cancer in women who are at a high risk because of age, family history, childbirth history, or other factors.

Administration: Oral

Potential Side Effects:

1. Hot flushes, night sweats.
2. Nausea, vomiting.
3. Drop in blood cell count may occur (rare).
4. Changes in vison.
5. Leg, chest or calf pain or numbness.
6. Pelvic pain or pressure (in women).
7. Swelling of the legs and feet.
8. Vaginal bleeding or discharge, menstrual irregularity, rash.
9. Bone or tumour pain.
10. Mood changes.
11. **Skin rash.**

Additional Instructions:

1. Liver function tests may become elevated. Your doctor will monitor your liver enzymes on a regular basis.
2. It is important to have gynaecological checkups while you are on this medication.

Interferon Alfa

Uses: To treat hairy cell leukaemia, Kaposi’s sarcoma, lymphoma, melanoma and other medical conditions.

Administration: Intramuscular or subcutaneous

Potential Side Effects:

1. Change in taste and loss of appetite.
2. Fatigue, depression.
3. Headaches, confusion.
4. Fever, chills, aching muscles.
5. **Chest pain, irregular heartbeat (rarely).**
6. Weight loss.
7. Drop in blood cell count within 7–14 days after treatment.
8. Numbness or tingling in the hands or feet.

Additional Instructions: Tylenol (acetaminophen) may be taken to decrease your temperature. Consult your doctor.

Ifosfamide (Ifex)

Uses: To treat various cancers including cancer of testicles.

Administration: Intravenous

Potential Side Effects:

1. Nausea, vomiting, diarrhoea.
2. Hair loss (thinning) is temporary and will grow back.
3. Loss of appetite.
4. Confusion.
5. Weakness.
6. Kidney damage.
7. Bladder irritation and/or bleeding may occur.
8. Drop in blood cell count may occur within 7–14 days after beginning treatment.

Additional Instructions:

1. To prevent side effects, a protective agent called ‘mesna’ will be given to you with the Ifosfamide. You will require daily IV fluids to ensure good urine output. Your urine will be checked for traces of blood.
2. Ifosfamide can cause damage to the kidneys that is reversible but causes the kidneys to lose potassium and bicarbonate in the urine if the damage is not corrected. In order to decrease this side effect, you will receive IV

fluids with potassium and bicarbonates based on your daily laboratory results. In addition, you may be given oral supplements of bicarbonate and potassium.

Bibliography

1. Alschuler L.N., Gazella K.A.; The Definitive Guide to Cancer. 3rd edn. Celestial Arts, Berkley. USA;2010.
2. American Joint Committee on Cancer. AJCC Cancer Staging Manual. 7th ed. New York, NY: Springer; 2010.
3. Anand P, Kunnumakara AB, Sundaram C, et al. Cancer is a Preventable Disease that Requires Major Lifestyle Changes. Pharmaceutical Research. 2008;25(9):2097-2116. doi:10.1007/s11095-008-9661-9.
4. Blot WJ, Fraumeni JF Jr. Passive smoking and lung cancer [editorial] Journal of the National Cancer Institute. 1986;77(5):993–1000. [PubMed]
5. Brownson RC, Alavanja MCR, Hock ET, Loy TS. Passive smoking and lung cancer in nonsmoking women. American Journal of Public Health. 1992;82(11):1525–30. [PMC free article] [PubMed]
6. Clinical Guidelines on the identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report. 1998. NIH/National Heart, Lung, and Blood Institute (NHLBI).
7. Consolidated report of population-based cancer registries 2001-2004. National Cancer Registry Programme (Indian Council of Medical Research), Bangalore, 2006. Bladder cancer is the eighth most common cancers in India.
8. Dutta DC. Textbook of gynaecology including contraception. 4th edition (reprint), chapter 310, pp. 316-328; New Central Book Agency (P) LTD, Calcutta, 2006.
9. http://onlinelibrary.wiley.com/doi/10.3322/caac.21262/full
10. https://www.medicalnewstoday.com/articles/314017.php
11. https://www.ncbi.nlm.nih.gov/books/NBK304399/
12. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1246078/
13. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2743036/
14. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2806895/
15. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3472913/

16. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4324883/#B42
17. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4848374/
18. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4991146/
19. Malik PS, Raina V. Lung cancer: Prevalent trends & emerging concepts. The Indian Journal of Medical Research. 2015;141(1): 5-7.
20. Mohan H. Textbook of pathology. 5th edition, chapter 8, pp 197-239; Jaypee Brothers Medical Publishers (P) LTD, New Delhi, 2005
21. Murphy GP. Morris LB. Lange D. American Cancer Society's Informed Decisions: The Complete Book of Cancer Diagnosis, Treatment, and Recovery. Viking. 1997.
22. Murthy N.S., Shalini S., Suman G., Pruthvish S., Mathew A. Changing trends in incidence of ovarian cancer - The Indian scenario. Asian Pac. J. Cancer Prev. 2009;10(6):1025–1030
23. Nan AK. Undergraduate surgery. 2nd edition (reprint), chapter 33, 41, 44, 45, 49, 54, 57; Academic Publishers, Calcutta, 1995.
24. Renehan AG, Tyson M, Egger M, Heller RF, Zwahlen M. Body-mass index and incidence of cancer: a systematic review and meta-analysis of prospective observational studies. The Lancet. 2008;371(9612):569–578. [PubMed]
25. Samarasam I. Esophageal cancer in India: Current status and future perspectives. Int J Adv Med Health Res 2017;4:5-10
26. S.R. Bielmeier, D.S. Best, D.L. Guidici, M.G. Narotsky, “Pregnancy loss in the rat caused by bromodichloromethane ”, Toxicol. Sci. vol 59, pp 309–315, 2001.
27. Yates J, Mustian K, Morrow G, Gillies L, Padmanaban D, Atkins J. Prevalence of complementary and alternative medicine use in cancer patients during treatment. Support Care Cancer. 2005;13:806–811.

Healing Cancer: A Homoeopathic Approach

A Guide to Prevention, Management and Treatment of Cancer with Integrated Approach from Dr Master's, 40 years experience

Volume II

By

Dr Farokh Master MD, Ph.D (Hom)

Consultant:
Homoeopathic Health Centre
Bombay Hospital and Medical Research Centre
King Edward Memorial Hospital
Kamalnayan Bajaj Cancer Hospital
Ruby Hall Department of Cancer
Bai Jerbai Wadia Children's Hospital
Nowrosjee Wadia Woman's Hospital
Bomanjee Petit Parsi General Hospital
Motiwala Homoeopathic Medical College & Hospital Department of Cancer

Associate editors:
Dr Daisy Katarmal, BHMS, PGDHP
Dr Isha Gupta, BHMS, PGDHM, PGDMLS, Dip Dietetics

B. Jain Publishers (P) Ltd.
USA — Europe — India

HEALING CANCER: A HOMOEOPATHIC APPROACH (VOLUME II)

1st Edition: 2019
1st Impression: 2019

Published by Kuldeep Jain for
B. JAIN PUBLISHERS (P) LTD.
D-157, Sector-63, NOIDA-201307, U.P. (INDIA)
Tel.: +91-120-4933333 • *Email:* info@bjain.com
Website: **www.bjainbooks.com**
Registered office: 1921/10, Chuna Mandi, Paharganj,
New Delhi-110 055 (India)

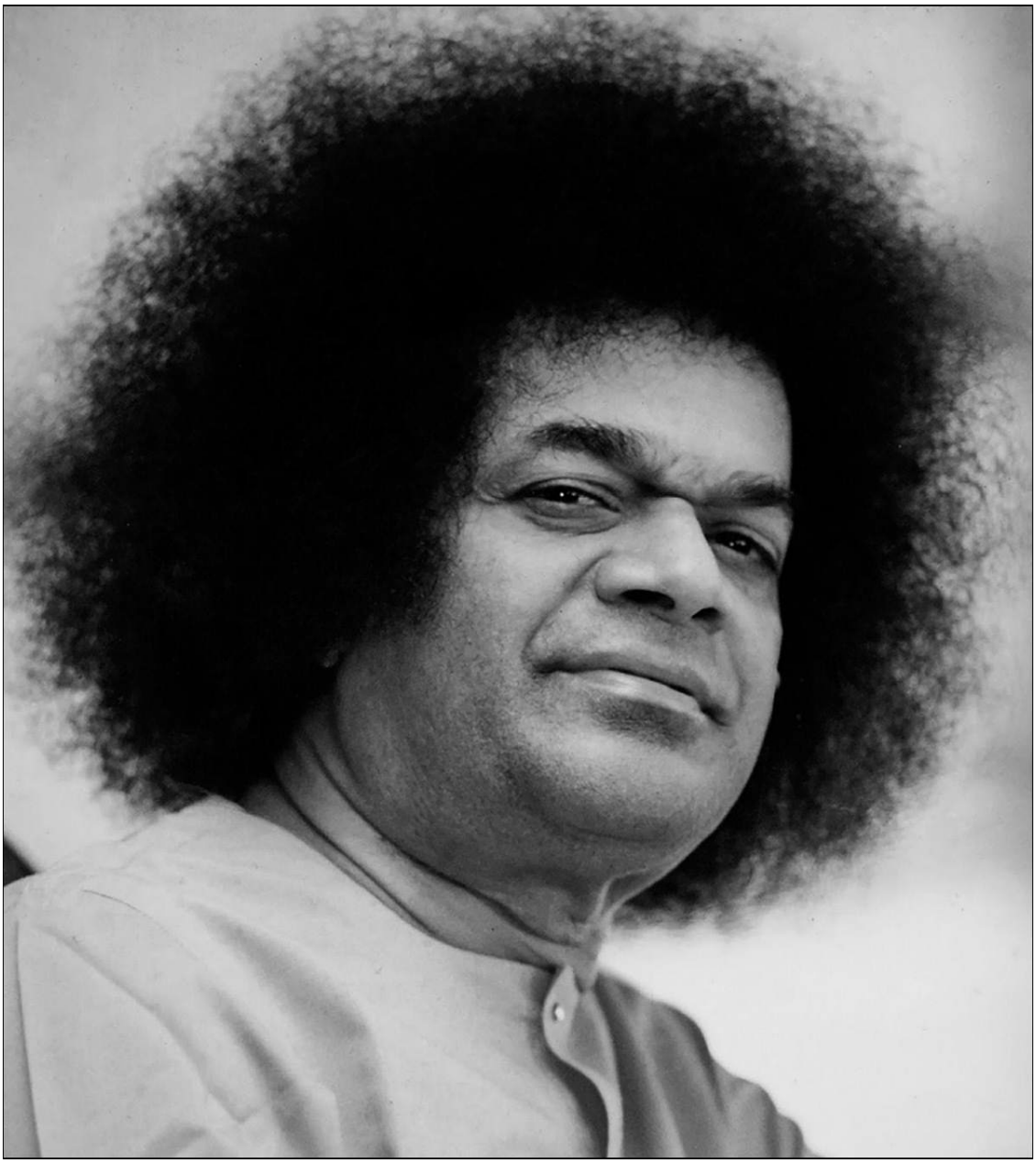
ISBN: 978-81-319-6122-3

Dedication

This book is dedicated to the

lotus feet of

Shri Satya Sai Baba.



Contents

Lesser Known Remedies

- Alcoholus
- Anantherum
- Antimonium muriaticum
- Asterius rubens
- Baryta iodata
- Bismuthum subnitricum
- Cadmium salts
- Calcarea acetica
- Calcarea fluorica
- Calcarea oxalica
- Calendula officinalis
- Carbo animalis
- Carboneum sulphuratum
- Choline
- Cholesterinum
- Cinnamonum
- Cistus canadensis
- Citricum acidum
- Cocculus indicus
- Codeinum phosphoricum
- Corydalis formosa
- Cundurango
- Eosinum
- Euphorbia heterodoxa
- Formica rufa
- Fuligo ligni
- Galium aparine
- Helleborus niger
- Hoang nan
- Hydrastis canadensis
- Kreosotum
- Lupulinum
- Mercurius nitrosus
- Methylenum coeruleum
- Monilia albicans
- Morbilinum

- Morphinum salts
- Natrum cacodylicum
- Natrum sulphuricum
- Okoubaka aubrevillei
- Ornithogalum
- Quercus
- Radium bromide
- Rajania subsamarata
- Rhamnus californica
- Sempervivum tectorum
- Scirrhinum
- Scrophularia nodosa
- Sedum acre and Sedum repens
- Viscum album
- X-ray

Role of Indian Drugs for Cancer in My Practice

- Arabia acaota (Babool leaves)
- Amaltas (Cassia fistula)
- Amla (Phyllanthus emblica)
- Allium sativa (Lason, Garlic)
- Allium ursinum
- Aloe vera
- Averrhoa bilimbi
- Black Pepper (Piper nigrum)
- Bael (Aegle marmelos)
- Banfasa (Viola odorata)
- Bambusa arundinacea
- Boswellia serrata
- Camphor (Cinnamomum camphora)
- Carica papaya folia
- Cassia alata
- Catharanthus roseus
- Crataeva niruvala
- Cressa cretica
- Daruhaldi (Berberis aristata)
- Devadar (Cedrusdeodara)
- Eucalyptus (Nilgiri)

- Eschscholzia californica
- Fenugreek
- Fragaria vesca
- Gajpipli (Scindapsus officinalis)
- Guduchi (Tinospora cordifolia)
- Genda (Marigold, Tagetes erecta)
- Gambhari (Gmelina arborea)
- Garcinia cambogia
- Graviola officinalis (Annona muricata)
- Guarana
- Harad (Terminalia chebula)
- Hing (Asafoetida)
- Haldi (Curcuma longa)
- Harpagophytum procumbens
- Indigofera tinctoria
- Indrajow (Wrightia tinctoria)
- Jyotishmati (Mal Kangani, Celastrus paniculatus)
- Khair (Katha, Acacia catechu)
- Kalijiri (Centratherum anthelminticum)
- Khus (Anantherum, Chrysopogon zizanioides)
- Khubkala (Hedge mustard)
- Kachnaar (Bauhinia variegata)
- Lotus (Nelumbo nucifera)
- Lucca cocus (Peepal Gum)
- Lodhra (Symplocos racemosa)
- Lawsonia inermis
- Mulethi (Liquorice)
- Makardhwaja
- Mangifera indica
- Muira puama
- Nirgundi (Vitex negunda)
- Neem (Azadirachta indica)
- Nux vomica
- Nardostachys grandiflora
- Nigella sativa (Black Seed)
- Paan (Desi) (Betel)
- Pishun (Kasar)

- Pudina (Mentha piperita)
- Pinus L (Pine leaves, Pinus sabiniana)
- Phyllanthus niruri
- Rhilava (Anacardium)
- Ratanjot (Periwinkle, Vinca rosea)
- Rudanti (Capparis mooni)
- Syzygium jambolanum (Jamun seeds)
- Supari (Areca catechu)
- Sheesham (Dalbergia sissoo)
- Sida retusa
- Simarouba glauca (Lakshmitaru)
- Spirulina
- Tulsi (Ocimum sanctum)
- Wrightia tinctoria
- Yashthi (Glycyrrhiza glabra Linn.)
- Zingiber (Ginger)

Cancer Treatment by Pioneers of Homoeopathy

- Blackwood's Cancer Remedies
- Dr Fortier Bernoville Cancer Remedies According to Location
- Cancer Remedies According to Dr Gilchrist
- Dr J. Compton Burnett's Clinical Experiences
- Experiences of Dr Fortier Bernoville and Dr A. H. Grimmer
- Experience of Dr Robert T. Cooper
- Experience of Dr J. H. Clarke

Homoeopathy and Chemotherapy
Homoeopathic Remedies for Cancer Pain

4. Homoeopathic Therapeutics of Cancer

- Childhood Cancers
- Brain Tumours
- Retinoblastoma
- Head and Neck Cancer
- Breast Cancer
- Thyroid Cancer
- Lung Cancer
- Oesophageal Cancer
- Gastric Cancer

- Colo-Rectal Cancer
- Liver Cancer
- Pancreatic Cancer
- Prostate Cancer
- Renal Cancer
- Bladder Cancer
- Testicular Cancer
- Uterine Cancer
- Cervical Cancer
- Ovarian Cancer
- Melanoma
- Bone Cancer
- Lymphoma
- Hodgkin's Lymphoma
- Non-Hodgkin's Lymphoma
- AIDS Associated Lymphoma
- Sarcoma (Soft Tissue)
- Mesothelioma
- Trophoblastic Disease
- Metastatic Cancer
- Clinical Tips from My Practice

5. Repertory of Cancer

- Mind
- Head
- Eye
- Ear
- Nose
- Face
- Mouth
- Throat
- External Throat
- Stomach
- Abdomen
- Rectum
- Bladder
- Kidneys
- Urethra

- Urinary Organs
- Prostate gland
- Male genitalia/sex
- Female genitalia/sex
- Larynx and trachea
- Chest
- Back
- Extremities
- Dreams
- Skin
- Generals

6. Cases from Author's Practice

- Progress Notes of the Cases

7. Role of Homoeopathy in Treatment of Radiation Illness

- Causes of Radiation Sickness
- Symptoms of Radiation Sickness
- Absorbed Dose and Duration of Exposure
- Homoeopathic Remedies for Radiation Injury
  - Caesium metallicum
  - Uranium metallicum
  - Plutonium Nitricum
  - Cobaltum nitricum
  - Radium bromatum
  - X-ray
  - Cisplatinum
  - Chloropromazinum
  - Sulfonamidum
  - Streptomycinum
  - Aureomycin
  - Azathioprinum
  - Carbamazepinum

8. Non-Pharmacological Management of Cancer

General Management
Nutrition
Lifestyle Factors
General Management of side effects of Conventional Treatment of

Cancer

- Loss of Appetite
- Weight Loss
- Weight Gain
- Sore Mouth or Throat
- Dry Mouth
- Dental and Gum Problems
- Changed Sense of Taste or Smell
- Nausea
- Vomiting
- Diarrhoea
- Lactose Intolerance
- Constipation
- Fatigue and Depression
- Hair Loss
- Halitosis
- Cirrhosis
- Hiccoughs
- Open Wounds
- Insomnia
- Amnesia

Infections in Cancer Patients
Pain Control in Cancer Patients
Palliative Care

Bibliography

The Cancer Archetype

Modern medicine has identified the major causes and risk factors of cancer, however, another school of thought often describes the 'cancer personality' comprising of the traits that may determine one's risk of developing cancer. Homoeopathy, since past 200 years, has proposed the theory of mental and emotional trauma as the precursors of cancer. Also, in the early nineteen thirties, Dr D.M. Foubister from London described the cancer personality under the remedy *Carcinosin*. While it is interesting to explore such theories, these types of designations if applied superficially, can be dangerous. The simple fact is that we do not find every person with cancer to be negative, mean or unhappy; in fact, people who appear to be happy, nice and peaceful also get cancer too.

So, does a person's mental emotional nature really have any relation to cancer? I believe in this cent percent; not only in causation, but this also has a role in prevention and treatment. Cancer development and growth has multidimensional influences. So, it makes sense that one's attitude or personality may play some role. While I do believe in personality that can cause cancer, in Homoeopathy we call this as 'cancer diathesis' or 'cancer type', I feel and have observed in my practice that a positive attitude that includes laughter, love and kindness does help in strengthening any cancer treatment plan. Some of the most interesting studies regarding cancer prevention and treatments involve humour, jesting, laughing and mirth. A literature review featured in the *Clinical Journal of Oncology Nursing* demonstrated the following benefits of laughter:

1. Assists with pain management and increases comfort levels.
2. Lessens anxiety and discomfort, helping cancer patients relax.
3. Positively affects immunity by increasing natural killer cell activity.
4. Improves physical stress responses and influences stress hormones to increase overall feelings of well being.

Certain studies have postulated the term ‘Cancer psyche’ or ‘Cancer biotypes’. The mind influences the body and it is often found that prolonged psychological stress precedes the onset of tumours. Psychological stresses affect the neuro-endocrinal axis as well as the reticulo-endothelial system, thereby weakening the host’s defences and thus promote the onset of malignancy.

A composite profile of the cancer patient has been derived from psychological testing of people of various ages and diagnostic categories. The cancer patient has usually had a very traumatic childhood. The trauma usually involves the child-parent relationship. This leads to intense loneliness, sense of neglect and rejection, grief and despair. He over compensates by constantly trying to please others and win their affection. Frustrations in these attempts only serve to worsen the already existing negative emotions. He develops intense hostility and resentment towards the environment that has wronged him and also develops feelings of self-hatred and self-depreciation. However, the outward picture presented is that of a thoughtful, gentle, uncomplaining and almost ‘too good to be true’ person. He tries to maintain healthy relationships and tries to find happiness from external factors like spouse, children and job. When a problem now arises like loss of spouse/child/job, the old patterns re-emerge and the individual succumbs to cancer. With the realisation that he has cancer, his despair deepens, this further aggravates the disease condition and a vicious cycle begins. Though all cancer patients do not conform to the above mentioned set-pattern, certain effects of the psyche on the soma have been noted often. The following characteristics are often found:

1. The loss of a major emotional relationship and inability to cope with it, leading to despair and hopelessness.
2. Early childhood trauma–especially lack of parental affection and attention.
3. Tendency to hold resentment and inability to express it, along with the inability to forgive.
4. A tendency to self-pity.
5. A poor self-image.
6. Poor ability to develop and maintain meaningful long-term relationships (resulting in marital discord, sexual maladjustment, disharmony at work).

7. A tendency to repression.

It has been found by research that cancer-prone persons are ‘anal’ personalities, who have not progressed beyond an early phase of personality development. One such study of 30 cancer patients revealed that even before they had come down with cancer, these individuals tended to interpret the Rorschach test in a rather morbid manner, revealing their inner turmoil.

Health and disease are not static or mechanical conditions that can be turned on and off like a machine. They are dynamic and vitalistic, and are associated with harmonious flow of the life force from the depths of man to the peripheral surface of his being. When the emotional state resonates with the body’s physiological actions, a state of wellbeing and health is generated. If the emotional state is disturbed and out of balance, then this harmony is deranged. Physiological disharmony results and disease conditions are produced. Since a physiological disturbance can transport itself to the emotional plane as well, the necessity for perceiving the patient’s total symptom picture becomes evident to the Homoeopathic prescriber. The patient’s illness is an individual whole expressing itself as one entity on the mental, emotional, and physical planes. Because of the existing hierarchical nature of man, the mental-emotional level has more profound effect on the physical state. This psychosomatic communication network attempts to maintain homeostasis via the defence mechanism, which regulates transport and reroutes any energy disturbances that may occur.

Psychosomatic backgrounds of many illnesses are well known, e.g., hypertension, duodenal ulcer, diabetes, allergies, hyperthyroidism, ulcerative colitis, coronary thrombosis, neurodermatitis, chronic nephritis, and many others. Cancer is no exception. Being a chronic disease of a constitutional nature, its development has a definite psychological background. Dr Carl Simonton wrote in *The Journal of Transpersonal Psychology* (1975), “*There are over* 200 *articles in the medical literature covering different aspects of the relationship of emotions and stress to malignancy, as well as other serious diseases. The interesting thing about the literature is that in all these articles the conclusion is that there is a relationship between the two”*.

One such study was published by Dr Jack Hamilton (*British Homoeopathic Journal*, 1972). He performed a study upon 16 patients who had cancer. The purpose of the study was to describe the psychological symptoms found in

these patients and to determine whether emotional stress was associated with the development of cancer. Of these patients, 15 suffered from severe emotional stress in their interpersonal relationships. They were deeply affectionate, loving, and devoted to their husbands, families, friends, etc., so that if illness or misfortune befell any of them, the patient's first concern was their welfare.

These patients, in the language of repertory, had 'sympathy for others', 'fear and apprehension concerning the outcome of illnesses' (MIND-SYMPATHETIC, MIND - FEAR - disease, of impending). Twelve of the patients were actively engaged in nursing loved ones when they developed cancer. If the illness of a loved one had ended fatally, then this grief was added to the previous symptoms, causing emotional stress with possible aggravation of the somatic disease.

Dr Eugene Pendergrass touched on this subject of grief in the emotional history of cancer patients. He stated in his presidential address before the American Society of Cancer in 1959: *"Anyone who has had an extensive experience in the treatment of cancer is aware that there are great differences among patients…I have personally observed cancer patients who have undergone successful treatment and were living well for years. Then an emotional stress, such as the death of a son in World War II, the infidelity of a daughter-in-law or the burden of long employment seems to have been a precipitating factor in the reactivation of their disease, which resulted in death…. There is solid evidence that the course of the disease in general is affected by emotional distress…Thus, we as doctors may begin to emphasise treatment of the patient as a whole, as well as the disease from which the patient is suffering. We may learn to influence general body systems and through them modify the neoplasm, which resides in the body"*.

The *Synthesis Repertory* lists 96 remedies for ailments due to grief. If these are compared with cancer rubric in generalities (GENERALS–CANCEROUS affections), around 50 remedies come up that cover both the grief, and cancer rubrics. Among these are several often indicated remedies in cancer conditions, such as *Arsenicum, Aurum, Causticum, Conium, Graphites, Lachesis, Lycopodium, Natrum muriaticum, Nitric acid* and *Phosphorus*. The rubric 'sympathetic' has 94 remedies in it that includes *Carcinosin*, the nosode from cancer itself.

MIND - SYMPATHETIC: (94) acon. adam. *Aids.* alco. am-c. am-p. ambr. aml-ns. androc. arg-n. aur. *Aur-m-n.* aur-s. bar-c. bar-p. bell. bit-ar.calc. *Calc-p.* calc-sil. cann-i. caps. **CARC.** carl. *Caust.* chir-fl. *Cic.* cocc. coff. croc. crot-c. cupr. cycl. cypra-eg. dendr-pol. dulc. *Falco-pe.* ferr-p. ferr-sil. *Foll.* germ-met. graph. haliae-lc. ham. hell. hydrog. *Ign.* iod. irid-met. *Kali-s.* kola lac-leo. lac-lup. lach. limen-b-c. lyc. manc. med. *Moni. Nat-c. Nat-m.* nat-p. *Nat-sil. Nit-ac.* nuph. *Nux-v.* oci-sa. ol-eur. olib-sac. oncor-t. petr-ra. **PHOS.** plut-n. *Podo.* positr. puls. querc-r.ruta sabad. sacch-a. sal-fr. sep. **SPONG.** staph. suis-em. sulph. sumb. symph. tarent. tarent-c. tax. tritic-vg. ulm-c. vanil.

Seven of the patients in Dr Hamilton's study displayed symptoms of resentment with grief in their reaction to stress. Several had resentment in their life in general, others at specific episodes, e.g., want of affection by husband in one patient; resentment toward an ex-fiancé who had jilted her in second patient, and unhappy romantic attachments in third. These conditions are covered in the *Synthesis Repertory* under loathing of life, ailments from disappointed love, and resentment in general, which are under the heading 'malicious'. This demonstrates that these emotional factors in cancer development are curable according to the Homoeopathic law of similar.

Dr Carl Simonton outlined those predisposing factors most agreed upon as negative personality traits of the cancer patient as follows:

1. A great tendency to hold resentment and a marked inability to forgive.
2. A tendency towards self-pity.
3. A poor ability to develop and maintain meaningful, long-term relationships.
4. A very poor self-image is present.

In his work with cancer patients, Dr Simonton found that one of the major factors behind all the more superficial personality characteristics is the basic one of rejection. The patient usually feels that he has been rejected by their one or both of his parents and consequently develops the life-history pattern that is commonly seen in the cancer patient. One of the most intriguing aspects of this work is the suggestion that the behaviour pattern of the patient can be correlated to the exact location of the malignancy. For instance, the breast cancer patient has a behaviour pattern different from the lung cancer patient, etc.

This, of course, is a verification of the principle of correspondences of Homoeopathic philosophy, which acknowledges as innate affinity of certain emotions for specific tissues and organs. There seem to be built-in energy pathways that allow emotional energy to be projected out to certain areas of

the body. The basic rejection, that Dr Simonton found in his studies, is found in the repertory under the rubric ‘forsaken feeling’, which has 167 remedies listed.

Dr Hamilton’s research also focused upon the personalities of the cancer patients involved. Personality depends largely upon fundamental constitutional factors that are often inherited and genetic, but that may be acquired or modified by other acute illnesses or emotional stresses. In some of the 16 patients, there was evidence of a strong personality that at times was uncompromising. Other patients were mild and gentle in temperament. This study showed the following personality traits (all patients had two or more of these during the course of their developing the illness, often before the onset of somatic symptoms):

1. A high degree of personal honour, honesty, and integrity.
2. Conscientiousness in business, work and study.
3. A deep sense of loyalty, e.g., towards family, friends, and in business.
4. Sympathy for the welfare of others and devotion to their care.
5. Very often uncomplaining about their own illness and accepting unpleasant situations without complaint.
6. Mild and gentle in nature.
7. Often had a strict moral and religious code.
8. As a result of ‘sensitive’ temperament, the patient had no desire to offend and then sublimated personal feelings and demonstrated a spirit of self- sacrifice.
9. Often inflexible in temperament.

The psychological symptoms of these cancer patients were also studied. All of the patients were considered nervous or suffering from nervous tension. They were classified into three groups based on broad categories of types of reactions to stress.

1. In the first group, various forms of the *fear* reaction were found. They were:
    a. Fear of the unknown, death, dark, being alone.
    b. Anxiety and worry over various things—trifles, work, and domestic and other personal relationships.
    c. Apprehension about and anticipation of future events and want of confidence in self, work, business, etc.

    d. Phobias, e.g., cancer phobia before the onset of cancer.
2. In the second group, various forms of *depressive* reaction appeared. They were:
    a. Depression: Varied in degree from mild to severe reaction to the point of melancholia. Some even experienced suicidal thoughts.
    b. Grief: Varied in degree from slight to severe and profound, often with a sense of acute loss of dear and loved ones. The depression was usually relieved by weeping, although some patients considered weeping as a childish reaction and suppressed it, frequently with an aggravation of the somatic illness.
    c. Nursing loved ones and being sympathetic to others illness. Nursing loved ones imposed an increased strain, different from the impersonal attitude of a devoted nurse.
3. In the third group, appeared those patients who showed an *active aggressive reaction* to the stress situation, even to the extent of hostility.
    a. Anger: This was the reaction of a stress situation that annoyed and irritated.
    b. Resentment: This was shown when a patient experienced a sense of injustice resulting from the stress situation.
    c. Frustration: Reaction to a situation in which the patient felt an objective could not be met due to what was considered obstruction.

The past medical histories of the 16 patients Dr Hamilton reported, showed that all suffered from various illnesses before the onset of cancer. In three cases there was a prolonged history of chronic mastitis before the onset of malignancy. These patients had had difficulty with lactation and suckling their infants. The amount of milk secretion was often deficient, or the infants were unable to withdraw the milk. At the time of weaning, the breasts were engorged, and chronic mastitis ensued, causing firm, congested breasts, a condition that was not resolved before the onset of cancer. Chronic mastitis is curable under Homoeopathic care with such remedies as *Bryonia alba*, *Belladonna*, *Phytolacca decandra*, *Lac caninum*, *Calcarea carbonica*, and *Silicea terra*. This is true preventive medicine for breast cancer.

Other patients had a history of gastrointestinal problems, such as gastritis, duodenal ulcer, gallbladder disease, and spastic colon. Gastritis was the most common disease found in the patient's history. Fifteen had this problem with nausea, vomiting, burning, flatulence, and pain being the common symptoms

expressed. The pain was variously described as dull, heavy, aching, or spasmodic. When the patient suffered from bilious attacks, the vomit contained food, mucus, and bile. Headaches were commonly associated with these stomach problems. They were dull and heavy or like migraine, affecting the right, or left frontal areas. Flatulence and burning were common and were often relieved by eructation, which were either bland or sour, and bitter tasting. These symptoms reveal the indications for some of the major polychrest remedies, which would be helpful for the precancerous state. Some of these are *Arsenicum album, Lycopodium, China officinalis*, *Carbo vegetabilis, Sulphur* and *Nux vomica*.

Five patients had hypertension, while 11 had some form of respiratory tract disease (of both acute and chronic forms), such as nasal catarrh, sinusitis, and bronchitis. One patient had suffered from tuberculosis 20 years before the onset of carcinoma. Dr Grimmer of Chicago was of the opinion that tubercular conditions could lead to cancer formation. He has written, "*Syphilis and tuberculosis are the two things that precede cancer; on these two things cancer is grounded upon"*. Another point in this is that when the cancer cases are getting well and developing under the action of the deep curative remedies, tubercular conditions come back, and tubercular symptoms for a while supervene. These all will practically pass off under the anti-tubercular or anti-syphilitic remedy. This is the reason I make the statement that cancer is based on these things.

Other diseases present in the cancer patients were headaches (usually frontal and sometimes alternating from side to side), endometritis, alcoholism, rheumatoid arthritis and sleep problems. Difficulties of sleep are always a problem in cancer cases. All these 16 patients had sleep difficulties with insomnia before and during the course of the disease. The insomnia was due to pain and discomfort caused by the pathology present, and the emotional disturbance due to stress. The severity of the emotional stress (anxiety, worry, fear, apprehension, grief, or resentment) varied. In most cases it was severe, although in some patients even a slight degree of stress could lead to severe insomnia. Their physical symptoms could be aggravated during the period of wakefulness. Thus a vicious circle was established, associated with emotional stress and tension, insomnia, and physical symptoms, such as headaches and digestive problems.

Along with these mental, emotional, and physical symptoms, an image of the emotional factors in the aetiology of cancer can be formulated from Dr Hamilton's study. A larger study along these same lines would be valuable in understanding the psychological factors before and during the cancerous state. Dr Hamilton has said, "*It would appear from the evidence of these cases that a more detailed scientific study of cancer cases would be profitable; to assess with greater precision the hypothesis that unpleasant emotional stress plays a part in the aetiology of at least some forms of cancer*".

Some of the patients' case histories briefly outlined in Dr Hamilton's study include:

1. Stomach cancer. At time of onset, patient was 68 years old, female. Symptoms were slight pain, heaviness with nausea, and vomiting. No burning or severe pain. Vomit of food, mucus and bright red blood. On examination, large mass in stomach, tender and painful. Onset of symptoms associated with severe emotional stress: grief, depression, resentment, anxiety and worry.
2. Colon cancer. Two patients, one 55 years old male, the other was 35 years old female. Presented with colicky pain. Later with nausea and vomiting associated with early intestinal obstruction. Both patients had been under severe emotional stress, anxiety, worry, grief and depression. One, the male had a quick temper and was easily roused to anger, which aggravated the pain symptoms.
3. Rectal cancer. One patient, 64 years old female. The rectal tumour (adenocarcinoma) was declared inoperable by the surgeon. She had local pain in the rectum, irregular bowel action, either costive with hard, lumping stool or else diarrhoea with mucus or blood-stained discharge. At times, free bleeding was present. Periodically ischiorectal abscesses developed with purulent discharge. Prior to onset of cancer, emotional stress with anxiety and worry about business and son's misbehaviour. Grief, depression after husband's death, nine years before.
4. Uterine cancer. One patient, 33 years old female. She developed cancer at the age of 29. Had hysterectomy immediately after the diagnosis. Before this, the earliest symptom was appearance of leucorrhoea with very little pain or discomfort. Several weeks later had bloodstained discharge in between menstrual period. The development of cancer was

preceded by six months of acute emotional stress associated with grief, depression, disappointment, loss of self- esteem, and resentment after she had been jilted.

5. Ovarian cancer. One patient, 56 years old female, with cystadenocarcinoma. Mass was firm in texture on examination. Associated with pleural effusion. Ovariostomy performed, followed by deep X-ray therapy. For several years before onset of the tumour, she had severe emotional stress, with anxiety, worry, apprehension, grief, and resentment. These symptoms followed nursing care of her father and mother and death of her father.
6. Laryngeal carcinoma. Patient was a female, aged 49. She had a laryngectomy at 47 years of age followed by metastases one year later in cervical glands and lungs. Fifteen years before onset of malignancy, she had severe stress with grief and depression caused by the loss of her husband as war casualty. Symptoms were suppressed. She was shy and reserved and harboured resentment against life. She had strict upbringing as a child.

From these small beginnings, the image of the cancer mental state becomes apparent. If this study had been performed along Homoeopathic lines, much more valuable information could have been gained. Most of the mental states described were not qualified, degrading the symptom from a possible characteristic symptom to a common one, such as anxiety or depression. No generals were given, such as dietary cravings or aversions, sleep symptoms or sensitivity to weather. Therefore the symptom picture is not complete for Homoeopathic consideration. It is interesting to note, however, that the *Carcinosin* (the cancer nosode) mental picture has a number of similar symptoms, such as sympathy for others, anticipation, obstinacy, and insomnia.

“Death, therefore, has its onset long before death.” — **Carl Jung**

Homoeopathic Perspective of Cancer

Cancer falls under the category of chronic diseases. According to the Hahnemannian classification of diseases, a chronic disease is a derangement of the vital force, with an insidious onset and a gradual progress, during which the vital force offers imperfect resistance, so that the disease if not treated adequately, eventually ends with the death of the patient.

The derangement occurs first at the general level and the eventual expression —the neoplasm, may occur at the local level. The individual susceptibility will predispose the individual to the disease proper in general, while the weakness or sensitivity of a particular part/viscus/system will lead to localisation of the disease in particular. Thus, the derangement proceeds from the functional to the structural level.

Carcinogenesis

This process can be best studied under the following headings: Predisposition, Disposition, Diathesis, and Disease proper (including a pre-clinical and a clinical phase).

1. **Predisposition:** The fundamental cause of all chronic diseases is the miasm. Each individual is born with a miasmatic load, which

predisposes him to a particular illness (in this case, malignancy).

This miasmatic load can be determined by a study of the patient's family history and also his past history. It has been observed by several Homoeopaths, viz., James Tyler Kent, Herbert Roberts, Charles Wheeler, Donald Foubister, Kasad, Burdel and Bushrod James that the cancer patient usually has a very strong family history or past history of cancer, tuberculosis or diabetes mellitus. Thus we see that cancer usually develops on a strong tuberculo-syphilitic soil. However, cancer encompasses all the miasms. The further explanation of this has been taken up later.

2. **Disposition:** The individual who is thus born with a predisposition interacts with the environment, thereby evolving mental and physical attributes, which together form the disposition.

Carcinosin

At this juncture, I would like to describe the constitution of *Carcinosin*—Homoeopathic drug that was introduced and proved by Dr D.M. Foubister of UK, the exact source of the original *Carcinosin* is not known, but it is believed to be from a carcinoma of the breast. In the present times, several types of carcinoma remedies are used in Homoeopathic practice: *Carcinosinum, Carcinosinum bladder adeno papillar, Carcinoma coli, Carcinosinum colon adeno, Carcinosinum colon adeno papillar, Carcinoma hepatis, Carcinosinum intestines co., Carcinoma laryngis, Carcinoma bronchium, Carcinosinum lung adeno squamous, Carcinoma mammae, Carcinosum melanoma metastitic, Carcinosinum mammae scirrhus (Scirrhinum), Carcinosinum rectum adeno, Carcinosinum stomach, Carcinosinum stomach adeno, Carcinosinum stomach scirrhus, Carcinoma uteri, Carcinosinum uterus adeno, Carcinosinum uterus papillar*.

The important characteristics of *Carcinosin* are

1. There is a strong family history of cancer, diabetes and/or tuberculosis as compared to an average family. There is a past history of multiple, severe infections in early childhood like whooping cough, pneumonia.
2. Appearance of the patient–multiple moles, blue sclera, brownish, café-au-lait complexion.

3. Craving or aversion: Salt, milk, eggs, fat, fruits.
4. Sleep: Tendency to sleep in the knee-elbow position or on the back with the hands above the head.
5. Reaction to environmental factors: Either aggravation or amelioration in sea air / at seaside.
6. Mind:
    a. Ailments from fear, fright, loss of loved one, nursing
    b. History of fright, prolonged fear or unhappiness
    c. Fear of the unknown, of death, of dark, of being alone, of impending disease, of being incurable
    d. Anxiety: anticipatory, about health, about developing cancer, anxiety over trifles, anticipation about future
    e. Tendency to insomnia
    f. Concentration difficult, dullness of mind
    g. Sensitive to reprimands, easily hurt
    h. Sensitive to music, loves dancing, has a marked sense of rhythm (artistic)
    i. Mild and gentle in nature
    j. Sympathetic and warm to others
    k. Lack of confidence
    l. Grief, ailments from grief, melancholia, depression, suicidal thoughts, loathing of life
    m. Conscientiousness
    n. Rigid personality
    o. Angry, irritable
    p. Resentment (malicious)
    q. Frustration
    r. Obstinate
    s. Fastidious
    t. Loves travelling, loves to watch thunderstorm
    u. Consolation aggravates
    v. Amelioration by weeping - suppressed weeping < physical symptoms

Foubister had stated that it was probably unsafe to give *Carcinosin* as a constitutional remedy to patients suspected of cancer. He believed that further one is from actual cancer, as in childhood, the more useful *Carcinosin* is as a constitutional remedy. However, he later changed his opinion and

recommended the use of *Carcinosin* in cases of cancer.
Dr T.D. Ross suggests the use of *Carcinosin* in those cases of cancer, which have a bad family history (of certain illnesses as mentioned earlier).

Burnett cured some cases of breast tumours and a case of hard cervical glands, which reappeared after surgical excision with *Scirrhinum*–one of the varieties of *Carcinosin*.

Table 2.1: Carcinosin–Additions to Kent's Repertory

Mind	Complaints from anticipation Fastidiousness (also the opposite, like *Sulphur*) Cosmopolitan (desire to travel) Obstinacy Dullness, thinking difficult Apathy, disinterest Aversion to conversation Ailments from fright or grief Sensitive to music, fond of dancing Sensitive to reprimand Sympathy for others Consolation aggravates
Generals	After-effects of vaccination Reaction to sea air Sleep-position knee-elbow (especially in older children) (also add *Calcarea phosphorica, Lycopodium, Phosphorus, Sepia, Tuberculinum bovinum*) Craves fat (meat fat) Craving or aversion to salt, milk, eggs, fat, meat, fruit Insomnia Blue sclera Numerous moles Symptoms alternate

We can thus conclude that prolonged mental stress is one of the factors that contribute to the development of cancer. The link between stress and illness is the immune system, which gets undermined, so that immune surveillance is impaired. These dispositions, which cannot positively and effectively deal

with stress, are the dispositions that prone to develop cancer.

3. **Diathesis**: Diathesis is the phase wherein the individual has a strong tendency to develop a particular disease (malignancy in this case) and during which a stressful environmental stimulus initiates the onset of disease. The physician cannot directly know this stage, but it can be indirectly inferred by a study of the predisposition and the disposition. An identification at this level helps in two ways:

a. Constitutional line of Homoeopathic prescriptions can build up the host's defences.
b. An awareness and avoidance of probable environmental carcinogens can delay the onset of the disease.

4. **Disease**:

a. ***Pre-clinical phase:*** This is the phase that extends from the inception of cancer to the time that it produces recognisable signs and /or symptoms. A cancer cell measures the same as a normal cell. A tumour takes a constant time to double its volume–the Volume Doubling Time is designated as TD. The smallest tumour that is likely to be detected by physical/radiological examination will have a diameter of about 1 cm and may contain 108–109 tumour cells. If this tumour is derived from a single malignantly transformed cell, it will take 30 doublings to reach this stage. Thus it takes several years after the onset of cancer and to bother an individual or come to the attention of the doctor. On the basis of modern cytokinetic studies, this pre-clinical phase may last from 2 to 17 years.

   The pre-clinical phase also gives ample opportunity to the primary tumour cells to metastasise and lodge elsewhere. Thus by the time a tumour is detected, there may already be widespread metastasis or the metastasis may be detected before the detection of the primary tumour, which may sometimes remain undetected till the death of the patient. This pre-clinical phase may be totally asymptomatic or certain general symptoms may be thrown up by the deranged vital force (This depends upon the susceptibility of the individual). These general symptoms include:

   i. Lack of animation/initiative, lassitude
   ii. Insomnia
   iii Anorexia and digestive difficulties

.

iv. Dull look of the skin and a dull expression

Certain laboratory tests and investigative techniques can help to diagnose the pre-clinical phase. They are:

i. Capillary dynamic studies of blood–as propounded by Dr Kaelin.
ii. Copper chloride crystallisation method–as propounded by Dr Pfeiffer and Dr Bessenich.
iii. Serum copper and iron levels–The copper level is known to rise and the iron level is known to fall during this phase.
iv. Dowsing / Radiesthesia / Psionic medicine.
v. Mammography.
vi. Exfoliative cytology (commonest, e.g. Pap smear for carcinoma cervix).
vii Tumour markers.

.

b. ***Clinical phase:*** It is the phase where the disease expresses itself overtly through symptoms and/or signs. This phase is therefore the tip of the iceberg and it would be grossly wrong to consider it as the entire disease. The various presenting symptoms have already been mentioned earlier. The staging and grading of the disease has also been mentioned earlier. While dealing with the expressions of the disease, a very important factor to be considered is the dominant miasm of the case.

Dominant miasm

This is identified through the pathological changes, their pace and various expressions which the patient presents at a particular point of time.

1. Psoric: It is responsible for the asymptomatic phase of the disease.
2. Sycotic: A gradually progressing mass without ulceration or fungation or haemorrhage, cauliflower-like growths.
3. Psoric-syphilitic: Rapidly progressing growth with ulceration, profuse haemorrhage, profound weakness, high erratic fever, severe cachexia, glandular involvement and ulcers with undetermined edges.

4. Syphilitic: Rapidly progressing destructive changes involving bones with severe night pains, ulcers with punched out edges, glandular involvement.

The appreciation of the cancer as a disease is not difficult when aligned to the appreciation of any chronic disease from the Homoeopathic point of view. The individual born with a predisposition (fundamental miasm, hereditary) interacts with the environment to evolve a disposition. The disposition constantly endeavours to strike a balance with the environment. Certain dispositions, under environmental stresses (precipitating cause), have a tendency to develop a particular disease. When the balance between the environment and disposition is lost, the disease begins. The disease starts a generalised derangement of the vital force (pre-clinical) and over a period of time it localises itself. The site of localisation and the subsequent expressions of the disease depend upon the sensitivity of the individual and the dominant miasm.

Prescribing for the Cancer Patient

During prescribing for cancer patients, knowledge of what must be discovered, to lead to cure is often a difficult problem. In some cases there are enough characteristic symptoms remaining to lead the physician to the similimum, and thus cure results. Often, only the pathology is present, exhibiting the common symptoms of the malignant growth, the hardness, stinging pains, ulceration, enlarged glands and the tendency of the tumour to involve adjacent structures. These are the results of the disease process, the effects and the ultimate expression of the chronic disease. The precancerous state that breeds malignancies should be sought out in these circumstances. Here is where the patient's medical and constitutional history is most valuable in finding the curative remedy. Kent wrote, *"If the child's mental symptoms could be fully ascertained along with the symptoms from the childhood to the adult age, something might be done. Cancer generally comes on in afterlife, when childhood actions are forgotten"*. He went on to explain some of the reasons why cancer is difficult to cure.

Many of our patients come to us with a history of old school drugging from childhood, every childhood morbid condition has been suppressed; eruptions have been suppressed; crude drugs have changed the symptoms, so that no

clear-cut representation of the constitution has been permitted to evolve. We do not know whether the child was obstinate, hateful, ungovernable, hysterical, violent, and slow in schoolwork or the opposite; we can only learn the commonest features of puberty, which is the most important time to investigate all women. If the symptoms that have appeared from the birth to the present date are undiscovered, it is no wonder that cancer will be incurable.

The totality of the signs and the symptoms are the clue to the curative remedy, not the pathology of the case. The more pathology is present, the fewer characterising symptoms are manifested, because the disease process has out stepped from the functional to the structural level. This migration is a destructive process due to breakdown of the defence mechanism's ability to react to the chronic degeneration that is going on. In some cases, the previous mental and physical symptoms will indicate a remedy that will stimulate a defence mechanism into reactivity. If this occurs and the amount of pathology is moderate, then a fair prognosis can be given. Another possibility is a feeble reaction from the defence mechanism and the patient gets continually worse, which usually occurs when the pathology is severe and the patient is incurable. In these cases, it may be necessary to antidote the remedy to prevent further harm or consequent death. The more the reactivity, the more signs and symptoms generated by the similar remedy, the better is the prognosis, especially if the old symptoms return. This is a good sign that the patient is curable.

In a chronic disease such as cancer, the totality includes all symptoms experienced by the patient since birth, excluding those arising from acute diseases. Theoretically it is proper to include all such symptoms, but they must be carefully evaluated for two reasons. First, as Kent has written, the patient may have acquired some other chronic miasm during his life or, secondly, the symptoms expressed may have been perverted by inappropriate Allopathic therapy, so that they do not truly represent the underlying disease condition. If suppressive therapies have been employed, it is best to try and get the patient's symptoms prior to the treatment. In those cases where the present symptoms do not clearly indicate a remedy, this search into the patient's history is not only helpful, but also essential for the eventual cure of the case.

In those cases where the symptoms have been altered by previous treatments, they still must be prescribed for if possible. If no response results and the suppressive drug or therapy is known, it is sometimes necessary to find a remedy that would have an antidotal relationship to the previous drug.

When formulating the totality, especially with regard to older symptoms prior to the cancer occurrence, it is also necessary to ascertain whether one or more miasms are present. According to Dr Gibson Miller, it is useless to attempt to find a remedy for all the symptoms when more than one miasm is evident. In such cases as a rule, only one miasm is active at a time and the single, similar remedy should be directed against the one showing itself. When two or more miasms form a complex, the appropriate remedy that improves the patient will cause a simplification or separation of the miasms.

Having then determined the totality of the symptoms, the search for the similar remedy is undertaken. Theoretically, the endeavour to discover the remedy that exactly corresponds with the patient's symptoms is sought out. This is rarely accomplished. However, Vithoulkas found that in one case out of three hundred, the patient's symptoms were completely covered by the indicated remedy. Hahnemann implores prescribers to seek out the symptoms that are striking singular, extraordinary, peculiar and characteristics. The less such symptoms are present in the cancer patient, the worse the prognosis becomes. Hahnemann states in the *Organon*, "*The only disease that seems to have but few symptoms and on that account to be less amenable to cure, are those which may be termed one-sided, because they display only one or two principle symptoms which obscure almost all the others. They belong chiefly to the class of chronic diseases"*. In determining the characteristic symptoms of the cancer case, the following rules should be considered:

1. The characteristic symptoms must be equally well marked, both in the patient and in the remedy. In other words, no matter how peculiar the symptom may be, either in the patient or in the remedy, unless it is distinctive and outstanding we must pay little heed to it.
2. No one symptom, however peculiar, can be our true guide unless there is a general correspondence between the symptoms of the patient and the remedy or else failure will result. Those peculiar symptoms are invaluable in suggesting special remedies as being worthy of examination.

3. General symptoms or those that affect the whole person, are higher ranked than particulars that relate only to parts and organs, so much so that any number of particular symptoms can be overruled by one strong general symptom. General symptoms, however, are of different grades of value. The highest rank must be given to the mental symptoms, then to the other generals that follow, such as sleep, dreams, the menstrual state, effects of the weather, etc.
4. Care must be taken not to mistake a modality for a symptom, yet circumstances affecting many symptoms, which become leading characteristics of the patient and hence are important.
5. The skin, being the outermost part will yield the least important symptoms.
6. In organic diseases such as cancer, where structural changes have taken place, little reliance can be placed upon the local symptoms.
7. A tumour or other pathological symptom cannot be a guide to the curative remedy. In the first place, it is not the disease itself, but its result. In the second place, provings have not been pushed far enough to produce similar conditions. In these circumstances, the clinical experiences of other prescribers are most helpful in determining the efficacy of certain remedies on cancerous pathologies.

After the indicated remedy is found, the question of what potency is appropriate comes up. The best results are obtained only when the disease force and the remedial force are on the same plane. This may explain why in some cases a low potency cures after the failure of a high one. In severe cancer cases with pathology, it is best not to go above the 200^{th} potency; with the 30^{th} or the lower doses being safer. When a remedy needs repetition, it should be given in the same potency as long as it will act. Kent found that a remedy usually acted twice and sometimes three times repeated, in the same potency before a higher potency of the medicine was called for. Very high potencies should not be used in incurable cases, especially where the vital force is weak and enfeebled. In early cases of cancer or pre-clinical stage, where clear functional symptoms are present, the medium (200, 1M) and high potencies (10M, 50M, CM) may be given provided the symptom picture is clear. The remedy should not be repeated as long as improvement is occurring. Repetition of the remedy needs to be more frequent when the lower potency is prescribed. If the 6c is given, it may be repeated three times

a day for a week or more. If a 10M is given, it is best to give one dose and wait.

Dr Grimmer narrated his ideas about potency selection in a talk before the I.H.A. in 1936. He said, "*In late cases where there is much pathology and breaking down of tissue, I am very careful about giving potency too high. I prefer a low potency; say the 6x, 12x, or* 30*x. You get better results and you do not get those terrible aggravations of the higher potency; if the case happens to be incurable, you are going to hurry the patient to his death. If his remedy is similar enough and given in lower potencies, you will restore balance and relieve pain and bring the well being of the patient back, so that he is much more comfortable. If he is a case on borderline that can be cured, you can easily follow the lower with the higher potency"*.

After the administration of the most similar remedy, an aggravation occurs, showing that the patient's vital forces have been stimulated. In chronic cases without tissue changes, the aggravation is usually not severe, but when there are tissue changes, there is almost invariably a marked aggravation, usually with elimination through some of the natural orifices of the body. When the remedy does not correspond exactly to the disease symptoms, we are not likely to have an aggravation, except in oversensitive patients. The reaction in these sensitive patients is medicinal, not curative; it is a sort of proving.

The effects produced by the remedy must be carefully analysed in cancer cases. In these cases, it is very important to know when to repeat the dose or change the remedy. In cancer treatment, it was Dr Grimmer's experience that often many remedies were needed over long periods of time to affect an eventual cure. This zigzag method is often found useful in deep-seated diseases such as cancer, and lesser-used remedies are usually called into play sooner or later in the case. Miller wrote in *The Journal of Homoeopathics* (August 1900) the twelve observations of Kent that cover most of the possibilities, that could occur after the administration of a Homoeopathic remedy. They are listed as follows:

1. The remedy causes no change; either the remedy or the potency is incorrect.
2. Steady, rapid improvement takes place without any aggravation.
    a. In such cases, the remedy and potency have been exactly similar to the disease force.

b. It may also mean that the disease has not been deeply rooted.
[There may be almost complete removal of the symptoms, yet if the patient is not conscious of the elasticity of the returning health; it has been no cure, but only palliation.]

3. A sharp short aggravation followed by quick improvement–in this case the improvement is long lasting.
4. A long aggravation and final slow improvement–this occurs chiefly in weak patients and there is great danger in repeating the remedy too soon.
5. Long aggravations, followed by slow decline of the patient–these cases are incurable and only short acting palliatives should be used.
6. A sharp aggravation, but the improvement that follows is very short lasting, especially when a deep-acting remedy has been given. These cases are usually incurable.
7. Rapid improvement, but soon followed by an aggravation–if the remedy was the similimum the case is incurable, but if the remedy only corresponded superficially, it may have acted palliatively.

Homoeopathic Case Taking Procedure

The most important part of the case management of chronic, deep-seated diseases, such as cancer, is the Homoeopathic interview. From this doctor-patient interaction, the much needed information is generated, which leads to the similar remedy of the case. For a correct Homoeopathic prescription to be made, a great deal of information is obtained by a systematic process of a careful analysis of the patient's mental, emotional and physical symptoms along with other factors, such as the individual's environment, lifestyle, hereditary dispositions, past medical history, and previous therapies.

Hahnemann has written more than sixty-three paragraphs in his *Organon* on the subject of patient examination. This clearly shows how important he considers this part of Homoeopathic treatment. Constantine Hering wrote in 1833 in the *Biblioteque Homeopathique de Geneve*, that a physician must learn to listen, to write, to question and to coordinate the condition of the patient. Allopathic medicine seeks out the pathological state of the patient only, the results of the disease process. The Homoeopathic prescriber must seek more than merely the external manifestation of the disease. The essence of the disturbance must be clearly perceived by the physician, at all the

different levels of the man. The mentals, generals, particulars and the peculiar symptoms of the patient must be noted and studied to find the most similar remedy.

A case well taken is half cured, and to extract the symptom image of the patient a few guidelines are needed. First, proper questioning must be done to allow the most pertinent information to be gathered in the time allotted. Dr Pierre Schmidt discussed this subject in the *British Homoeopathic Journal* of July 1932. He said that questions should be asked to discover not merely the pathological diagnosis, but also the therapeutic diagnosis that will lead to the similar curative remedy. Also, the questions asked should correspond to the knowledge found in the repertories and materia medicas. Dr Schmidt's advice: (1) avoid direct questions, for we know that if the patient answers with "yes" or "no" the question has been badly formed; (2) never to ask a question by putting an answer in the patient's mouth, thus ensuring that his answer is unbiased; (3) avoid all questions in which the patient is obliged to choose alternatives, and to leave the patient always to his own choice.

The next step in the interview occurs when the patient has finished his story. Now it may be necessary to explain a little about Homoeopathy and the need to qualify his symptoms to get a complete image of the disturbances present. The patient's symptoms are then qualified, one by one, as much as possible to determine their true nature. The location of the symptoms is sought out by asking the patient to point to the place where the problem exists. Extensions or radiations of the symptoms are asked. If it is a mental symptom, its projection to the physical should be investigated (for example, fear, with heart palpitation; anxiety, with stomach problems). Then the sensation, feeling, thought, and interpretation associated with the symptom are needed —the type of pain, its intensity and character, etc. Next, the modalities are reviewed in the light of what makes the patient better or worse; under what circumstances or conditions, heat or cold, motion or rest, pressure, emotional or physical conditions like weather, sleep, etc. After this, the concomitant symptoms are looked for (Concomitant symptoms are those associated with or related to the particular symptom complained of, e.g., headaches with nausea, menstrual cramps with constipation, vertigo with stomach pain). The symptom analysis can be completed by relevant questions relating to the specific nature of the symptom. For example, if it is a discharge, the colour, tenacity, odour, and amount should be recorded. The most important

symptoms should be qualified by the patient himself as to their probable causes, and the person's own subjective feelings and reactions should be sought if deemed important to understand the case.

After the patient's symptoms are thoroughly qualified, a review of his general symptoms is undertaken, examples of which are diet (cravings, aversions, etc.), weather (sensitivities, seasonal problems, etc.), and sleep (position, difficulties, dreams, etc.). Then the person's mental and emotional makeup is explored (e.g., concentration, memory, fear, anxiety). Other generalities include the menses, sex, pain, discharges anywhere in the body, and skin problems. The best reference for understanding the type of information needed for a good evaluation of the generals is Kent's 32-page pamphlet, *What the Doctor Needs to Know to Make a Successful Prescription*.

The last stage of the interview is devoted to physical exams, laboratory work, and auxiliary information obtained from the patient's attendants, friends, relatives, or previous medical records, so that the pathology of the case is well understood.

The first thing the Homoeopathic prescriber must do while taking the case of a cancer patient is to observe the individual. Dr Elizabeth Wright-Hubbard wrote, "*The physician must observe from the moment the patient enters. The office should be so arranged that the light falls on the patient. The main points to be noted are: (1) the personality of the patient; (2) his apparent state of mind, both in himself, and in relation to the doctor (whether depressed, shy, suspicious, secretive, afraid, ashamed, etc.); (3) his apparent physical status (signs of disease in gait, complexion, difficult breathing, etc.); (4) traits of character as shown in dress, cleanliness, neatness, pride, etc*".

The second step in the case-taking interview is to let the cancer patient tell his story in his own way. Minimal interference by the doctor is necessary at this time, and no questions or interruptions should occur. The physician should just ask the patient, "what brings you to see me"? or "tell me what it is that troubles you". Then he must be silent and listen to the patient's story with attention and sincerity. This is a crucial stage in the interview, because if the physician dominates the conversation, the patient's own image of his sufferings will not be brought out.

This is one of the shortcomings questionnaire based case-taking, that the

patient's priorities and concerns cannot be perceived in a hierarchy, or in an individualised manner. All the while, the physician should keep recording the patient's symptoms in an accurate and orderly way. Room should be left on his paper for adding qualifications of these symptoms to be added later on in the interview. Physician should note the tone in the patient's voice, the intensity with which he expresses his symptoms and any facial expressions or body language. The grading of symptoms can be done by underlining the symptoms, once, twice, or three times, according to the spontaneity, concern, intensity, and the behaviour expressed by the patient. The symptoms underlined three times are of the highest grade and should be highly stressed during the repertorisation process. When the patient comes to a full stop, the physician should ask. "What else"? or some other equivalent phrase to encourage the patient to continue speaking freely and spontaneously about his problems. The patient should be drained of what he knows and feels about his own problem before the next stage of the interview commences. If the patient is loquacious or has gotten off the relevant subject, he should be carefully guided back to the main topic, that is his health.

Homoeopathic Approach to a Cancer Patient

The Homoeopathic approach to a case of cancer depends upon the state of sensitivity in which the patient presents to the physician; whether it is moderate or high, or low.

1. ***Moderate or high degree of sensitivity***: Such patients are able to throw up characteristic symptoms and this is usually observed in the initial stages of the disease (though few patients in the later stages may also have characteristic symptoms). The patients who have moderate or high degree of sensitivity are:
    a. *Those who present in the pre-cancerous phase*: This is best time to start Homoeopathic treatment and get good results. This phase should be suspected in patients who have:
        i. A strong family history of cancer.
        ii. Pre-cancerous clinical condition like leukoplakia, ulcerative colitis, benign polyposis of the colon and others which have been mentioned earlier.
        iii. Investigations done routinely which lead to detection of this

phase.

Such patients should be prescribed their constitutional remedy which is based on their mental make-up, physical generals, physical particulars, the fundamental and the precipitating causes (if available). The potency used is the medium one to start with, in frequent repetition and then the higher potencies till one gets the desired result. The use of intercurrent is also important and depends upon the dominant and fundamental miasm.

b. *Those who present in the cancerous phase with symptoms arising as a result of the cancerous process and there are characteristic symptoms that comprise the acute totality*.

   Examples:

   i. A case of cancer of stomach with severe vomiting having a characteristic picture of *Arsenic, Phosphorus*, or *Bismuth*.
   ii. A case of hepatoma with high fever where the fever totality indicates *Belladonna*, or *Ferrum phosphoricum*.

To manage such cases, an acute remedy is selected as per the acute totality, given in medium or high potency and repeated till the acute episode is well-controlled.

c. *Those who present after the clinically detectable cancerous phase is over:* The primary tumour has been removed with surgery, radiation or chemotherapy; and there do not exist any clinical signs or symptoms, either of the cancerous process or of the ill effects of the above modes of treatment.

   Examples:

   i. A case of malignancy of the breast where the entire mass is removed, the scar has healed well and there are no metastases detectable and no signs or symptoms.
   ii. A case of lymphoma where a complete remission has been obtained with radiotherapy and /or chemotherapy and there exist no ill effects.

Management remains the same as mentioned under the first (a) point.

d. *Those who present in the cancerous phase with acute ill effects of radiotherapy or chemotherapy*.

   i. Ill effects of radiotherapy: Patient may present with skin burns in the area exposed to radiation, diarrhoea, severe pain in rectum and urethra when the radiation has been administered

to the lower abdomen, etc.

ii. Ill effects of chemotherapy: Patient may present with profound weakness, diarrhoea, vomiting, nausea, anorexia, etc.

To manage such cases, an acute remedy is selected as per the presenting acute totality, considering the location, sensations, modalities, and concomitants. The potency is medium or high one, in repeated doses till the acute phase is ameliorated.

The remedies for the ill effects of radiotherapy are *Cadmium iodide*, *Calcaera fluor*, *Fluoric acid*, *Phosphorus*, *Radium bromatum*, *Silicea*, *Sulphur*, and *X-ray*.

The acute pictures of *Arsenicum album*, *Nux vomica*, *Phosphorus* can arise during the ill-effects of chemotherapy.

2. ***The degree of sensitivity is low***: In these cases, the sensitivity is so poor that the body is unable to throw up a characteristic sign. The symptoms that exist are the common symptoms of the disease. The patients who belong to this category are:

   a. Those who present in the advanced stage of the disease with widespread metastases.
   b. Those in whom the susceptibility has been grossly undermined by chemotherapy or radiotherapy, which has suppressed the characteristic expression of the system.

   For such cases, the remedy is selected on the basis of the location and the pathology and is administered in the low potencies ranging from the mother tincture to the 30 potency. Repetition of dose is repeated frequently, in order to achieve palliation. In such cases, the frequent repetition of higher potencies may produce tremendous aggravation.

   Examples:

   a. *Ruta graveolens* in case of cancer of the colon.
   b. *Ornithogalum umbellatum* in a case of cancer of the stomach.
   c. *Lobelia ernius* in a case of cancer of the omentum.

Homoeopathic Remedies for Cancer

It is not possible to give a detailed account of all the Homoeopathic medicines that could be employed in the treatment of cancer here. My object is to present the salient features of the commonly indicated constitutional and lesser known remedies in the treatment of cancer.

The Constitutional Remedies

A study of the drugs is rendered easier by the study of the group symptoms. Hence, I have chosen to deal with group symptoms of the *Aurums, Calcareas, Ferrum, Kalis, Natrums, and Magnesiums*–each followed by a brief account of the affinities of their various salts. Thereafter a few polychrests have been described that are frequently used as constitutional remedies in cancer patients.

The Aurums

The pathology of *Aurum* often arises due to the profound disturbances at the level of the mind and we find the ill effects of mortification, vexation, and anger. *Aurum* is a conscientious individual with a strong sense of duty. Therefore, he is deeply disturbed if he fails to perform his duty and goes into a state of depression, self-condemnation, and self-criticism. This eventually leads to a state where he feels that life is not worth living and begins to think of suicide. It is almost as if he enjoys dwelling on suicidal thoughts and desires death. The *Aurum* individual is hypersensitive–to music (which ameliorates); pain and physical impressions and irritable to the point of violence when contradicted. He is hurried with desire for mental and physical activity which ameliorates. At the physical level, one finds destruction–ulcers, degeneration of joints, heart and blood vessels, necrosis of bones, associated with offensive discharges with glandular involvement and with dropsy. Among the *Aurum* salts, *Aurum metallicum* and *Aurum muriaticum* have a marked affinity for neoplastic processes.

Aurum metallicum

Aurum develops conditions bearing strong resemblance to syphilitic and mercurial affections. It has affinity for cancer of nose, maxillary sinus, face, lips, tongue, palate, uterus, skin, bones, and hand. There is also a tendency to develop exostoses (which may be painful); styes; polyps in the nose; condylomata on tongue, genitals and rectum; warts; cysts in the ovaries, and lumps under the sternum. The nocturnal boring pains, the carious destruction of the hard tissues, the exostosis of the skull and other bones are strong

indications for *Aurum*.

The *Aurum* subject in health is alert, glittering, erect in stance; in sickness is bowed and furtive with grief and gloom. The face may be ruddy with a puffy, shiny appearance. The hair is dark and so are the eyes. Nose may be knobby and red. Foetor oris may be noticed. Ulcers, if present, are foul-smelling.

The *Aurum* person craves sunshine, finds dull cloudy days unbearable, is characteristically depressed, dejected, tired of life, discontented. Suffers from a profound inferiority complex, which results in self-condemnation or laying the blame on contrary fate.

The pathological *Aurum* condition usually arises in people who possess a serious and introverted character. They are generally closed people and tend to be responsible. Generally they are very disciplined and highly ambitious. They seem to have the fundamental conviction that they are destined for a superior and esteemed position in life. They want to be, and feel they are, more capable than others; they have that conviction; thus, they set very high standards for themselves and work hard to achieve those standards. Through this seriousness, ambition, diligent self-application and industriousness they tend to lose the sense of lightness about life. As the pathology develops, they will eventually go in to a state of self-reproach, self-criticism and, finally, a feeling that they are worthless and incapable of accomplishing anything. *Aurum* is the principal remedy which develops a loathing of life, a deep desire to die and a tendency to commit suicide.

The *Aurum* patient will have a strong aversion to the failure of romantic relationships; consequently, he tries to paradoxically avoid such a failure by being the one to end it first, but he does so at tremendous emotional cost. When the romantic relationship ends, *Aurum* will suffer insomnia, often talking to himself when trying to fall asleep. This talking will occur in fits and jerks. Eventually he may begin to lose his ambition in life, eventually reaching a state of complete lack of ambition with the hope that he will soon find an exit from this wretched and disappointing world. After such a grief, the *Aurum* patient will usually become resentful and vengeful often times taking his feelings out on his next partner. At some point in the relationship when he feels that his lover has become quite attached to him, he begins to take advantage of her and to treat her coldly and cruelly. He inflicts suffering on her while at the same time suffering himself because of his behaviour. He

feels that he will not survive if he is rejected by his lover; in consequence, his thoughts immediately turn to thoughts of suicide.

Both business and financial success are very important to *Aurum*. They go into business because of a financial dream. Despite being competitive, hard-working businessmen, they are very sensitive about their obligations, so when they face a serious financial failure, with no way to meet their obligations, they become depressed and suicidal. It appears to them impossible to consider starting over again, attempting to rebuild their financial fortunes to the extent that they can repay their debts. When this attitude becomes deeply entrenched and the depression very deep, they become prone to commit suicide, mostly by jumping from a high place.

The preoccupation with idealism provides a common ground between those who have attained some success in their lives and those who are disillusioned; consequently, both highly successful young people and passionate anarchists with idealistic attitudes can be *Aurum* individuals. Constant criticism, especially from his closest associates, can also crush *Aurum*.

Because *Aurum* so coincides with the state of depression, it should be strongly considered when a patient presents deep grief without more definitive indications of another remedy and when earlier prescriptions of such remedies as *Ignatia amara*, *Natrum muriaticum* and *Staphysagria* have failed to act. *Aurum*, during his depression, thinks that the sun, the light has completely faded from his life, that there is no hope for him; he even believes that in the afterlife he will be lost. All avenues for a reversal of his situation in life seem closed. He feels that ‘he has failed in every department of his life’. Nothing can give him joy. There seems to be a hardness, an ‘induration’ of the feelings which can in the end produce a ‘malignant emotional ulcer’. At this point he has reached, as Kent has said, a state of insanity of the will. Now the very thought of dying brings relief, almost joy. He feels that he will be jumping into freedom and ending his unbearable sufferings. He experiences no fear of death. Such a patient may not tell the physician that he suffers from a suicidal depression. He neither believes that anyone can help him nor that he can be saved by a medicine.

Also, *Aurum* will never ask for help or advice from a friend or relative with regard to his problems. Asking for help is too degrading, and, furthermore, he

considers his problems his and his alone. *Aurum* hides his depression and offsets it with industriousness. Despite his emotional turmoil, he maintains control over his mind, and engages in mental occupation to avoid his emotional woes. In other cases, along with the depression, the patient may feel that he has lost all ability to think and perform; he feels weary and listless yet does not find relaxation by resting.

Self-reproach, self-criticism and anger are common to *Aurum*. The self-reproach can take a self-destructive turn - excessive smoking, drug and alcohol abuse, etc. When criticised, he becomes intolerant of being pressured, intolerant of any kind of contradiction. If his wife nags him or interferes with his silent brooding, he flies into an outburst of violent anger. When angry, *Aurum* can be quite violent, breaking objects, striking walls or windows with his fists; he loses his self-control, becomes hysterical and possibly very nasty towards others. However, he is very seldom physically violent towards others. Usually *Aurum* directs his anger at himself rather than others; he will never have the urge to kill another but often wishes to annihilate, to destroy himself. Soon after a hysterical outburst of anger he feels great exhaustion, remorse and, eventually, deep sadness; it is at this stage that physical symptoms will begin to surface. The primary organ to suffer will be the heart, angina pain being a common result. *Aurum* can also have a tremendous fear of heart disease.

Another strong feature of *Aurum* is praying which frequently appears in younger people; they pray for hours, being unable to stop without really knowing why. Such compulsion to pray occurs several years before the deep suicidal depression appears. The excessive praying usually occurs when they have established contact with some religious group. Apart from this habit, they behave rationally in every other way. Having completely given up all connections with actual life, God becomes their only recourse, their only source of hope; nothing else matters. While some patients, although deriving some relief from such prayer, do not experience as much satisfaction or pleasure as others.

Aurum children tend to be serious and aloof; however, they do need and demand affection. Even at an early age it is difficult for them to establish close friendship. These children usually are ambitious and frequently attain prominence in their class at school. Critical remarks have a tremendous and

immediate effect upon them. Their emotional body cannot tolerate such remarks, and they seem to break down very easily. He will continue trying to attain the goals of his ambition; yet throughout his entire life a sense of bitterness remains. The *Aurum* child seeks the company of older persons. It is amazing how many questions an *Aurum* child has and how much he understands without his parents realising it. The *Aurum* child is sure to have been emotionally wounded from his very early years by virtue of the contrast between his own sense of self-importance and the actual degree of importance others seem to attribute to him.

It has been observed frequently in practice that the patients who have responded to another syphilitic remedy, namely *Mercurius solubilis*, can easily go into *Aurum* states. There is a definite complementary relationship between these two remedies. The *Aurum* depression can be compared to that of *Natrum muriaticum* and *Natrum sulphuricum*. At times they can be difficult to differentiate.

Aurum is aggravated from sunset to sunrise. All the pains are worse at night. Mental state can be ameliorated at night and from moonlight and general amelioration from cool bathing, music (especially classical music), walking in the open air, the evening, and moonlight.

Aurum muriaticum

It has affinity for cancer of nose, lips, tongue, bones and glands. It also has affinity for exostoses; condylomata; warts; hypertrophy of prostate, and fibroid of uterus. *Aurum muriaticum natronatum* is very close to *Aurum muriaticum*, with the difference being that the former is harder and more aggressive on all levels. Mentally it is not as open and sympathetic as *Aurum muriaticum*; it is rather more introverted and the element of anger is more pronounced.

Aurum muriaticum natronatum

It has marked action on the female reproductive organs; chronic and sub-acute indurations of the womb and ovary and in chronic suppurations of the glands and bones. This remedy works better in mercuro-syphilitic constitutions. The most important symptom is boring pain felt all over the

body but mostly in the skull, tibia and other bony structures. These pains are invariably worse in the cold wet weather. They suffer from malignant cancerous indurations, ulcers and various kinds of warty growths in various parts of the body. The organ, however, that suffers mostly is the uterus and its appendages. Enormous distension of the ovary with corroding leucorrhoea has been helped with this remedy. It increases the sexual passions in women, occasionally resulting in nymphomania. There is tendency to high blood pressure; with beating of carotid and temporal arteries.

It is chiefly used on general *Aurum* indications. The *Natrum muriaticum* component increases the affinity with the blood-vessels, the liver and the genitalia. The patient usually covers up; they laugh and smile when telling of serious and sad events. They make it appear as if nothing touches them. They can have a sardonic, grim form of humour, especially the cool, tough type. They try many new things as they want to escape their inner disharmony, to compensate, to cover up and protect their inner vulnerability. These activities also give them approval and admiration, for which they have a strong need. They try to conquer everything in themselves that they perceive as a weakness. However, also there may be cautiousness, yielding nature, thus avoidance of any risks. Fear of undertaking anything new from strong fear of failure and rejection. Oversensitive to being a burden to others.

There is some form of addiction like all *Aurums*. Fear of strangers and feeling uncomfortable in social settings and gatherings. Sarcasm or tendency to tease family members in order to vent pent up anger, especially if treated unfair or criticised. Strong tendency to self pity. Eager to receive compliments and flattery. At the same time they often have difficulties in handling compliments and emotions from others as this makes them feel out of control and therefore uncomfortable. Indifference about his recovery.

The patients are sensitive, refined and are subject to many fears. There is especially an inner fear that something bad will happen at any moment, giving the feeling that they are fragile, and need protection. They will look unprotected and helpless, they will go into a panicky state, but inwardly they are quite strong and not yielding. You will be very sympathetic towards them, though they will not be attached or sympathetic towards you, as a real *Phosphorus* can be. The difference is that these patients do not have the openness of *Phosphorus*, neither the emotional warmth. They are reserved,

timid and rather closed on first contact. With this oversensitive nature, an element of sadness is also perceived in their background.

They can have exaggerated expectations regarding the opposite sex and relationships. The mental state of *Aurum muriaticum natronatum* can be one of claustrophobia and anxiety for the future. If these women are hurt they will be inclined to go into deep depression, especially if they are hurt in connection with a love affair. A woman, while having an affair, puts on some extra weight and the man remarks about it. The effect upon her is so great that she loses her appetite, she goes into depression, she wants to disappear from the face of the earth. The depression is such that she does not want to come out of it, she just cannot care whether she recovers or not. She can go into a secluded mood. After such periods are repeated several times it is realised that this is a state of anorexia nervosa with suicidal depression, pain in the stomach, nausea, loss of appetite and constipation, or severe constipation.

All symptoms are worse by rest. Aggravation from bending head to right, when lying down, when at rest. Aggravation on slight motion. Aggravation when sitting or walking. Cold, wet weather causes inconvenience, better in dry, warm weather.

Aurum arsenicum

A remedy for cancer of breast, face, nose, stomach, uterus, intestinal tract and bones. Cancer developing out of a strong tubercular miasm. There is mental despondency. Fear and anxiety related to death.

Ailments from unfortunate circumstances in childhood where the personal need for love, attention and security is strongest, e.g. alcoholic father. Suppressed anger towards the parents or a person living in an insecure environment e.g., neighbours are psychotic or family members are suffering from some psychological ailments. Insecure life situation coupled with suppression of anger. Thus, the self-confidence is diminished with a strong feeling of guilt and self-reproach; worthless feeling.

Delusion everything will fail, delusion wrong has done, delusion neglected the duty. Neglects the household and child. Forsaken feeling. Anxiety about others, trifles. Anticipation. Fastidious. Often confused with *Aurum*

metallicum, Ignatia amara and *Natrum muriaticum.* Anger with silent grief. Always in a hurry and excited. Fault finding and critical. Impatient and restless. The face is expressive of suffering.

High sexual energy expressed in masturbation. He is critical of himself and constantly critical of others. Hard on himself and hard on others. Blames himself for all kinds of things. Anger towards himself; a type of self destruction (Vithoulkas). Full of self-condemnation. Irritable from contradiction. Fanatic. Stubbornly holds on certain types of ideas and principle. Religious zealots. Health freaks. Political fanatics. People with exaggerated principles. When they grow old they develop malignancy and hate windy weather.

Suppuration in bones. Body emaciates. Slightest exertion aggravates. Sensation of band around the affected parts. Predominately right-sided symptoms. Desire for sweet, alcoholic stimulants. Aversion to cold drinks. Loves open air but worse open air.

Aurum sulphuricum

Chronic complaints that date back to a grief, disappointment in love; ailments from too much responsibility. Weak mind and indolent, will not work; becomes like a tramp. However, there can be a sudden change where they get excited and have a strong mania for work. Maniacal conduct accompanied with loquacity, great restlessness. Increase of imaginative powers (Kent). Fear of going into a crowd, of robbers. Desire to sit and brood. History of emotional or physical abuse of a child by parents. Anger mostly hidden. Reproach themselves and others. Very sensitive to criticism. Lazy, indolent, loves to see television. Dreams of assassins, of thieves. Fear of heights. Dreams of falling form a height. Desire for solitude. Disgust for life.

They want to maintain a feeling of love and harmony. They feel responsible for good relationship, for the well being of all the people who work for them, for the personal happiness of all the employees. They work so hard in their life that there is no time for love. They neglect their lover. Extremely responsible for their partners and very protective about them. They want to keep their marriage intact even when there is very little love left between them. If the partner breaks the relationship, they feel that they are doomed.

Neglecting themselves after they have been let down by their partners, lovers, friends and employees.

Cerebral haemorrhage. Lancinating pains in occiput. Stye near the outer canthi. Photophobia. Redness of lips. Cracked lips. Aphthae. Swelling of thyroid gland. Breasts painful to touch. Nipples cracked with lancinating pains at the tip of nipple. Very slow digestion. Inclined to vomit after eating. Frequent hiccoughs. Frequent erections with desire for embrace but ceasing immediately. Thick yellow leucorrhoea. Nightly paroxysms of loud cough. Suffocation at night. Palpitations when climbing stairs. Staggering gait. Cold legs, hands and feet. Uncovers the feet. Usually left-sided. High blood pressure, infarction. Diabetes.

Usually left sided. Sensitiveness to touch. Great thirst. Strong desire for open air even though open air aggravates many complaints. Desire for stimulants, coffee, sweets and alcohol. Aversion to eggs. A remedy for growths on eye-lids.

Aurum iodatum

A remedy for fibroids of uterus, ovarian cysts with dropsy and cancer of bones.

The Calcarea Group

Calcarea has a sensitive but sluggish mind. Since the mind is sensitive, it receives a number of stimuli from the environment. Stories of tragedy and sadness affect him; slightest reprimand makes him weep; he is sensitive to hurts and to troubles of others and also to light, odours and noise. However, due to sluggishness of the mind, it gets difficult for him to organise the stimuli, which makes him confused and indecisive. The mind desires a lot of things but his physical indolence prevents him from achieving them and frustration arises. He is a basically an insecure individual who prefers to remain within his protective shell. He has a number of fears and may also be shy in behaviour.

At the physical level, there is marked indolence; haemorrhages; profuse perspiration, relaxation of tissues leading to prolapses, varicosities, hernias

and easy sprains; tendency to glandular and bone affections and deposition of calcium. In females there is hypersensitivity of the mind, breast heaviness and tendency of water retention before the menses.

In the *Calcarea* group, there is a marked neoplastic tendency for benign as well as malignant growths.

Affinity of Calcarea Remedies

1. *Calcarea carbonica*: It has a remarkable affinity for various benign growths like sebaceous cysts (especially on the head), polyps with easy bleeding (ear, nose, bladder, rectum and uterus), moles, condylomata (eyes, gums, genitals), warts, fungoid growths in bladder and urethra, fibroid tumours of the ovaries and uterus with uterine haemorrhage, enchondroma, exostoses, ganglion on the back of the wrist, fatty tumours on the neck and tarsal tumours of the eyes. It also has an affinity for malignancy of eyes, nose, uterus, breast, bones, skin and blood–all these are associated with lymph node involvement, cachexia and pains.
2. *Calcarea fluorica*: It is a strongly syphilitic *Calcarea*, having growths characterised by stony indurations. It has an affinity for malignancy of stomach, breast, skin, bones with marked glandular involvement. It is also a remedy for Hodgkin's disease considering its affinity for glands. It also has an affinity for benign tumours like stye; enchondroma; exostoses; ganglion on the dorsum of the wrist; tumour in the popliteal fossa and fibroids in the uterus.
3. *Calcarea iodata*: Another *Calcarea*, with affinity for glands for benign and malignant tumours of the breast and prostate, polyps in the ear and nose, and fibroids in the uterus.
4. *Calcarea phosphorica*: A remedy for cancer of skin (epithelioma); leukaemia; malignant tumours on the neck; tumours of the male breast and the bones; polyps in the ear, nose and uterus; fibroid of the uterus.
5. *Calcarea sulphurica*: A remedy for cancer of the uterus and skin (epithelioma); nasal polyps and uterine fibroids.
6. *Calcarea silicata*: A remedy for sebaceous cysts and for caries of bone.
7. *Calcarea acetica*: A remedy for excruciating, constrictive cancer pains.
8. *Calcarea arsenicosa*: A remedy for cancer of the uterus with burning

pains.

9. *Calcarea oxalica*: A remedy for pain in ulcerating cancers.
10. *Calcarea ova tosta*: A remedy for styes.
11. *Calcarea picrica*: A remedy for styes.
12. *Calcarea hypophosphorosa*: A remedy for caries of bones.

Calcarea Carbonica

The most significant theme of the life of *Calcarea carbonica (Calc.)*, is the fixed idea or delusion that ‘he is about to sink into annihilation’. This reflects the fragility in spite of his usually impressive bulk, expressed in another, similar fixed idea that ‘his body is being dashed to pieces’. The size of such a baby inevitably leads to a prolonged or delayed labor, symbolising this infant’s wish to remain in the maternal womb, that paradise-like pool in which he effortlessly floats and enjoys the availability of constant nourishment and protection. While the *Calcarea* child starts his life this way, the *Calcarea* person, regardless of age, seems to always want to remain close to the mother, anxious about discovering the world with all its challenges.

Driven by the falling to pieces, this child is overdramatic when he falls, showing a great sense of exaggeration as though he were close to dying (despair with the pains). He is prone to severe nightmares, and is startled at the slightest noise in his sleep, often falling into a *Stramonium* state (acute of *Calc.*). He is inevitably scared of the dark, and he is always affected by hearing bad news like the death or watching emaciated children on television.

Calcarea carbonica is convinced that there is something wrong with him, and the smallest inconvenience and distress concerns him (hypochondriasis, imaginary illness; delusion he was about to die; delusion he has an incurable disease, of having a heart disease; delusion being sick); he faints upon seeing blood and flees at the slightest suggestion of getting an injection. *Calc.* has a great sense of exaggeration; Hahnemann called him a nuisance to those around him because of his complaints about trifles and because he torments those about him, day and night. No wonder the *Calc.* person is an avid reader of medical books; he is looking for urgent answers regarding his imagined ills (mania to read medical books). If it is not an illness that will befall *Calc.* , there is always that ‘fear that something terrible will happen’. This sense of vulnerability and danger creates other fixed ideas like he will be murdered;

and he has horrible visions on closing his eyes, and delusions, of animals. *Calc.*'s worry is always personal and close to home, not for the rest of the world, indicating 'affectations from egotism'. We find *Calc.* simultaneously under the rubrics 'duty, too much sense of duty', related to her worry about domestic issues only, and 'duty, no sense of duty' regarding any matters beyond those affecting immediate family and close friends.

He has ailments from hearing bad news, from anticipation (apprehensive mood, as if some misfortune was about to happen, about his health; aggravation from mental emotions). We find also in the proving, 'fears excited by reports of cruelties'. He is the most childish character of the hypochondriacs as he weeps for trifles. What makes him even more powerless and exposed is that he is convinced that everyone can see this fragile state, an inevitable meltdown (falling to pieces) about to happen, expressed in other fixed ideas such as 'others will observe his confusion and delusion that he is being observed, people think her of becoming insane'.

As one can see, the *Calc.* is full of concern about imaginary things that might happen, a rush of thoughts prevents their sleep and the mind is confused to what she has read or heard. She thinks she is sick to death, nevertheless she could not complain about anything; there is melancholy about the heart without cause. It can become so intense that she feels she would lose her senses and that people observe her confusion (fear, her condition being observed). Consequently, *Calc.* withdraws into his shell, his home (desire to go home), which in extended meaning is translated into going to live with the parents or in their close vicinity.

Once *Calc.* persons are in the state of excitement, and with the power of their obstinacy, nobody can convince them that they are not gravely ill (disintegrating). All this leads quickly to depression, where we see now disinclination to any kind of work, and he does not care to get well at all or do anything to assist in his recovery. He is despairing and hopeless of ever getting well, with fear of death, tormenting him day and night. There is indifference and inertness. Inertia (mental and physical) is one of the greatest enemies of conscious choice. Inertia describes *Calc.'s* depression well as it reflects his immobility; a state of 'paralysis' and total apathy. This might also explain why *Calc.* is not inclined to commit suicide (*Aurum*); *Calc.* is characterised by a weakness of will, a black type remedy. They don't have

the courage for suicide; they have no stuffing so to speak (fear of the pain and fear of suffering, both provings also in *Aurum*). *Calc.* often states, '*Why should I do something, as my fate has already been determined? I just don't give a damn about anything anymore. What is the use of life anyway?*' It is often the hidden desire for a lazy, self-indulgent life which cannot always be fulfilled (despair of recovery; discouraged indifference about recovery, delusion, is about to sink into annihilation). "*I always feel guilty when I don't accomplish enough and I have started praying*" (religious affection; wants to read the Bible all day) again for help with this miserable state. "*My main worries now are - the keloid, which is painful to the touch, itches and burns and is relieved with cold applications. I want to excise it before it becomes malignant, which is my worry"* (fear for cancer; fear of impending disease; fear of misfortune; despair with fear of death).

For the constitutional *Calc.*, an attempt to become one with his limited world is to submit to a person or a group (family) and most often to God. In this way he transcends the separateness of his individual existence by becoming part of something bigger than himself (the family unit and God), strengthening a perceived need for protection.

Calc. is much happier engaged in a one-to-one conversation in a quiet corner of a restaurant than he is flitting from person to person at a noisy party. He expects his marriage partner to be an ideal soul mate, the impossible expectations for marriage, but he tries very hard to fulfil them in any case. The adult *Calc.'s* life is ceded to his children, with possible boredom, stress, fatigue, depression, and unhappiness as an outcome, especially when the children leave home. This child-centred style of parenting results in an adulthood divorced from extra-professional relationships.

The outlook of a typical *Calc.* person is optimistic and friendly. But he becomes anxious when his source of support (parents, friends, family) and his home is threatened. Even the family photo album is a support tool. The *Calc.* person demonstrates genuine warmth and wishes to help others, which is done in order to secure favour with them. *Calc.* tends to receive things from the outside, not to be very productive on his own. He is a good listener (can be an excellent psychotherapist), but his talent lies in receiving ideas, not in producing new ones. He has many friends to feel secure, so he has a hard time saying 'no'; resulting in a paralytic mind unable to make decisions

(irresolution) which makes him more and more dependent on others. *Calc.* always expects everything from an outside source, even in religion; God is the almighty protector [religious affections, in children; religious affections, alternating with metaphysical concern (black type, only remedy); religious affections in puberty] from whom he expects everything; it does not occur to him to put forth an effort. Faith allays his deepest fears and mitigates unbearable losses.

Of course *Calc.* feels lost when alone, even frightened, as he feels he cannot do anything without help, or take responsibility for himself; he feels too helpless to make decisions and take responsibility (responsibility, lack of). Inertness translates for *Calc.* into procrastination, often caused by a childlike impulsiveness which is also a measure of how easily he is distracted. Non-movement is also expressed in the gastrointestinal tract. He might not go for three days and experience no apparent discomfort, but then he makes stools that clog the toilet. Milk causes distention of the stomach, loose mushy stools (in contrast to that obstinate constipation), and painful cramps.

Perspiration is profuse, especially from the head but also from the body, although dry heat is equally possible; it is not uncommon for him to need to get fresh clothes, even more than once during the night, because of heavy perspiration. This night perspiration is worse than perspiration during the day. Even during the day, the child is rather chilly, perspires upon the slightest exertion and has clammy hands.

Calc. child is always in the 90th to 100th percentile on the charts, except for low muscle tone (hypotonia). So, the *Calc.* child might have an unsteady gait; he often falls, apparently being somewhat clumsy.

Calc. needs familiarity, which translates into security for such a child; there is anxiety about undertaking new things; it is difficult for this child to watch any new TV shows or play any new games. He is cautious about making friends. In fact, this child has an easier time connecting to adults than he does relating to his peers.

Calc. has great fondness for food and drink. He tends to overcome anxiety and depression by eating and drinking. The mouth is a prominent feature, often the most expressive one; lips tend to be thick and open, as if in a state of continuous expectation to being fed. This is a symbol of being loved.

Calc.'s attention span is always short, except when it comes to food, with which his mind is constantly busy. For him, the pleasures of food, drink, rest, and sleep are paramount. He has a constant, voracious appetite and is always scouting for food.

His anxiety makes him a very angry child with a very short temper. In general, he is a very sweet child; he is affectionate, generous, happy, and good-natured. But when his anxiety level rises, he becomes the opposite of his true self - anger with red face; consolation aggravates; aversion to family members; and irritability from trifles.

Stubbornness is shown everywhere, but especially his parents, who dote on him. Stubbornness is also shown in delayed closing of fontanels and delayed dentition. A *Calc.* child will decide to stand in the middle of a busy market, having determined he has had enough of walking, and refuse to budge another inch in spite of any motherly encouragement. You can't move a rock! Stubbornness is also used as a tool to ensure his security. He likes to stay with the same style of food, and if he practices a sport, he always uses the same tactics and is not open to a change. Stubbornness is maintained, even to his detriment.

The *Calc.* child has numerous fears; fear for noise (when toilet is flushed), for mice, for thunder, bodily harm, suffering, for his condition being observed, for disease and infection, for evil, etc. To deal with these fears, he looks for something that provides constant security, something that he can count on, like his mother. The *Calc.* child has an obsession with numbers to the point of OCD-like behaviour. Numbers are secure, one is always one; it can't be anything else, and it is always exactly what he expects it to be. He likes numbers more than letters; letters form different words, with different meanings and pronunciations. Therefore, they are less reliable.

The *Calc.* child is rather shy when it comes to expressing himself; even if he knows the answer to a question, he prefers to remain silent. He hates it when attention is drawn to him, as he is convinced that everyone sees how confused he is.

Calcarea Carbonica: Golden Tips from the Masters

- Relates to the F's: fat, flabby, feeble, fleshy, fair, faint, and fears.
- The #1 remedy for hereditary psora (*Sulph.* #1 for acquired psora).

- Follows *Rhus-t* and/or *Ruta* when they stop working.
- The corpulence of the patient, which at first gives the impression of being a constitution, is in reality a sign of illness.
- Covers the three miasms: often polypi (sycosis) and often exostoses (syphilis).
- Loss of appetite when overworked (mentally or physically).
- #1 remedy for children with nightmares about monsters.
- A *Calc.* child can go to *Belladonna* or *Pulsatilla* in acutes; a *Calc.* adult can go to *Rhus-t* in acutes.
- Excellent indication in leg and foot cramps at night in the elderly.
- Obsessive list-writers.
- *Calc.* favours absorption of pus (*Silicea* which hastens suppuration).
- Sweating on head and hair especially, but also in genital area, with inclination to uncover (*Silicea*).
- Great impairment of nutrition: especially great desire for or aversion to milk, a product which the patient's system has difficulty digesting.
- Lack of vital heat.
- Coldness and perspiration of the feet.
- Secondary effects of strain or overexertion and also from dampness or becoming wet.
- They desire order in their world (not fastidious). They know where everything is, obsessed with their bookshelves. Down-to-earth people, the 'mother' type, responsible for everything, but they are easily overwhelmed and will go to a *Pulsatilla* state.
- Menses: three P's: profuse, prolonged, always premature.
- Hypothyroidism, arthritis with same modalities as *Rhus-t* and dizziness in the elderly.
- Shortness of breath on ascending stairs.
- Irregular bone development (open fontanelles, late dentition, curvature of the spine) because of imperfect or irregular nutrition of the bones, while the soft parts (muscles, skin) are suffering from over nutrition.
- Teeth cannot endure air or any coldness.

The Ferrum Group

Iron is the strongest and stable metal, and so are the *Ferrum* personalities -

solid, stable, firmly fixed. On heating, iron becomes red hot, so do the *Ferrum* personalities who cannot bear contradiction. At high temperature, iron changes its physical form, so are the *Ferrums,* changeable in character.

Hypersensitivity is the hallmark of the *Ferrum* individual. Emotions dominate with their excitability, erraticity and changeability. He has a strong will when it comes to matters of intellect; but as far as emotional problems are concerned, he becomes indecisive and confused which leads to sadness, guilt, anxiety, and vexation. These are manifested overtly through violent anger with trembling at slightest contradiction, severe anxiety with its associated vasomotor effects and restlessness, especially at night and through dreams. The mental symptoms especially sadness is worse before, during and after menses and is better by mental occupation of moderate intensity. They are determined, stable, ambitious, strict, shrewd, obstinate, and very practical. They are steadfast and resolute, show little mercy and very strong in giving hard judgement.

The physical sphere is characterised by multiple food allergies; vascular phenomena like irregular, patchy sudden congestions in areas which are otherwise pale (precipitated by slightest emotion, exertion or pain), palpitations and haemorrhages; anaemia; debility; oedema; severe pains which benumb the parts; and gastric affections.

Specific action is over the glandular system and hence suited to scrofulous constitution. Most of the complaints are right sided. There is tendency for easy bleeding or haemorrhagic diathesis. *Ferrum* group remedies are predominantly chilly. They have restless sleep from frightful, unpleasant and anxious dreams. There is general aggravation at night.

All *Ferrum* remedies show marked sensitivity of digestion, which is weak and exhausted, to drugs and food articles, cold, allergens. Vomiting after eating or drinking and vomiting of pregnancy. Aversion to meat and aggravation from meat. General aggravation from rapid motion and amelioration from gentle motion. Profuse cold perspiration from slightest exertion and perspiration aggravates the general weakness.

Affinity of Ferrum Remedies

The *Ferrum* group does not have a marked affinity for tumours when

compared to the other metal groups.

1. *Ferrum iodatum*: It has an affinity for malignancy of breast, nasal and other bones with involvement of lymph nodes. It also has an action on ovarian cysts with dropsy.
2. *Ferrum magneticum*: It has its action on warts and ganglion.
3. *Ferrum metallicum*: It is a remedy for malignancy of uterus, skin and bones with glandular involvement; and remedy for tumour of the eyes.
4. *Ferrum picricum*: A remedy for Hodgkin's lymphoma, leukaemia, prostatic hypertrophy and warts.
5. *Ferrum arsenicosum*: A remedy for leukaemia.
6. *Ferrum phosphoricum*: A remedy for tumour of the eyes.
7. *Ferrum pyrophosphoricum*: A remedy for tarsal tumours.

Ferrum Metallicum

Ferrum metallicum (Ferr.), the iron remedy, possesses an iron will. The will of *Ferr.* could be described by the term 'positiveness'. *Ferr.* has a positive outlook towards her work, duty and accomplishments. More often than not, *Ferr.* has been indicated for females than for males. The strong will in *Ferr.* is recognised by unshakiness while facing any difficult situation. Positiveness as Hahnemann perceives in the proving of *Ferr.* is seen in the patients as persistent efforts towards achieving fixed goal, with positive attitude and a remarkable optimism. Though she is hypersensitive to criticism and comments of others, she never surrenders her will to others. Her strong determination is far from being submissive. *Ferr.* does not give up easily. *Ferr.* knows very well how to protect herself against the opposition.

The central theme in *Ferr.* patients is that they are at war or in a battle of some kind. They have dreams of battles, fights, and the dead. They have a strong belief or firm ideal that leads them into conflict. Yet most of my *Ferr.* and *Ferr.* salt cases seem to have the blood drained out of them, a form of 'emotional anaemia'. There seems to be a lack of strength in people who always feel like they are in a conflict. On studying the symptoms of *Ferr.*, I realised that one set of symptoms, i.e., obstinate, contradict disposition to, etc. suggested going against the parents; the other symptom was 'Anxiety, conscience of, as if guilty of a crime'. *Ferr.* also has 'Ailments from anger' and 'Ailments from scorn'. So one can visualise a situation where the parents

are forcing the child into something he does not want to do.

Irregularity and changeability are there equally on mental and physical levels, moods as changeable, irregular and wandering as distribution of blood.

The theme of motion is characteristic in this remedy; on the one hand aversion to activity, inclination to sit; desires to remain in bed; irresolution; indolence; on the other hand, the patient is forced to move by pain, ailments or restlessness.

Ferr. children are family-oriented children; at a young age will stand as a watchdog for the family's reputation in society. They feel guilty very easily on disobeying parents or neglecting his duty. Confident and egotistical children, yet sober and well balanced with a haughty, self-satisfied expression. Obstinate, headstrong, rude, and abrupt children; easily become red and irritable from the slightest contradiction. Tales of an injured, wounded, and fragile ego; the child is always right, and is excited by the least opposition.

Ailments from emotional excitement (anger, happiness, or pleasant surprises). Children frequently have a delusion that somebody is behind them when walking in the dark. Timid and bashful children. Fear of open or narrow spaces, thus fears travelling in a train or crossing a bridge. Very competitive children, with a fear of failure. Angry, disputative, easily excited, and quarrelsome children. Likes to be busy and occupied all the time. Irritability at the slightest of noise, such as crackling of paper, dishes, vacuum cleaner, washing machine, etc., drives the child to despair.

Alternating states: strong willpower alternating with easy and immoderate weeping; mirth alternating with sadness; mental symptoms alternating with physical symptoms.

'In the anaemia of cancer and syphilis, it is often of great service as an accessory, and need not interfere with more specific remedies. But it is not suited to all cases of anaemia and chlorosis, or even to a majority of them, and should never be given without discrimination and careful watching'.

The Kali Group

Kalis will be indicated for individuals of a self-centred nature, where the

maximum attachment is with the self. *Kali* is a sentimental and insecure individual and has strong sentimental attachments to fulfil his emotional insecurities. A lot of demands are made on the objects of his attachments if these are not fulfilled, tremendous anxiety, irritability, vexation and hostility arise, which are often expressed overtly and also through dreams.

At the physical level, there is a marked debility, hypersensitivity manifested through severe pains, tendency to oedema, profuse sweats, rheumatic affections especially lumbar pains, violent congestions and gastric disturbances.

Affinity of Kali Remedies

Among the various *Kali* salts, those having the greatest tendency for tumours are *Kali iodatum, Kali bichromicum, Kali carbonicum* and *Kali arsenicosum.*

1. *Kalium iodatum:* It has an affinity for tarsal tumours and for malignancy of face, tongue, mammae, skin and bones with involvement of the lymph nodes and cachexia.
2. *Kalium bichromicum*: It has an affinity for malignancy of nose, stomach, skin and bones with cachexia and its characteristic yellow sticky discharges, pain in spots and punched - out ulcers. It also has an affinity for tarsal tumours and keloids.
3. *Kalium carbonicum*: It has an affinity for malignancy of face, stomach, uterus, skin and bones with lymph node involvement. It also covers benign tumours of the ovary, painful tumours of the ovary and skull; warts; polyps and sebaceous cysts.
4. *Kalium arsenicosum*: It has an affinity for malignancy of face, lips, uterus and skin with lymph node involvement.
5. *Kalium bromatum*: It has affinity for ovarian cysts and sebaceous cysts.
6. *Kalium chloricum*: It has affinity for epithelioma of lips and tongue with cachexia.
7. *Kalium cyanatum*: It has affinity for cancer of tongue and rectum.
8. *Kalium muriaticum*: It is one of the remedies for Hodgkin’s lymphoma.
9. *Kalium phosphoricum*: It is one of the remedies for leukaemia.
10. *Kalium sulphuricum*: It has affinity for epithelioma of nose, face and lips.

Kalium Carbonicum

The core delusion of *Kalium carbonicum (Kali-c.)* is an abyss is behind him, referring to the chronic anxiety and invisible threat that a *Kali-c.* patient feels. *Kali-c.* feels that she has to be on guard against all those unknown but (in her mind) real ordeals that may threaten her welfare and that of her family. She is not sure where and when it will hit, but there is always that looming doom, that deep pit or abyss behind her. So every step in life must be taken with great care. Great hypochondriac that she is, *Kali-c.* feels her emotions in the epigastrium and has anxiety about health and the future, her most prominent anxieties.

Kali-c. is never at peace; the anxiety about health invites her numerous physical complaints; what *Kali-c.* fears so much—failing health. So many happy hours are wasted for *Kali-c.* in hypochondriacal anxiety, when she lets pleasant times slip by unenjoyed.

An abyss ‘behind’ her, not in front of her; she fears, a danger which she cannot see but of which she is very well aware, she can sense it. *Kali-c.* is caught between the abyss behind him (the past) and the anxiety of going forward (the future), which eventually results in a spastic paralytic stiffness that is symbolic of *Kali-c.’s* struggle in life. To try to control his health and avoid future calamities, a *Kali-c.* person becomes a health fanatic, becomes morbid and hypervigilant. Although *Kali-c.* looks anxious but not unhealthy, she easily imagines that something might go wrong—and if not with her, then perhaps with her husband or children.

The essence of *Kali-c.’s* delusion, a hypochondriacal anxiety, is also expressed by other delusions—delusions he was about to die, his bed is sinking, he is sinking. He will be murdered, and he is being sick. All these delusions point to seemingly inevitable catastrophes and pending dangers.

There are some other delusions reflecting a sense of naivety and vulnerability but, above all, a distrust of others (even family)—‘delusion, her whole body is hollow’, meaning that she senses that her body is insubstantial and feels a need to reinforce it through compensations in order to survive all the ordeals in life. He also experiences numerous fearful delusions stoking the fire of unrest, which make her scream (shrieking about imaginary appearances), delusion, sees dead persons; sees hideous faces; sees figures during sleep;

sees thieves and delusion, creeping of worms.

One of *Kali-c.'s* principal aetiologies, and one of the most surprising ones, is ailments from sexual excesses. Certainly there is a hormonal component, as we see nymphomania before and during menses. For *Kali-c.*, there is a great need to be part of a relationship in order to exist. This wish to connect to others, and her spontaneous and rather naive behaviour, adds to a desire for a cohesive and united family, explaining the sexual excess. Part of it is her duty to her family (duty, much sense of), and procreation is a big part of the family program.

Kali-c., being set in her own mode of thinking and determining how things in life should be approached, suffers many heartbreaks. Being a self-centred, abrupt, and harsh individual, she is overbearing and difficult for most people to tolerate, which inevitably will lead to many events of hearing bad news, disappointed love and excitement after bad news. As a result of these heartbreaks, *Kali-c.* suppresses her emotions, appearing stoic and stiff in public so that no one can guess what is going on behind the walls of her home (indifference while in society—a syphilitic trait) but, as always, the price of denying one's feelings is very high.

There is a flurry of neuroses and physical complaints, stiffness and rigidity of the spine, stitching pains in joints and lungs, sciatica, and stomach ulcers (feels her emotions in the epigastrium). Much of all this is due to *Kali-c.*'s attitude.

Kali-c.'s conversation is, rather, a monologue (*Sulphur, Lachesis*). *Kali-c.*'s social behaviour demonstrates poorer communication (speech hasty, incoherent and wandering) than that of these two other intelligent personalities. There is not much intellect in her conversations (she has weakness for expressing herself). In conversations with the dogmatic *Kali-c.*, you will hit a wall; her dominant conscious function is sensation, with mainly an introverted attitude. But, because of this, *Kali-c.* brings her painfully nervous condition upon herself (easily startled from fright, during sleep and from noise).

The fixed ideas result in a constant state of anxiety (anxiety with fear; timid and apprehensive of future and about her disease); to alleviate this, she looks for company (great aversion to be alone, fear she will die, and desires to be

carried). The second place *Kali-c.* looks to still all her anxieties and avoid perceived dangers is the home (the Carbon part of her) ‘desponding in open air, disappears on entering the home’. We see clearly in this that the world is a dangerous place for her and that the home is her only refuge. The *Kali-c.* person is greatly attached to his family just like *Calcarea carbonica* and *Pulsatilla*.

If one is in constant fear of losing control, in a state of permanent worry about the future, feeling vulnerable and insecure with a great fear of impending disease, one may turn to dogmatic rules in order to create some stability and order in life. This is a ruthless, animus driven, powerful, steamroller dogmatism, a devil of an opinion and quite a conscious one and all of this exists in the name of righteousness, truth, ‘motherly love’, and ‘angelic goodness’, as *Kali-c.* proclaims. Her dogmatism encompasses opinions, moral or ethical discipline, routines, and conformism, rights and wrongs with nothing in between, in which the *Kali* parent pushes her ‘virtues’ on her children for the sake of their ‘welfare’.

Kali-c. rejects the live-and-let-live attitude, revealing her own rigidity. Being so highly conscientious, she takes rules very seriously. Her high anxiety and not very agreeable nature add up to a tendency to be severely critical of others. She wants to be valued by her family; she engages in a social power grab within the family, trying to gain respect while holding others to impossible standards. She often wears a smug mask of moral superiority, which only betrays her excessive anxiety. Her harsh discipline and the repression of desire only lead to her family’s frustration, resentment, and a sense of emptiness.

Any change in routine causes undue anxiety, aggravating *Kali-c.* and making an escapist out of him. *Kali-c.* likes to work like an efficient, automatic robot. Therefore, a person with a *Kali-c.* personality is likely to gravitate toward the military, with its ‘family’ spirit and its strict rules and code of conduct. A *Kali-c.* mother creates a field, or atmosphere, of dogmatic, oppressive restraint, a disabling barrier, which keeps her children from establishing a conscious individuality of their own. Everything has to be just so, and the result is that her child is not able to catch his own breath, which is symbolised in the asthmatic oppression and right-sided base pneumonia for which this remedy is so well known. ‘Breath’ in Greek is pneuma, which also

means ‘spirit’. The spirit of *Kali-c.*’s victim is oppressed. *Kali-c.* refuses to acknowledge her developing child as a person with independent thoughts and feelings. No matter how friendly and obliging she appears, she is possessed by ‘Logos’ (Thinking) rather than ‘Eros’ (Feeling), and nothing on earth can shake her or change her dogmatic opinions.

In women, such an exaggerated animus expresses itself in the form of opinionated views and interpretations, of insinuations and misconstructions. Another sad result is that this pathogenic complex in the mother will be transferred to her daughter, who will identify with her mother’s complex. Aping the mother’s behaviour, she will become, as an adult, another female who ‘knows the best’, continuing the chain of ruthless mutilation and castration in the name of love.

Kali-c. is a black-type remedy for too much sense of duty, just like *Calcarea* and *Nitricum acidum*. It should get our attention that this rubric does not say ‘great sense of duty’ but, too much. *Kali-c.’s* sense of duty is limited, and she is steered by the fixed idea that not only does she herself need to be rescued from the abyss behind her, but so does her immediate family; she therefore keeps a tight rein on them. The rules set out for the supposed welfare and safety of her family members must be strictly followed; otherwise, her syphilitic characteristics will take over: ‘she is contented with nothing; she is besides herself and gets into a rage if everything does not go according to her wishes, and frequently does not know herself what she really wishes to have, and feels extremely unhappy’.

When she feels she is losing control, *Kali-c.* goes quickly into the negative cycle, and all of her pent-up emotions will be expressed as great anger towards her children to the point of creating a dysfunctional family life, ‘impatient with her children; every trifle vexes her; easily aroused to anger, she easily becomes violent; intolerant to human voice; quarrelsome with himself and his family’. These ‘demon dialogues’ that *Kali-c.* can have with her children engender feelings of panic and being unloved. There is an atmosphere of disconnection between *Kali-c.* and her children, which is easily understood when one considers *Kali-c.’s* rigidity and lack of spontaneity (aversion to being touched).

Kali-c., who is hypochondriacal about her health due to high anxiety (fear of impending disease), often extends this concern to her children, but the poor

subjects are sometimes made extremely ill, and are certainly over-treated and over diagnosed because of the parent's fears.

As time goes on, when *Kali-c.* receives mixed if not fully negative reactions to her oppressive dictatorship and feels that she is losing control, she is easily caught in a tubercular state of mind: 'changeable'. She has an alternating mood, at one time good and quiet, at another excited and angry over trifles; she is constantly in antagonism with herself. She is frequently hopeful, frequently desponded, fretting about everything. She becomes fainthearted and despondent to an extreme degree. She is not in the harmonious and calm state of mind that would help her to be thoughtful and introspective about her real situation. However, she has ailments from mental work. She is mainly an introvert sensation-dominant type, with either feelings or thinking as a secondary function. But when she cannot gauge something by sensation (touching something palpable and real), the way she best approaches her world. She is overcome with uncertain-ties and the perception of dangers. At this point, *Kali-c.* might be overcome with a kind of depression that makes one of *Pulsatilla*, weeping mood; she could at any time burst into tears; she was very much depressed and was obliged to weep much and without cause because it was constantly in her mind that she would die. We recognise in these the annoying *Carbon* trait of pestering others with trifling, personal, and selfish problems. This brooding will become so bad that at night, after lying down, forebodings overtake him, on account of which he is unable to sleep.

Many of her dreams are about water, which is the relatively fixed symbol for the unconscious. This is not surprising for a character who puts all his emotions in the darkness of the unconscious so that her real reasons for her behaviour will not come to light (consciousness). Yet, true to the compensation law, *Kali-c.* also has erotic dreams as well as parallel dreams about misfortune and dead people. And in the dreams of the poor subjects of her tyranny, there is a desire to kill her, the 'witch'; these dreams come as quite a shock to her children, who feel that their mother is a saint who tirelessly watches over them. But the dreams have sent a warning message which must not be ignored: 'fight for your own voice!'

Kali carbonicum: Golden Tips from the Masters

- *Kali-c.'s* tortured mind will also be expressed in 'torturing, painful'

physical complaints (stitching, cutting pains) coupled with well-known disease names: pleurisy and cases of pneumonia in the lower right part of the lung, as if the lower lobe of the right lung is adhering to the ribs, and even beginning phthysis; also severe stitching pains in lungs, abdomen, and joints; above all, *Kali-c.* is a great remedy to consider for many cases of stomach ulcers. Without a doubt, great anticipatory anxiety and worry lead to excessive acid production and inflammation as anxiety is felt in the pit of her stomach and during a cramp in the stomach. *Kali* remedies in general, when they fit, are also powerful in normalisation of the blood pressure.

- Of all the anxious remedies, the *Kalis* occupy the first spot, followed by the *Calcareas* and then polychrests like *Arsenicum album*, *Nitric acid*, and *Sulphur*.
- *Kali-c.* progresses easily to a *Nux vomica* state.
- It is the 'stitching' remedy par excellence: stitches run through every part of the body (eyes, pericardium, ears, lungs, liver, abdomen, mammae, etc.). The pain is independent of movement and < during rest and < lying on affected side. *Kali-c.* follows *Bryonia* well when the latter fails to relieve.
- #1 remedy for lower back pain in the third trimester of pregnancy.
- The central idea is stiffness on every plane.
- It is a backup remedy for *Lycopodium* (and complementary) as it imitates it.
- *Kali-c.* often ignores her emotional and mental symptoms or minimises them.
- Hypersensitive to noise and touch (especially the feet when ever so lightly touched—ticklishness).
- Bag-like swelling of upper eyelid invariably suggests *Kali-c.* Always examine the kidneys as the swelling is often present in nephritic troubles. *Apis* has the swelling of both eyelids or enormous bag-like swelling under the eyes. *Phosphorus* has swelling all around the eye (Nash).
- *Kali-c.*: < 2–5 a.m.; *Kali-ar.*: < 1:30–2:30 a.m.; *Kali-s.* < 4:40–5:30 a.m.
- Excellent PMS remedy where backache precedes the menses with extreme bloating and water retention.
- Severe insomnia without an apparent reason.

- Wandering arthritis (*Puls, Kalmia*)
- Broken back feeling, sacroiliac syndrome like *Aesculus*.
- For the pregnant mother who suffers from a weak back with sharp stitching pains from the back to the uterus. Also one of the best remedies for postpartum bleeding.
- Shock, bad news, and fear are felt in the stomach.
- Is particularly useful in kidney and uterine affectations.
- Labour pains begin in the middle of the back and, instead of coming forward, extend down the sacrum.
- Nosebleeds in the morning when leaning over to wash the face.
- Nash's triumvirate of copious cold sweat, backaches dating from childbirth, and weakness.
- Pneumonia.
- Asthma attack at 3 a.m., > leaning forward with head on knees.
- Along with *Argentum nitricum*, it is the other 'what if' remedy: 'What if this happens? What if I do this?'
- Where *Colocynthis* will palliate the indicated colic, *Kali-c.* will cure it, as they are complementary remedies (Kent).

The Magnesium Group

A repeated deep trauma to the mind gives rise to the pathology of *magnesium* at the physical level. The mind of the *magnesium* fairly closely resembles the mental profile of the cancer patient derived through psychological testing. The person suffers from a feeling of neglect and loneliness. There is resentment towards those who have wronged him, but it is rarely at the conscious level. These negative feelings are repressed and find that expression through a multitude of dreams. On the surface, the person appears to be submissive, there is no overt aggression.

At the physical level, there is sluggishness; constipation and digestive disturbances; discharges with indelible stains; haemorrhages of dark, clotted blood; burning and severe pains; and intolerance of milk. In females, there is often aggravation before and during the menses, of abdominal, leg and back pains; sore throat; coryza; acne.

Affinity of Magnesium Remedies

Among the *magnesium* salts, *Magnesium muriaticum* and *Magnesium phosphoricum* have a greater affinity for malignancy.

1. *Magnesium muriaticum*: It is characterised by indurations and malignancy of liver, uterus (body and cervix), vagina, with lymph node involvement. There are also indurated nodes on the face.
2. *Magnesium phosphoricum*: It has affinity for cancer of stomach and uterus, and is good remedy for cancer pains which are spasmodic, intense, aggravated at night and ameliorated by warmth and pressure.
3. *Magnesium carbonicum*: A remedy for nodes on face, mouth, tongue, back and for cancer of liver.
4. *Magnesium sulphuricum*: A remedy for cancer of skin (epithelioma) and warts.

Magnesium carbonicum

Magnesium carbonicum's cyber delusion is forsaken feeling—that he is not being beloved by his parents, wife and friends. This is reflective of a person born into a household which is simply and starkly inhospitable to him. He experiences coldness and emotional withdrawal all around him. Such a person recoils and withdraws from an early age, turning away from any eye contact, and retreating deeply into himself, dreaming deliriously of a 'perfection', accessible only within himself. At best, such a child strives for perfect self-sufficiency. Often this child is secretly determined to reject intimate contact with the world. He is a stranger in the house of his parents, and his first thoughts were that he was a foundling, an orphan.

As Kent stated in his *Lectures on Homoeopathic Materia Medica*, *Magnesium carbonicum (Mag-c.)* also represents the illegitimate or clandestine child. This is a child who is not asked for his opinion, and who receives very little food, sleep, and attention. In this sense, *Mag-c.* is different from related *Rheum*, another sour, greenish diarrhoea remedy who desires impatiently many things, but dislikes its favourite play things. So the central idea of *Mag-c.*, the lack of care, protection and nourishment as a dependent infant or young child, is a different expression of its cyber delusion. *Mag-c.*'s parallel dreams confirm this notion; dreams being lost in the forest and

dreams being lost at home. The latter dream brings home the intensity of the fixed idea that the world or the wilderness (forest being the relatively fixed symbol for danger, a place inhabited by ghosts and dangerous animals and the place where mysterious things happen, like in fairy tales, as well as being lost in the magical world of the unconscious, full of dangers and strange forces) might be a danger not only for *Mag-c.*, it is also dangerous to *Magnesium muriaticum, Calcarea carbonicum, Pulsatilla*, and *Stramonium*, but these other characters at least look for (and usually find) protection in the home, the relatively fixed symbol for love, nurturing, and sheltering. But *Mag-c.* receives none of the love, nurture, or sheltering, putting him in a difficult and frightful position, so secondary delusions are formed—delusion, he will be murdered, delusion, sees thieves and delusion, he has incurable disease.

Mag-c. suffers something even more fundamental in its nature than deceived friendship, as his isolation is produced by a total absence of emotional nourishment; the child needs to fend for himself from a young age. Not having experienced the primary encounter with the mother, *Mag-c.'s* unconscious can recreate the anima encounter in dreams; the object may appear in a nonhuman form, particularly as a horse, frog, or siren. His longing will drain his emotions and deprive him of his vitality, never allowing him to find peace within himself. Such a man will be seized by inexplicable moods; he may be elated one moment yet in the deepest depression the next, earning him the stigma of manic depressive or Bipolar disorder. These swings are a common feature of the *Mag-c.* personality.

Children can be orphaned, but it is also possible for a child to be an orphan even in the presence of her parents. There are many situations that represent abandonment and grief—children can be caught in the middle of a divorce when parents are too busy with their own problems; especially when the children are still very young, before the age of five, when their egos are still connected to the mother. They might get the impression that they don't belong anywhere or with anybody. This can certainly be the case if the divorcing parents are overwhelmed by their own negative feelings and there is no one else (like grandparents) to extend attention and love. Emotional orphans may grow out of circumstances in which children have to be invisible to escape punishment from cruel, controlling, violent parents. A state of a *Mag-c.* can also be created intra-utero when the child is unwanted

and bonding with the fetus is avoided on purpose.

As a compensation, *Mag-c.* begins looking for a safe place. Support, especially from family, does not seem forthcoming. *Mag-c.* is full of anxiety, even anguish, which will be only relieved when going to bed—the relatively fixed symbol, in dreams, of refuge, sex, and the place of origin, where the creation of the infant takes place—anguish; ameliorates after going to bed; tremulous anxiety and fright, as if she apprehended some misfortune, disappearing in the evening in bed; very anxious, with perspiration, all day long, especially on moving about. But even bed is not always a place free of anxiety 'for several nights was unable to fall asleep for long time on account of anxiety; anxiety in warm bed, yet limbs cold uncovered'. *Mag-c.* is anxious all the time. He may say, "*My brain is going all the time, I am constantly thinking, my thoughts jump from one thing to the next*". He constantly thinks about going home (if he is at school or work), trying to find all kinds of excuses to go home (homesickness—in extended meaning, longing for a real home that gives protection) in order to get into that one safe place—bed.

Anxiety obviously comes from the fact that *Mag-c.* is unprotected in a dangerous world; delusion, he will be murdered; he is frightened easily, and he feels weak and sick (delusion, he has an incurable disease). In both of these delusions, we find the general fear of the Carbon person for physical harm and illness. His fears are very specific, fears for accidents all day long and relieved when going to bed; fear for misfortune, and fear something will happen. Of course he fears all this, he realises he is on his own. He must be a practical survivor, and he walks around on eggshells. This always creates very irritable children.

One can survive perceived chaos and danger around him by repressing his emotions—they are only a hindrance to actions or the thinking conscious function. His feeling part is secondary to the dominating thinking part, and feeling must remain totally in the background for him to remain protected. This is the extreme form of the imbalance between thinking and feeling; emotions are not even felt. *Mag-c.* has to be practical in order to survive; he has to think clearly, so there is not much place for feelings. His feelings are his Achilles tendon, so suppressing them is also self-protection against the demons in his closet; releasing them would only lead to great irritability and

violent anger. Neglecting and suppressing his feelings is a positive compensation for him as it helps him to deal with his cyber delusion in order to survive. The adult and even child *Mag-c.* discusses her case in a matter-of-fact manner. She is serious, reserved, and surprisingly unemotional when telling her Homoeopath her life story.

A negative trait of *Mag-c.* is his resemblance to a caged animal with a fiery impulsivity towards the slightest impression or stimulus. Being proactive is the best defence in a dangerous and unpredictable world. This is a defence mechanism for someone who needs to be on high alert. Unfortunately, because of *Mag-c.'s* cyber delusion, this impulsivity (loss of control) is released from his unconscious and comes crashing into his conscious life. But *Mag-c.* cannot control or explain these reactions. He is driven by the unknown (calamities, feelings), so psychotherapy is often as useless as offering a tissue to cure viral pneumonia, and it requires much more skill (and, often, dream analysis) to find the key to *Mag-c.'s* proactive behaviour. No matter what his coping skills are, there are no sunny moments in *Mag-c.'s* life. No kind words from others, no personal accomplishments to boost his sense of self-worth, no superior goals to achieve through dedication and hard work, no exceptional command of language to attract others, no religion to support him. He is like a wounded animal (chaotic confused behaviour) that needs all his energy and attention to cope with just about any ordinary circumstances, just to survive. That is why *Mag-c.* is tough when he gets hurt; he knows he can only count on himself. We should not be surprised that one of his chief complaints is chronic fatigue (nervous worn-out, except industrious before menses). This worn-out state leads to isolation with sadness and indisposition to talk; she is much worse from talking and aversion to presence of others. Even dipsomania (to further dull his feelings) and kleptomania are possible. Worse, *Mag-c.* is always on the defensive and shows it through very negative behaviour; these are the most irritable children, vexed, ill-humored, everything frets her; everything is disagreeable; everything that she looks at vexes her. She is so fretful that she does not know what she shall undertake; and she becomes completely out of sorts, which increases as time goes on.

Dreams that he is lost in the forest and at home (orphan) and dreams of going astray; these are what *Mag-c.* children would refer to as nightmares, but unfortunately they often forget the finer aspects of the dream. Besides parallel

dreams, *Mag-c.* can also have dreams which follow the principle of compensation; the more one-sided the conscious attitude and the more it deviates from recognising the optimal possibilities of life, the greater the possibility that vivid dreams with a strong contrasting content will appear as an expression of the self-regulation of the psyche, establishing a psychological balance. For this reason, pleasant, peaceful and quiet dreams also belong to *Mag-c*.

Magnesium carbonicum: Golden Tips from the Masters

- *Mag-c.* is the Oliver Twist of the materia medica, the great 'unloved' one, anxious, silent, insecure, thin, and unattractive. He longs for affection, which he doesn't get.
- *Mag-c.* is to exhausted nerves what *China* is to loss of fluids.
- The whole body gives off a sour smell (*Hepar sulphuricum*).
- *Mag-c.* is the chronic of *Chamomilla* and has its capriciousness.
- Lax muscles, lack of tone.
- Unrefreshing sleep, waking up around 2:30 a.m. feeling more tired than when they went to bed.
- Sensitive to the least touch, like teeth touched by the tongue.
- All secretions are sour (*Rheum*).
- Cravings for meat in children.
- Green diarrhoea, frothy like a frog pond or like chopped spinach.
- Colicky babies who don't thrive because the milk passes undigested (<milk).
- Teething remedy and delayed dentition; canker sores appear when teething.
- Main remedy for acute left-sided trigeminal neuralgia (*Mag-p.* right-sided)
- Acute remedy for foot and leg cramps; *Calcarea carbonica* (chronic), *Cuprum* (acute in toes) and *Mag-c.* (acute) take care of 90% of foot and leg cramps.
- Coryza before every menstrual cycle.

The Natrum Group

The *Natrum* is dominated by his emotions. On one hand he receives his

strength from the strong emotions; on other hand, emotions prove to be his weakness. He is very sensitive and sentimental and suffers from misplacement of affections. The emotions oscillate, swinging to extremes and are ambivalent. His behaviour is therefore impulsive and erratic. He is averse to all authority and often retaliates against it. However, mostly the emotions are suppressed with reserved behaviour and constant brooding over the tragedies of the past. At a later stage, we also find depression and suicidal tendencies.

At the physical level, there is aggravation from the sun, from milk; dryness of skin and mucous membrane with oily face; constipation; tendency to dropsy; emaciation especially in the upper part of the body and in spite of eating well; and weakness.

Affinity of Natrum Remedies

The *Natrums* have a greater tendency to form benign growths, especially warts and condylomata (*Natrum carbonicum, Natrum muriaticum, Natrum sulphuricum*), sebaceous cysts, and polyps that are malignant ones.

1. *Natrum muriaticum*: It has an affinity for malignancy of uterus, bones (skull, ossicles and vertebrae) leukaemia and Hodgkin's lymphoma. It is also a good remedy for tarsal tumours, warts and polyps.
2. *Natrum carbonicum*: A remedy for cancer of uterus, with glandular involvement, for indurated goitre and sebaceous cysts on scalp.
3. *Natrum sulphuricum*: A remedy for leukaemia, hepatitis and liver tumours, tarsal tumours and condylomata, especially in rectum, anal region and on the genitals.
4. *Natrum arsenicosum*: A remedy for leukaemia and indurated glands.
5. *Natrum cacodylicum*: A remedy for cancer of uterus, breast and skin (epithelioma).
6. *Natrum phosphoricum*: A remedy for leukaemia.
7. *Natrum silicofloricum*: A remedy for cancer of bones.

Natrum muriaticum

Behind the rather grand name of *Natrum muriaticum (Nat-m.)*, hides sodium chloride or the common salt. Common it may be, but it provides the

Homoeopathic materia medica with a remedy of profound importance in the treatment of emotional suffering: the pangs and hurts of life, which are most often hidden from others.

There is a deep and often unfulfilled need for the security and warmth of maternal love, protection and nurturing in the *Nat-m.* being, with an inability or unconscious reluctance to solicit, attract or accept the very sustenance they long for. The conditioning that it is weak to reveal dependency and needfulness compounds this. As a result they experience a sense of having been rejected or forsaken, left to their own fate, and therefore feel that they must be unimportant, unworthy of love and unlovable. In *Nat-m.* this conclusion is attended by a persistent, even life-long feeling of resentment and grievance. There is no warmth in the childhood memories of mother, possibly only an awareness of indifference, criticism, harsh discipline and even neglect or abuse. The ‘absence’ of the mother may be experienced prenatally if the mother emotionally rejects the baby within her, or feels great disappointment when being told the sex of the baby after a scan. A most important cause is when incubation of the baby becomes necessary. This occurs at a time when bonding with the mother is so vital. The infant perceives the mother as absent; however good the supporting care it receives, this cannot compensate or substitute for the lack of maternal nurturing, warmth and love, which is so important to the *Nat-m.* child. Other causes of ‘absence’ may be due to failure to breast feed, illness of the mother, such as postpartum depression, a working mother, or an indifferent mother who is too busy with her own life to lavish affection and attention upon her newborn. Boarding school is often as important as incubation, especially when the separation from the family occurs in the primary school years.

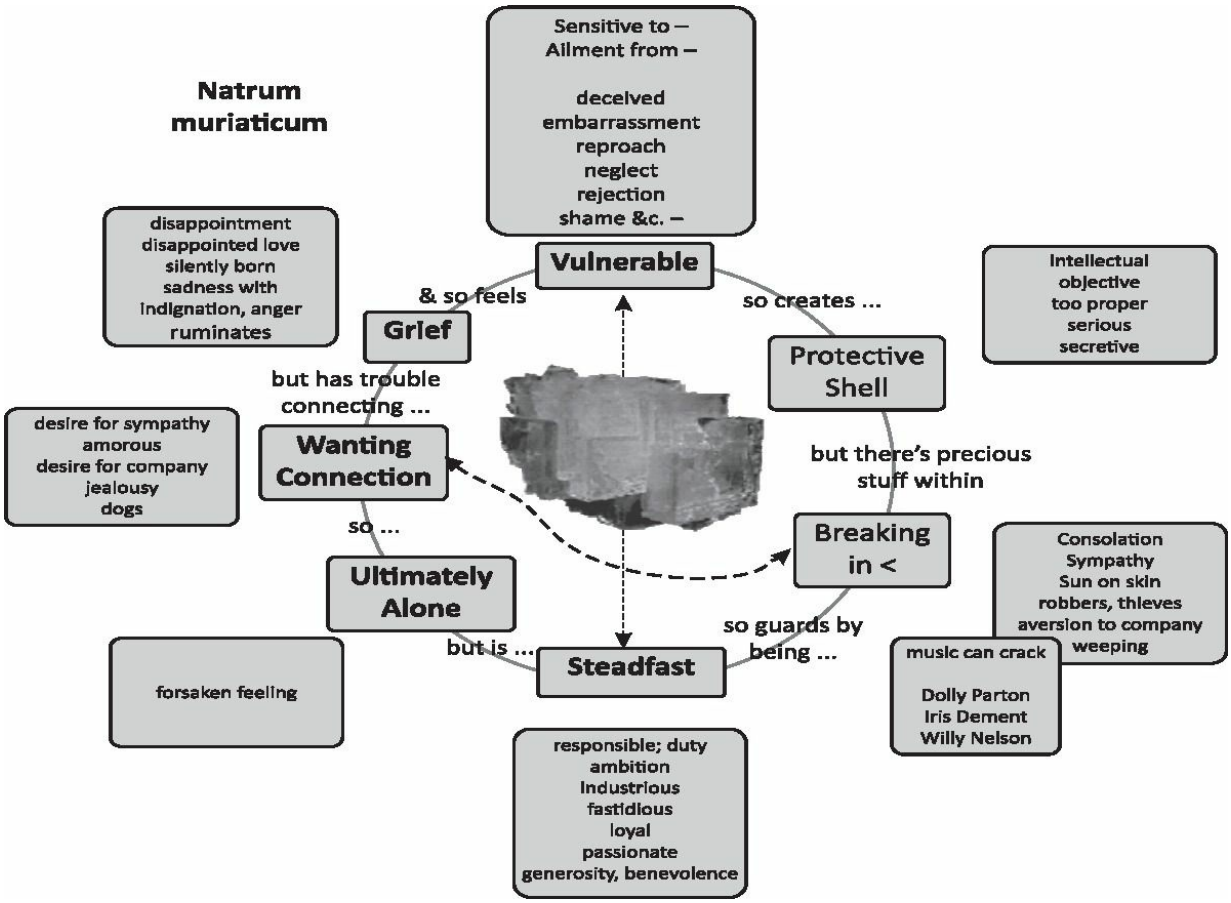


Image Courtesy: Will Taylor

In the typical *Nat-m.* household, a child is not permitted to participate in decision-making, explanations are not given and input from the child is not invited; the child is expected to conform to parental wishes and emotionalism is frowned upon. The family members are not only undemonstrative and unemotional, but also often serious, conservative, proper, moral and principled. To be proper and mature, all emotions must be controlled or hidden–there may be no tears, no fears and no outer manifestations of longing, need, anger or passion. This is a breeding ground for secrecy, deceit, guilt and abuse. In such families there are often hidden and repressed emotions, which despite appearances seethe and smoulder beneath the surface. Sexual abuse, incest and rape are often the cause of severe emotional trauma in *Nat-m.* Their upbringing often leads to walling-up of the experience and secretiveness. They suffer alone, in silence, turning to no one for help and taking on guilt and shame, which can warp their emotional life forever. Often there is a history of frequent quarrels and serious and traumatic

fights with parents, especially at the time of puberty, when the *Nat-m.* ego is expanding and asserting itself. This may lead to grievances that are harboured for a lifetime. The death of a family member, often a beloved and supportive grandparent early in the child's life, can leave profound effects.

They are constantly looking back, often unconsciously, at their past hurts, their grief and their guilt. They cannot forgive others or themselves, they cannot forget, let go or move on; their emotions and their unshed tears crystallise into a pillar of salt, sometimes hidden deep within the unconscious mind, which weighs them down and may crush them, unless they receive a dose of salt in Homoeopathic potency.

If the salt energy of the body is increased, fluid retention results, with lymphoedema, swelling of the subcutaneous tissues; rings that no longer fit and a face that is puffy in the morning; the dreaded cellulite appears; there is unwanted weight gain; sebaceous glands become overactive producing oily hair and a greasy skin with blackheads and acne; watery or milky discharges develop; the blood pressure tends to rise, especially in the presence of prolonged stress and suppressed emotions; and they may develop anaemia. *Nat-m.* is a wonderful remedy for people who abuse the salt cellar, for those who even before tasting their food, powder it liberally with salt. The *Nat-m.* subject may crave salt and take it neat. As a result they often suffer from immoderate thirst and drink prodigiously. Chocolate is another of their fancies, often used to pacify them when tense, or as a reward when they have been through some ordeal. Others simply cannot do without it, despite the fact that it increases their thirst and their catarrh, and may give them a headache. They are very inclined to develop recurrent fever blisters and mouth ulcers. They progressively lose weight even though eating well, and often the weight loss is particularly about the face and neck, which becomes scrawny, and about the shoulders, arms and chest, whilst the lower body may remain rounded and full.

They are also 'the salt of the earth'—often the wounded healer, unable to help themselves, but so able in counselling others. Unable to confide, others readily confide in them, and find an understanding and compassionate ear. They know what suffering is, they have experienced it themselves, and are deeply and sincerely empathetic and give good advice. They feel very responsible for the welfare of others. This sense of duty and service may

extend to animals and even become a global concern for the sufferings of the world. They may sublimate their own grief by caring for others. They disguise their pain by immersing themselves in the pain of those they help. They are able to cry for others, whilst finding it hard to cry for themselves.

They need to appear strong, to show no weakness, but inside they are exceedingly vulnerable and afraid of being hurt. Often there is a history of a broken relationship, a love disappointment. Since that time they have never permitted anyone to get too close to them emotionally. They will even avoid getting into a position where someone might get attached to them. It is not the attachment that they fear, but the outcome, which they anticipate with dread: the end of the relationship, the betrayal, the disappointment, the terrible loss, the grieving and the humiliation. In this we can fully understand the symbolic significance of the 'fear of robbers' in the psychology of *Nat-m.* Their deepest fear is the violation and theft of their emotional trust and happiness; by constantly 'looking back' and by hanging on to the past they seek to protect themselves from the present. Schooled in self-control and the suppression of emotions, they are uncomfortable with sympathy and avoid it lest it should break down their composure and resolve. If pushed it may arouse them to anger. Yet in *Nat-m.,* there is always a silent solicitation for the love, sympathy and nurturing that they possibly never received in their childhood or in their marriage.

Nat-m. is nowadays, the first choice for healing the depressions which don't seem to go away. But, the rubric 'sadness' contains 625 remedies. This leads us to the conclusion that sadness is a really big and important chapter in everyone's life. But why is *Nat-m.* the most prevalent 'sad' remedy? Let's start with the rubric, 'MIND–DELUSIONS–sinking; to be–bridge; stones were sinking under his feet, when crossing a stone'. Sometimes It is hard to find the right words to describe feelings precisely. That is when we use symbols, that one word or picture which gets broader meaning and sends the right message. The bridge is the connection, transition or phase between two elements, activities or states. It is also a firm and stable construction which enables us to reach the other side, without the fear and feeling of insecurity. It spreads across the water- the obstacle which separates people and makes things unreachable. Without bridges, we wouldn't be able to overcome the 'trouble'. [MIND–DESPAIR; MIND–HELPLESSNESS; feeling of; MIND–PESSIMIST]. But only *Nat-m.* has the feeling that the bridge under his feet

sinks. Patient will describe this feeling in various ways. That is the feeling that everything is in vain. No matter how hard we try, even if it is certain to happen, something turns bad and he doesn't believe that he is able to 'reach the other side'.

No one is born with this feeling, but it appears later in life, after many obstacles and failures. It is the consequence of bad experiences in which we classify, personal effort which didn't give us the positive result, broken promises, and circumstances which we weren't able to change. The rubrics which describe these states and emotions are: MIND–DELUSIONS–rocked; one were being–lying down and closing the eyes; when; MIND–GRIEF–deception, from. This rubric conveys that *Nat-m.* feels he has to be conscious and ready for action all the time, because any second he is not fully concentrated brings the risk of someone trying to mislead him.

Lycopodium clavatum

Lycopodium clavatum tends to localise its cancerous affections in the stomach, oesophagus, eyes, lips (especially the lower), uterus, breast, skin, bones and glands. It also has benign growths like styes, staphyloma; polyps in ear, nose and bladder; fungoid growths in urethra; condylomata on tongue, rectum and genitals; warts; hypertrophied prostate; ovarian cysts with dropsy; uterine fibroids and polyps with metrorrhagia.

The persona of *Lycopodium* is always deeply hidden in the unconscious. The charming, extroverted man of honour in the world contrasts with man who terrifies his family with tantrums and explosive moodiness. His behaviour only partially reflects his being; it is mainly a mask that he wears for his own purpose: gaining power.

Lycopodium's major delusion is that he has done wrong, and everything will disappear. Many *Lycopodium* personalities are formed early in childhood and adolescence when they suffer a deep humiliation (e.g. a remark about a body part with an unusual appearance, or an unsuccessful first attempt at sexual intercourse), which damages the frail confidence of the young person terribly. *Lycopodium* makes mistakes, 'using wrong words; misplacing words; giving wrongs syllables; in writing letters and omitting letters'. The punishment for his dyslexia, as well as cruelly being called a dummy, is an exile to the shameful state. Such ailment from mortification permanently stigmatises him

and often paralyses him with a preoccupation with failure, what other people might be thinking of him, and how he will be judged.

Lycopodium's corrective dreams are clear enough, that his boat will be foundering, and of people drowning, the theme expressed as fear of being unable to reach his destination. It is a warning that he will fail in his undertakings despite the bravado he displays (dream theme of failing examinations).

At later stage, *Lycopodium* forms delusions, pointing to the vulnerability and excessive fears that contrast so starkly with his excessive mask, 'delusion, he was about to die; delusion, he is about to receive injury; delusion, he will be murdered; delusion, he is unfortunate and delusion, he is pursued by enemies'. *Lycopodium* has the delusion, he neglected his duty, in spite of that excessive mask and over-preparedness in even familiar tasks. Because of the oversized ego and misplaced haughtiness, he plays the blaming game (reproaching others).

Fear of doing wrong and everything will vanish (fear of failure) and of being 'unmasked' leads to competitiveness and suspicion (he employs every possible means to achieve his ambition), being driven by a love of power. As a result, the unbalanced *Lycopodium* man treats his wife and children horribly, while praising those he can use to increase his social status; contemptuous, hard for subordinates and agreeable and pleasant to superiors or people he has to fear. *Lycopodium* resembles *Nux vomica* in his fear for competition; this is expressed by *Lycopodium's* delusions: 'the house is full of people; he is about to receive an injury and on entering the roam he sees people at his bedside', reflecting his mistrust of others. *Lycopodium* is a prototype of the Thinking-Logos image-bound person, who resists with all his might the integration of his archaic female side, or anima, into conscious life.

His will to control and take charge with a fighting spirit is—the foundation of most of his causalities and compensations. He has ailments from scientific and literary failure, from anger, business failure and from contradiction.

Lycopodium's anticipation anxiety increases at the sheer thought of failure, often paralysing his mind, 'internal anguish, and anxiety in the evening as things are half confused before her eyes; the head becomes benumbed, as if

unconscious. She cannot grasp a thought because her head is occupied by an internal tension. He weeps and cries, at first about the past, then about the coming evils'. This can be a person who fails repeatedly in performance (exams, interviews, etc.) in spite of an excellent mind, real ability and over-preparedness. The moment he has to start, his mind goes blank. A few hours later, he remembers all of the information again. The failures are not due to defective memory, for his mind had remained engaged on other occasions during studying. This performance amnesia can lead to many disappointments and mortifications.

Under confident *Lycopodium* child's life becomes a punishing pursuit of perfectionism; he conceals his mistakes (liar, cannot bear to be looked at), preventing him from getting crucial feedback, and he does not start anything until he is sure of being perfect (undertakes nothing lest he succeeds). Perfection undermines performance, creating potential future depression, anxiety, and even substance abuse.

Lycopodium also had ailments from loss of position, loss of reputation and wounded honour. As the child is a high performer, he excels in school under tremendous a strain; in college, though, many intellectual peers can pierce his balloon of pride; confronting the higher academic level and competition leads to lack of confidence. *Lycopodium* succumbs to the weight of the expectations and the criticism he receives (ailments from scorn, being scorned) when he experiences scientific and literary failure. He is mortally wounded, his whole persona reflects timidity, lack of clarity and authority (lack of character); he uses a soft, cowering voice in the face of an authority figure. Such a persona causes what a *Lycopodium* person fears the most—lack of success in jobs and enterprises, and the disappearance of 'everything'—his power, success, friends, and wealth. Other mortifications may include interference from family or wishing for a girl baby and discovering it is going to be a boy or vice versa. The emotions are easily transferred through the 'psychogenic umbilical cord' to the unborn foetus.

Lycopodium seeks union with the world by exercising power over others, by dominating them through loveless acts. The ultimate result is defeat as such a goal can only destroy an individual's sense of integrity. Instead of pursuing his own course of individuation, *Lycopodium* is dependent on those whom he dominates. He often wins, because he has more than enough brute force and

deception (abusive and insulting, anger from contradiction; anger at trifles; barking; liar), and his shock of white hair evokes a certain respect.

He cares only for his business, not his family, which is a burden (flees his children; contemptuous, hard for subordinates, pleasant to superiors; aversion to responsibility; duty, aversion to domestic duty). The dictatorial *Lycopodium* is interested only in obtaining power and being right, innate vanity is accompanied by loquacity and speaking with a voice of command. He is the one with the most expansive posture, loudest voice, most amplified gestures and emotional displays; power posing. It gives him a sense of action, the ability to pursue his goals without obstruction. *Lycopodium* even attacks a true and forceful counter-argument in the belief that its truth is only superficial (intolerant to contradiction; disposition to contradict). The animus-driven *Lycopodium* does not fight for the truth but to win the battle for his proposition. He is skilled with words (a lawyer) and tries to win his verbal battles by annoying the opponent with repeated injustices, lying, or manipulating the facts, knowing well that once angered, he will be incapable of judging correctly and perceiving where his advantage lies (ambition, employed every possible means; malicious). Every criticism is felt as a hostile attack and he defends himself as he cannot imagine that he can be wrong. The real reason for this ‘easily offended’ behaviour is that he is afraid that others will know his narcissistic self-inflation, which supports his whole existence.

If there is one outstanding common characteristic of *Lycopodium*, it is fear of failure. This child does not like what he is not good at, and he attempts to control his fear by avoiding the activity in which might not succeed. This leads to much awkward and strange behaviour. *Lycopodium* never wants to feel inferior to others in any respect, especially in the intellectual sphere; she is always a victim of her own megalomania. *Lycopodium* thinks he is an expert on everything, and he is ever so susceptible to flattery (flattery, give everything, when flattered); he is delighted being praised. Being praised can lead to feelings of helplessness or self-doubt in the *Lycopodium* child when a setback occurs.

Bossiness (dictatorial; haughty, stiff and pretentious; impolite children; rudeness) is always part of the *Lycopodium* child. It is rather aggressive, rude disruptive behaviour, and the real reason is the lack of confidence behind his

mask. The *Lycopodium* child's parents are often puzzled by the dichotomy in his behaviour, as much as he is a dictator at home, he can be a follower outside of the home among his peers.

When a situation demands responsibility and commitment like marriage (the idea of marriage seems unendurable), a new job, parenting, his true colours come through as he has fear of undertaking something and he flees from his children; forsakes his own children and has aversion to responsibility. Sure, he falls in love with a woman who admires him terribly (praised, loved to be), but in the long run, this is a bad mixture as her submissiveness becomes boring (though it was originally a big boost for his narcissism). Then he needs a new subject to admire him, and the vicious circle goes on as he waltzes from marriage to the next, not unsurprising, with the same 'type' of woman, young, naïve; and pliable. He fears life, and such a man always needs a mother figure who will help him in his struggle to deal with emotion-laden situations. *Lycopodium* has a choleric temperament and thus finds no sympathy with a phlegmatic earth type such as *Calcarea* or *Pulsatilla*, whom he considers weaklings.

Lycopodium, with a dominant animus, couldn't care less about affairs of the heart, but he truly wants to be number one in the business world as he is a boaster, who wishes to be considered rich. He does not hesitate to use the accomplishments of his parents, if they are successful, just to boast about his social status. A dominating *Lycopodium* father wants his child to be like him in temperament and character. He is only interested in seeing how much his child is like him, as any difference is considered a defect or an inferior characteristic. The *Lycopodium* child becomes aggressive with his or her mother and sister, the 'weak' ones, the subordinates with the feeling dominant conscious function (contemptuous, hard for subordinates and agreeable, pleasure to superiors or people he has to fear), reflecting *Lycopodium's* ultimate aversion to women and aversion to family members.

New situations and challenges are scary for *Lycopodium* and evoke his true nature; they release him from his shadow side, and in those moments his superhero persona dissolves, he is 'easily frightened and startled; feels frightened at everything, even the ringing bell'. Fear appears first, before anger, as it is the most primitive emotion—and yet it is the one which is most damaging to the stability of the ego. There is anxiety from anticipation of an

event as he is not able to predict all that can happen to blow his cover. It can even lead to anthropophobia, especially for clowns or other masked figures. Perhaps, he is afraid to find out what is hiding behind the mask of a clown who expresses joy and laughter; people are like him whose emotions don't reflect their expressions.

Lycopodium is mainly an extravert thinking type portraying a self-confident, influential, and powerful person. This is aimed at the object, not at the self, leading to a lack of introspection. As an adult, this extrovert attitude can lead to sexual excesses. If *Lycopodium* fails to obtain the admiration of the woman he has chosen, fear paralyses him temporarily-but fleeing the relationship becomes natural as such a failure threatens the basis for his narcissistic self-evaluation. But *Lycopodium* also fears that marriage is the end of his youth (idea of marriage is unendurable).

Lycopodium's sexual behaviour is of an asocial rather than a social nature, since *Lycopodium* flees from all relationship responsibilities. He goes for one-night stands and uncommitted sex (delusion everything will vanish); due to expectation of immediate pleasure and gratification. Thus, the married *Lycopodium* is the most prone to unfaithfulness in his relationship. *Lycopodium*'s rather debauched sexual lifestyle eventually leads to sexual insecurity (fear he will not reach his destination). Eventually, this anticipation anxiety leads to what *Lycopodium* is so well-known for, 'impotence, penis small and cold and relaxed; feeble erection, strong desire without being able to have an erection in old people; erection wanting after sexual excesses; erections wanting with his wife, premature ejaculation'. *Lycopodium* is also indicated in poor sexual performance in those who are too excited in a new relationship. The sexual performance and fear of failure is only part of his total personality (fears of failure in business, examinations, public appearances, meeting new people, etc.). Sexuality is initially a source of brief pleasure, but often, and sooner than he thinks, it becomes a source of protracted suffering.

Because of the hidden low self-confidence, his intellect has a sharp edge and urgency to it, he uses his education to speak like a dictator with an air of command, and with a manner stiff and pretentious, which serves well in professions like teacher, priest, lawyer, broker, etc. He is full of himself, knows everything, and imagines himself fully informed about world affairs

but also about every detail of his presumed illness.

The well-trained Homoeopath discovers certain traits of an anxious sense of inferiority and the desire to be flattered by others behind Lycopodium's haughtiness. The *Lycopodium* personality is puffed up; Jung called this 'psychic inflation'.

Obstinacy, a positive compensation, at least an attempt to not be confronted by his cyber delusion, is *Lycopodium*'s trouble at concealing his internal obstinacy (psora) and vexation. He is self-willed, passionate and angry. He is obstinate, defiant and even looks for disputes.

Company is the thing *Lycopodium* relies on; as he dreads failing, one often looks for support or company, but only from close and trusted family members since anxiety in others' company increases and there is even weariness of life, particularly in company. If people (especially strangers) come near her, she is immediately attacked with anxiety at the pit of her stomach, reflecting a deep feeling of distrust and suspicion. This reflects the fear that people (outside of the family) will discover the real coward beneath the mask.

Lycopodium tends to have a sallow complexion, often with flushed cheeks and a rather red nose. He is lean, even emaciated about the face, neck and chest. The brow tends to be wrinkled with vertical furrows above the root of the nose. There may be early graying of hair. A peculiar sign is marked coldness of one foot while the other is warm or hot. The patient is ambithermal to hot. Appetite may be capricious with easy satiety. He craves sweets and sweet things, hot meals and hot fluids and savouries. There is a tendency to eat too fast. Cabbage, peas, beans, milk, pastry, onions and oysters tend to upset his digestion. Flatulence dyspepsia becomes an important concomitant with most of the *Lycopodium* complaints. He may perspire on slightest exertion - a cold, clammy sweat with the odour of onion. The symptoms usually tend to be right sided and then extend to the left.

Lycopodium: Golden Tips from the Masters

- If *Lycopodium* does not work, think about *Kali carbonicum*, *Natrum carbonicum*, *Chelidonium* and *China* as backups. They are complementary to *Lycopodium*.
- Primary action is on the liver and secondary action on the kidneys

and genital system
- Dislikes math.
- Quivering fibrillation of alae nasi.
- The brain has developed at the expense of the body.
- #1 remedy for erectile problems with performance anxiety.
- An ‘angel in school, a devil at home’.
- Non-descending right testicle.
- Starts things, does not finish them (postponing everything; undertakes many things, perseveres in nothing).
- It is one of the greatest mental fatigue remedies and one of the greatest unrefreshed sleep remedies.
- < from onions and beans; > after midnight (only remedy)
- Headaches when not eating on time; hypoglycaemia when fasting or skipping a meal.
- Increased and immediate fermentation of food when eating, with bloating below the navel and fullness of stomach after eating so little.
- Dryness of vagina, severe enough to make intercourse impossible (vaginismus).
- Dry tickling cough at night.
- Burning of the soles, sticks feet out from under the covers at night.
- #1 remedy for uremic urinary lithiasis.
- For back complaints where *Rhus-t* fails.
- Major dyslexia remedy.
- #1 remedy for varices in pregnancy, especially when located in the genitalia.
- #1 remedy for intellectual squeal of flu: unable to go back to work after a flu because of intellectual failures (memory, writing, misspelling, unable to read).

Silicea terra

I have used this drug with great success in various cases of malignancy with non-healing, post-operative wounds where the discharge is thin, offensive and purulent, and the pain is better by warm application. *Silicea* has a predominant neoplastic element and covers a very wide range of neoplasms - both benign and malignant. It has a marked affinity for cancer of eyes, nose, face, lips, tongue, stomach (especially the pyloric end), male genitals, uterus,

breast, skin (ulcerative), glands, bones (skull, ear, palate, clavicle, vertebrae and bones of the extremities)–with metastatic lymph node involvement and cancer pains. It is also a remedy for tumours of the eye–staphyloma, stye and tarsal tumours; polyps in nose, bladder and uterus; sebaceous cysts especially on hands and scalp; warts; moles; ganglion on wrist; tumour in the hollow of the knee; fibroids of uterus; indurated parotid gland; recurrent fibroid on neck; hypertrophied prostate; exostoses and enchondroma.

The predominant fixed idea of *Silicea* is that the left half of the body does not belong to her. Symbolically, the left side of the body is the female side; protection (the shield), love for nature and animals, creativity, intuition, emotional nourishment. It is also associated with the moon, night, winter, death, and the underworld, as well as the subconscious. Right side is responsible for action, will, planning, and decision-making. This confusion is present in *Silicea's* sense of identity—she becomes confused, and makes mistakes; she is unable to control herself; she is unsteady and confused in her action, and is always distracted as she imagines to be in two places at the same time. Her state is further confirmed by other delusions or fixed ideas–delusion, head seem to be too large and her body is divided into two parts, i.e., the fusion of the two halves of her body (left and right) has not taken place at the age when it should (from age five until puberty). During this critical transition, *Silicea* struggles to adapt like a moth coming out of its cocoon. The child is obstinate, headstrong, and self-willed, while in the other part there is timidity, about appearing in public and to talk in public and has the delusion, that he is about to receive injury and delusion that everything will fail. *Silicea*'s delusion and dreams reflect the struggle between the independence that this child seeks and the still-present dependence on his family.

The delusion readily leads to secondary delusions about a dangerous world, explaining the *timidity* with which *Silicea* approaches the outside world; delusion, he is about to receive an injury; delusion, she is pursued by enemies; delusion, everything will fail. Another delusion, he has done wrong, reflects his lack of confidence, insecurity in leaving the safety of his home; he is always looking for a secure, familiar person to accompany him (delusion, someone walks besides him).

Nash describes *Silicea* child as 'puny, delicate, with a nearly translucent skin,

face pinched and an old-looking expression', and *Elizabeth Hubbard*, labeled *Silicea* as the 'angel-child'. To an inattentive observer, *Silicea* might seem a spoiled little princess, who is totally unfit for household work; 'egotism; housekeeping, women, unable to do duty, no sense of; and inability to manage finances', as if she were destined for greater royal things. However, her timidity and lack of confidence do not allow her to reach the level of nobility (delusion being noble) of a *Phosphorus* (the queen) or a *Platina* (the empress).

Silicea feels that she needs to fulfill certain expectations that have been imposed on her by someone else (left half does not belong to her). This fixed idea points to a control exerted by someone else; someone else possesses half of her body. This child is told that everyone in the family is bright and that she should be too. This creates anxiety, destroying her self-confidence, as she may easily become over stimulated and experience mental burnout. Conflict between a person's own nature and the demands of her family may create a *Silicea* state. *Silicea* has to live up to a false ego, an ego created by the expectations of others. 'Delusion, everything will fail' becomes reality when he studies too hard and his mind becomes blank, which unfortunately leaves the mind quite unprotected and allows it to be penetrated by outside influences. To live up to the false image, he needs a picture of an alter ego (someone famous, a Superman or James Bond figure) to bolster his confidence. *Silicea* even has pronounced dreams of humiliation, and he has a desire to be magnetised. In other words, *Silicea* is looking for the support, protection, and positive opinion of others because he is afraid he will fail or be injured (delusions, will receive an injury and delusions, everything will fail). Even a bad dream cannot be erased from her memory, (on waking at night from an anxious dream she remained very anxious and her heart beat audibly).

Although *Silicea* is an intellectual remedy (great activity of the mind; great facility of thought and fluent expression), mental work aggravates: 'mental labour is very difficult; concentration is difficult when studying and reading; there is difficulty in fixing the attention; there is confusion while talking; comprehension is difficult, distractedness is always present.' This is because she frets far too much over details (she is conscientious about trifles, remorse about trifles and a sense of guilt about trifles). Mistakes are failures for *Silicea*, and he believes he will lose the respect of others following failure.

Forsaken, feels is not being beloved by his parents, wife and friends. The performance aspect is intrinsic to his view of himself. Although *Silicea* gets confused and makes mistakes, and easily makes mistakes in talking, it has nothing to do with the backwardness (*Baryta carbonica*) but rather with the distraction of mind and over activity of the brain from paying attention to every tiny detail. Since *Silicea* suffers from overexertion of the mind, any additional intellectual challenge can lead to a great fear of failure: fear of failure, in business and in examinations; wants of self-confidence, undertakes nothing lest he fail. Due to his sense of perfectionism, *Silicea* can become a procrastinator. This child exhibits fear of undertaking a new enterprise and there is even a delusion that everything will fail. *Silicea*'s may experience constant vanishing of the senses, and exhibits prostration of the mind from reading and brain fag.

Silicea's lack of confidence becomes especially evident when she is forced to perform; timidity when appearing in public and fear before an examination.

Ailments from fright are additional causalities; in view of his delusion, these should not be surprising. *Silicea* is not the strongest of people either mentally or physically, (ailments from mental work and sexual excesses). This commonly leads to obstruction in *Silicea*'s maturation and individuation process, leaving *Silicea* with a rather infantile ego. Even someone with a well-functioning, self-confident ego, like *Sulphur*, cannot control everything that happens in his world; this is certainly true for *Silicea*, who often drifts aimlessly and insecurely into his outside existence because of a lack of firmness and spine, also sometimes called cowardice.

Silicea has a keen intellect. A sense of physical weakness during *Silicea*'s early childhood years often results in feelings of lack of confidence and timidity appearing in public (*Lycopodium*). *Silicea* has the tendency to compensate for her physical weakness by placing greater emphasis on her mental potential. *Silicea* children impose perfection upon themselves (*Carcinosin*) and are often too serious.

Silicea is a person with an excessive persona or mask. At home this child appears willful and outright hard towards those he loves (parents and siblings), but the true persona is one of extreme timidity when he appears in public; *Silicea* is deathly afraid; delusion, about to receive an injury. She often utterly lacks self-confidence and self-assertion—spineless; lack of

character and want of grit, moral or physical. Therefore, *Silicea* expends a great deal of effort in order to create and maintain a compensatory image. Social anxiety, the distress felt over being evaluated and observed by others, is especially painful for the person in a *Silicea* state. This person is like a huge blown up balloon that can be deflated with one needling remark (she is easily offended, and takes everything in bad part; delusion about needles, about pins, symbolic!). Hence, there is a tremendous fear of failing in performances, especially when she is away from her home; 'timidity appearing in public, and the delusion, everything will fail as well as anticipation about an engagement'. Even the stool of the *Silicea* child is timid and bashful (constipation from activity of the bowels and stool remains long in rectum). The stool when partly expelled recedes again; stool that has already protruded slips back again.

Silicea's preoccupation with trifles may lead to overt obsessive-compulsive behaviour and fixed ideas. The *Silicea* person checks and rechecks her work; pays great attention to details, fears that her work is not good enough, leading to guilty feelings (remorse about trifles). She does not trust herself, and so must recheck everything.

For the *Silicea* child, the fear of failure can be felt before beginning any task, whether it is a little one like cleaning up his room or a more demanding one like doing homework. *Silicea* can be very fidgety during performances at school because she is too conscious of the impression that she is making-over anxious about himself ailments from anxiety, fear and restless and fidgety, startled at the least thing, especially from noise. Fear of failure applies mostly to *Silicea*'s performance in public, where she feels less shielded than at home. No wonder *Silicea* postpones everything till next day and has ailments from anticipation. She wants to protect her image, not only in the eyes of other people but also in her own, by paying attention to detail, by maintaining excessive order, and by becoming overly fastidious. Her failure translates into humiliation, especially when she is contradicted.

Silicea's defence mechanism is to project hardness in order to keep up her image; such a child has–'irritability after consolation; irritability and peevish mood, easily getting out of humor; everything frets her and makes her peevish; she shows inquietude; ill-humor on the least provocation, a disposition to fly into a rage; the child becomes obstinate and headstrong but

she cries when gently spoken to'. *Silicea* can even become violent when contradicted; intolerance of contradiction; she has to be restrained from committing violence. This contrasts sharply with the angelic behaviour this child often demonstrates at school.

Silicea's obstinate defensiveness also gives way to another form of hardening —a local hardening, or indurations. This focal hardening is found in *Silicea*'s proving symptoms; *styes, hard cysts, glands, calcifications, and hardening of the breast muscle,* hardening of the left breast; the right breast is hard, painful and swollen at the nipple; and induration of the axillary glands. Another pathology related to *Silicea*, the fistula, reflects *Silicea*'s unyielding, stubborn, and tenacious character. A fistula penetrates tissue, creating a tunnel that brings the interior process to the outside (generalities, fistulae, caries of tibia and fibula). Lung fibrosis is another form of induration; chest, inflammation, lungs, neglected; and chronic neglected pneumonia, passing over into suppuration. Keloid formation is another local hardening that responds to *Silicea;* multiple keloids which appeared after excision of a tumour. While the above physical expressions are sycotic manifestations, it may be noted that *Silicea* is a strong tri-miasmatic remedy. Longing for home, sensitive to noise, great anxiety, disposed to weep, inclination to startle, itching on a hairy scalp, oppression of stomach after eating, very sleepy after eating, sour eructations, and bashful stool are some of the psoric expressions.

The same hardness is seen on the emotional plane. While the timidity, yielding, gentleness and self-consciousness of *Silicea* are well known, this other hard side is not as familiar–Defiant; consolation, kind words aggravate; egotism; when crossed has to restrain himself from doing violence. This hard side is the compensated state of *Silicea*, the behaviour that *Silicea* adopts to protect and shield herself from the world. Induration can occur on the mental level as well. *Silicea* is well known for fixed ideas (pins, counting; delusion, head is too large; delusion, body is divided).

In spite of outwardly hard conscious behaviour, there is a lot of fear in *Silicea*'s dreams, well hidden to keep up that image of strength–dreamy, being pursued by wild; animals, cats and dogs, ghosts (only Sil); dream, animals, thieves, and ghosts; half-awake dream, as if innumerable spirits wanted to seize him; when he woke up, he could not move a limb, and lay in

a sweat with great anguish and palpitation, dream that he has to die. *Silicea* also has some pleasant dreams, amorous, vivid and enthusiastic, dreams of a loathsome, repulsive character, lewd dreams and strong sexual impulses; lewd dreams and emission of semen; these dreams reflect the opposite of the conscious attitude.

The *Silicea* patient is sallow, sickly, shivery, and sweaty with a large head and a prominent belly. Chilliness predominate the picture. Appetite is poor. There is craving for cold food and cold milk. Excessive thirst is the rule. Perspiration is profuse on head and feet; and there is coldness of hands and feet. The remedy has a scrofulous diathesis, hence its importance for glandular involvement.

Silicea: Golden Tips From The Masters

- Sea sand (*Silicea marina*), mainly composed of *Silicea*, is a great remedy for constipation and suppuration of glands. *J. H. Clarke* prepared it from sand from the beach, *'just as it was left by the tide'*. Unlike *Silicea* terra, he advised us to use it where *Natrum muriaticum* symptoms are present in a *Silicea* case, especially in cases of constipation since both remedies are of great value in such a condition.
- *Compton Burnett* ('Dr Gout') recorded a case in which a boy was eating sand at the beach in spite of his parents having forbidden it. Burnett told the parents to let him do it. The boy kept eating the sand for 14 days, during which time his health vastly improved. After 14 days, he neither craved nor ate sand any longer.
- *Silicea* is the Homoeopathic surgeon: it can open ripe abscesses and to remove splinters; used in abscesses after. *Hepar sulphur*, which helps and expedites suppuration, to open the abscess without causing scars.
- *Silicea* is excellent for *unresolved pneumonia*, for a chest with prolonged coughing and catarrh that doesn't clear.
- Acne in face with nodules under the skin or with small scarred holes.
- Children with big head, thin legs and small, full, and round abdomen.
- Delayed development in children.
- One of the main remedies in asthma for children because of lack of stamina.

- *Silicea* represents image, refined nature, firmness in family, timidity towards strangers, magnetisation by family, local hardness, and struggle between yielding and firmness.
- Constipation < when travelling *(Nux vomica, Lycopodium).*
- Heat makes her sick, yet she wants it; suffocation in a warm room, > in open air.
- Very useful in diseases of the bone with fistula, caries, and necrosis.
- The child always wets the bed during the first sleep *(Nash),* also *Sepia officinalis.*
- *Silicea* hates wind and always covers ears and head with a hat.
- Great indication for sweaty feet and hands; sweat drips from their fingers;
- #1 remedy for suppression of perspiration from the feet.
- #1 cold food although they are chilly (lack of vital heat).
- Remedy for seizures after DPT and #2 after *Thuja* for ailments from vaccinations.
- Craving for heat.
- *Mercury* and *Silicea* are inimical.
- Always use *Hepar sulphur* as an intermediate! (*Merc—Hep—Sil*)

Phytolacca decandra

There are two sides of *Phytolacca*; the first is the ‘gloomy and apathetic’ state; in this state, patient has no motivation, no ambition, which is further characterised by the symptoms - indifference and apathy in the morning on waking, indifference and apathy to business affairs, indolence in the morning, loathing, moaning, weary of life and groaning in the morning. It is so unique that even though *Phytolacca* is a marked anti-syphilitic remedy, most of its mental symptoms are worse in the morning on waking.

The other side is that of ‘restlessness and fear’ characterised by fear of death, restlessness and nervousness at night.

It is my observation that *Phytolacca* patient always wants to move from one place to another, during an attack of neuralgia. Also the patient is very self-centred, thinks only of his own comfort and money, just like *Arsenicum*.

The patient is extremely sensitive to pain, even slightest pain is unbearable.

Occasionally, the patient goes into delirium when they may expose their body. Dr C. Hering mentions that these patients cannot be persuaded to take nourishment and also a very common habit in patients requiring *Phytolacca* is to press and bite the teeth together. The period of lactation is a traumatic one. Milk dries up early due to exposure to cold damp weather. The milk is bad, thick and lumpy. Nipples are excoriated, fissured and extremely sensitive so that nursing causes intense pain that radiates all over the body. Menses are too frequent, too profuse and painful. There is characteristic increase of tears, saliva, bile, urine and other secretions and inflammation of breast during menstrual period. Leucorrhoea is profuse, thick, and tenacious from swollen Bartholin's gland. Some clinical observations are:

1. Affections of the breast, especially right.
2. Bluish red discolouration of the affected part.
3. Hard and painful nodes.
4. Obesity with rheumatic complaints.
5. Easy vomiting every few minutes with violent retching (during last stage of hepatic metastasis)
6. Chronic hepatitis with continuous urging to pass stool.
7. Disposition to warts, boils, lipoma.

The following pathology fits into the drug picture, hypertrophy, abscess, fistulae, tumours, cancer.

All the above pathology is characterised by sensitivity to pain; aggravation at menstrual period; hard painful nodosites. Even old scars and cicatrices when they break open one should think of *Phytolacca* along with drugs like *Graphites, Silicea*, and *Thiosinaminum.*

Phytolacca is indicated in pains of cancerous affections, which are electric shock like pains, appearing suddenly and disappearing suddenly. It is frequently called for in tumours of the breast, with enlargement of the axillary glands; the breast has a purplish, streaked appearance and the pains radiate over the whole body.

Graphites

Graphites is suited to persons who have a tendency to put on unhealthy fat and are extremely chilly. Women with earthy complexion; women having

history of skin disease in the past especially at the ante-cubital region, popliteal fossa, margins of scalp, behind ears, around vulva or vagina, which were suppressed by using cortisone ointment.

Whenever you come across a patient who has prolonged grief or chronic fears at the mental level and at the physical level suppression of skin eruptions by application of strong ointment, or lifting heavy objects (severe physical exertion for prolonged period), and then during their life they develop benign or malignant growth of the breast, *Graphites* is indicated. *Graphites* is also suitable for those individuals who have tendency to grow cystic tumours, wens, etc.; in short this drug truly exhibits cancerous diathesis. It is especially indicated in breast cancer that develops from old cicatrices formed after repeated abscesses in breast. Also whenever there is suppuration within the breast which heals by formation of hard scars, *Graphites* is of tremendous help. The nipples are aching, sore, bleeding with oozing of thick glutinous fluid which forms a crust. As the mammary glands are enlarged, hard and full of scar tissue, similarly the ovaries are enlarged, tender, hard, painful, worse before or during menses. Left ovary is usually more affected than the right.

The malignant tendency of *Graphites* is also seen in uterus with cauliflower growths characterised by severe lancinating pains radiating down the thighs. Due to the size of tumour (ovarian or uterine), the woman may feel heaviness at the site of tumour, either left of right iliac fossa, or hypogastrium.

The mind in *Graphites* is dull, heavy and slow to understand. Concentration is difficult and if they exert, they often become restless. They are discontented with their lack of normal mental function. Intellectually, these patients are not too bright either academically or professionally. They lack that confidence and zest to come up in life. You may call them happy-go-lucky type. It is hard for them to decide little things (irresolution) which further explains their timid nature. One can also describe the above state as an inborn tendency to weariness and tiredness with absolutely no inclination to work. They do not have any hobbies which take them out-doors. One may also come across an individual of highly intellectual type who during the course of illness develop inability to apply the mind, dread of normal work, anxiety, and restlessness.

Graphites can also be a very anxious remedy, nervous at trifles, anxiety at

night, anxiety from doing fine work, anxiety about the future, guilty with internal anxiety, etc. They are full of fears and are frightened easily; especially fear of any calamity and misfortune. Whenever they are passing through any frightful situation they may develop physical symptoms. Such patients, when they visit the doctor for their problem, immediately think of death even though the disease is functional and not organic. Extreme fear may lead to tearful mood and they weep very easily especially in a musical atmosphere. They are tearful during their menses and weeping ameliorates their physical symptoms. Even organ music, crude and simple and rather harsh, makes her cry, but no doubt it is this type of music that resonates with her mood, just like classical music does the job for *Aurum* and *Natrum muriaticum*. But any other kind of music aggravates. The only tool or reaction that comforts a *Graphites* person is weeping; *Graphites* does not know why she weeps; the only thing she knows is that she feels better after weeping, and music will always make her weep and improve.

Nature is another consolation; by way of contact with nature *Graphites* tries to connect to the Earth. While we cannot expect mental and refined work from *Graphites*, she does like to get her hands dirty in the soil, as if to reach out to something that resonates with her; indolence, aversion to work, air, in open, ameliorates.

The ‘Cyber delusion’ of *Graphites* is, ‘everything is strange, familiar things seem strange’. It means that the *Graphites* person is confused and in a daze (cobweb sensation in face), not recognising familiar things, and never feeling surrounded by familiar things or persons. It reflects a sense of isolation and density. In Jung’s typology, *Graphites* would be an introvert sensation-feeling type. Some of *Graphites* characteristics are roughness and hardness, which might be contributing to this sense of strange and unfamiliar surroundings. This roughness and hardness makes it difficult for external stimuli to get through the filter of the ego, and since *Graphites* is a sensation type, this person needs to feel, i.e., sense first what the object/subject is before they can explore it further. This rough outer shell makes it difficult for *Graphites* to connect to others.

Having feeling as his secondary conscious function, and with that feeling remaining somewhat primitive and leading to hysterical behaviour, it is difficult for *Graphites* to deal with the delusions pertaining to health which

always seem to preoccupy his mind–‘delusion, of having a heart disease’ and ‘delusion, being sick’ at times overwhelm this confused person, leaving him at a loss as to what to do about it (irresolution). Withdrawal into the unconscious is expressed by the ‘delusion, of water’ as well as ‘delusion, sees dead persons’ and ‘delusion, of fancy illusions’. Water in dreams is a relatively fixed symbol for the unconscious, the feminine, the eternal Mother, the womb, or protection for the person. *Graphites*, being the complement to *Calcarea*, has the same need for the Divine Mother’s protection, which without he feels very vulnerable inspite of the rough, hard shell—which is also similar to *Calcarea*.

It has ailments from discords between chief and subordinates, and more notably, discord between one’s friends or parents (also think *Magnesia muriatica*). This is even more important for *Graphites*, a pure carbon, which means that home, friends, parents, and the stability of the family are a source of support and safety for *Graphites*. Discords are a great source of grief and anticipatory anxiety (especially fights between parents) which transform her familiar surroundings into a strange, hostile, and scary place where she can no longer thrive or find peace and security.

Graphites is inert or sluggish during the day but active, restless and nervous at night. Being ‘besides herself from anxiety, discouraged with anxiety and anguish’, *Graphites* is held like prisoner during the day. There is ‘anxiety about trifles; preoccupied with trifles’ on waking up (anxiety on waking; easily frightened upon waking), she does not want to wake up from her dream world to a strange environment, one that is confusing and puts so many requirements her. Sedentary employment and sitting increases her anxiety; she is too occupied with trifles to do any groundbreaking task (averse to business with dread of mental work and indolence; although sometimes very intelligent, mental or scientific work fatigues). Not much gets during the day, as this restlessness while at work disrupts her concentration with dashes to the refrigerator for ‘emotional’ food (excessive hunger). *Graphites* students are like *Medorrhinum* students—they operate mentally best at night but forget everything in the morning, which makes them fearful and irritable (full of fears in the morning). Of course the mental excitability at night will also prevent her sleep. This is especially because the thoughts are not always pleasant or stimulating, but rather depressing ones ‘at night, thoughts full of care, from which she could not free herself and which were

so distressing that the blood became excited, and she could not sleep the whole night.

Emotionally, the *Graphites* patient tends towards depression or sadness. The pure *Carbon* has only one world—his own little space; *Graphites* is not found in the rubrics ‘care full of’, for others or relatives. Eventually, these emotions lead to the typical *Graphites* depression. Some only think of death and salvation. Sometimes they feel a pressure in the chest with the sadness. Prior to depression there is a state characterised by emotional instability and changing moods. In domestic and day to day life they are difficult people to tackle as they grieve over slightest occurrences; become depressed over trivial matters. They also get irritable very easily especially when spoken to. The older individuals remember all the events of youth but recent events are forgotten. Depression from over worry about the simplest things and excitability about trifles. Grief about the slightest occurrences, even to despair and sadness with thoughts of nothing but death. Her dullness in the head, her weeping without a cause, and her irresolution all lead to a dull depression.

The only favourable thing about *Graphites* depression is that, because of her blandness and thickness, she never goes into a very deep depression like *Aurum*. Rather she lives to a ripe old age without degenerating into any deep mental pathology such as dissociation of the personality. From there, the secondary delusions are rather infrequent; her lack of comprehension does not produce them, and *Graphites* remains stuck in his cyber delusion.

Graphites: Golden Tips from the Masters

- For gastric and duodenal ulcers relieved by food or drink and by lying down.
- Predisposition to skin eruptions alternating with duodenal or gastric ulcers.
- Premenopausal remedy with onset of weight gain (unhealthy corpulence), uterine fibroids, perspiration, profuse acrid leucorrhea coming in gushes, and low sex drive; *Graphites* is to menopause what *Pulsatilla* is to puberty.
- Sterility due to hypofunction of the ovaries.
- Cancer regrows in scars—saucer of mammae, cancer in old cicatrices of mammae.

- #1 remedy for keloid scars.
- Restless feet and legs, even hours after retiring. *Graphites* is in deep sleep but rubs his legs.
- Eczema with sticky honey yellow discharge (glutinous) and cracked skin, especially behind the ears, bends of joints and eczema capitis forming massive, dirty crusts which mat the hair. Eyelids of babies are stuck together in the morning.
- #2 remedy for impetigo and intertrigo (*Antimonium crudum* #1)
- *Graphites* is the *Sulphur* for women!
- Aversion to fish, salt, and sweets.
- *Nux vomica* and *Graphites* are the best indigestion prophylactics.
- Constant constipation in obese people (*Calcarea*)
- Great remedy for anal fissures. (*Ratanhia*)
- Sense of smell abnormally acute. (such as for flowers)

Thuja occidentalis

Thuja occidentalis is a deep-acting remedy and can also be used as an intercurrent. It has a marked affinity for the pathological processes of hypertrophy and hyperplasia–which gives rise to benign and malignant neoplasms. It has an affinity for cancer of the eyes (especially epithelioma of the lower lids), lips, tongue, penis, scrotum, prostate, uterus (body and cervix), vulva, larynx, mammae (with bleeding), and leukaemia—all associated with cachexia. Among the benign tumours, it has an affinity for warts and condylomata at various locations; nodes on the head, face and tongue; styes; staphyloma in the nose; polyps in the ear, nose, bladder, uterus (with metrorrhagia), vulva, and larynx; cysts in the ovary and the cheeks; fibroids of uterus; fungoid growths in urethra; and fatty tumours on the nape of the neck.

A heavy trunk, short neck, thin limbs, waxy greasy skin and irregular teeth are listed as characteristics of the *Thuja occidentalis* subject and a sickly look in general. Excessive hairiness will be present in women with a growth of a moustache and dark hair on limbs. Obesity may be present. Movements tend to be unnaturally active and hurried. Hands are cold and clammy to touch. Speech is either hesitant or hurried.

The *Thuja occidentalis* subject is unduly chilly and may shiver all over on

exposure of the body even to warm air. There is craving for salt and preference for cold food; there is dislike for raw food and potatoes ; and intolerance for onions. Thirst is not marked. It is said that fluids when swallowed, drop into the stomach with a gurgling sound. The sleep is disturbed by anxious, amorous, sometimes frightful dreams, often of falling from a height. Profuse sweat occurs on uncovered parts only. It may be of service at times in acute conditions. It should be considered when there is a history of gonorrhoea or herpes. Other aetiological factors pointing to the possible use of *Thuja occidentalis* in cancer are: vaccination with severe reaction, reccurrent vaccinations, serum injections, and excessive tea drinking.

The predominating feature of the sycotic mentality is the tendency to make a secret of everything. A sycotic individual will use cunning and guile to cover up all traces of his degenerate behaviour and unhealthy appetites. He is dishonest and deceitful and thinks that others are also of the same mentality. He is destitute of all love and affection for others, and believes that people are out to get him; he is suspicious of everyone, friends and colleagues alike, and changes doctors frequently because he has no faith in any of them. The other fundamental aspect of this sycotic remedy is a dull and sluggish mind. *Thuja occidentalis*' innate selfdistrust is reinforced by a characteristic mental confusion and weakness of memory. He is, consequently, painstaking in his work (Conscientious about trifles) to the point of fanaticism. The vital force of the *Thuja occidentalis* patient is so deranged that he is tormented by feelings of guilt (Anxiety, conscience, of), restless uneasiness and hostility towards a world whose abundant goodness and love he cannot feel. He is torn between the desires of his lust and the dictates of his conscience, between the satisfaction of bodily needs and the nurturing of the spirit.

Thuja occidentalis is incapable of reaching out emotionally to other people. His sense of himself as an isolated being produces almost all of the symptoms of delusions and hallucinations. His fear of being caught or found out is expressed by the fear of strangers, of being approached and of being touched (Insanity, touched, will not be); he fears that his life is threatened by a serious disease (Fear, disease, of impending) or an attack of apoplexy (Fear, apoplexy, of) and that he is about to die (Delusions, die, thought he was about to). The *Thuja occidentalis* adult, however, is so enigmatic and secretive that it is impossible to know what he is thinking. He is driven by restlessness and

a compulsive need to keep himself busy, to assuage the inner turmoil and anxiety. Like *Nux vomica*, *Lycopodium* and *Sulphur*, when *Thuja occidentalis* is healthy he devotes his whole life to his work with great enthusiasm and dedication. Although he is not at his best in the morning, as the day goes on he can be pleasant company, especially in the afternoon. Despite his poor memory, he is self-assured, self-sufficient and quick witted.

As pathology advances, the mental faculties become weaker and he begins to lose his memory. He becomes absentminded, especially in the morning. His lapses of memory are selective; his work suffers, he forgets what he has just done, what he is about to say and has difficulty expressing himself. He makes mistakes in speaking and writing, misplaces words, omits letters, syllables and words, and uses the wrong words. His mind is distracted by all the fixed ideas (Thoughts, persistent) that go round and round in his head, and he finds it impossible to concentrate on anything for very long.

'Anxiety, future, about' with an inexplicable, indescribable anguish that torments him entire day and night, and makes him morbid and introspective. He becomes disillusioned with the life he has led (Loathing, life), and bored with the eternal secrecy and subterfuge; and he begins to hate himself (Reproaches, himself) for all the lies and manipulative strategies he has used in the pursuit of his pleasures. He feels so depressed about himself and his life that he wants to shut everybody out and hide, even from people he does not know. He develops a distinct aversion to strangers. In the depths of his depression, he loses all interest in everything. He lets no one comfort him; kind words only add to his unhappiness. He cares for nothing and nobody, especially the company of women, a symptom that covers up his sexual inhibitions and indicates his potential homosexuality. Music is the only thing that rouses him, although it exacerbates the depression and makes his feet tremble the symbolic crumbling of the idol with feet of clay.

By now, he has reached the limits of his endurance and his problems weigh heavily upon him. As conscience wrestles with desire, his anxiety level increases. He is tormented by uncertainty and guilt, convinced that he is to be condemned to all eternity for his sins, and turns to God with a desperate prayer for the salvation of his soul. In the final stages of his decline, his 'folie de doute' pushes him ever nearer to the brink of suicide.

The following points summarise the picture of *Thuja occidentalis:* mistrust,

secrecy, ritualistic behaviour, guilty conscience, inner duality, positive aggression, negative aggression, mental deterioration, turning inwards, sensitivity to music, suicidal despair, dreams.

There is sadness and loathing of life, in *Thuja occidentalis*, and as Talcott has said “It is called for in mental depression and apathy, with desire to be left alone, when this frame of mind follows direct and personal knowledge that the way of the transgressor is hard.’’ There are fixed ideas in which unworthiness to live occupies a prominent place and great emotional sensitiveness and weeping, or as frequently found, with ill humor. It may be that he thinks he is “under the influence of a superior power” (Hering), that his soul is separated from his body , or that strange people are standing by his chair or bed.

The main action of *Thuja occidentalis* is on the genito-urinary organs and on the skin. It produces symptoms closely allied to the sequelae of Gonorrhoea, and in some degree, to those of syphilis. It is one of the remedies to think of where a pre-existing venereal disease is suspected as being at the foundation of the trouble that the patient complains of.

Thuja occidentalis has vertigo on closing the eyes, with relief on opening them. The headaches of *Thuja occidentalis* may have a nervous or syphilitic origin and are often associated with soreness of the scalp so that the patient “cannot rest head on the pillow” (Hering). The pains are worse at night and a characteristic sensation, which may be constant or transitory, is as if a nail or wedge were being driven into the head by way of the temples or vertex, and relieved momentarily by touch or “by rubbing” (Hering). There are warts or condylomata about the anus, often associated with fissures, and especially with moisture around the anus, or excessive perspiration on the perineum.

The urine is high-coloured and strong-smelling, with weak expulsive power in the bladder and frequent interruptions of the stream, or a sensation as if a few drops of urine ran down the urethra, after micturition, a dribbling from the urethra not from the bladder.

In an old Gonorrhoea it is to be thought of when associated with inflammation of the prostate, which prostatic involvement may be the cause of the chronicity. It is of great value for repressed Gonorrhoea, with inflamed prostate or with rheumatism.

Thuja is of value for chancroidal ulcers and condylomata on the genitals of both sexes.

The left ovary is especially affected, either as an acute inflammation worse during menstruation and Lilienthal has said “all symptoms” under Thuja are “worse during menses,” or as a chronic inflammation following Gonorrhoea. Lippe has told about the menstruation of this remedy being preceded by profuse perspiration.

Thuja occidentalis is useful for uterine polypi, bleeding easily and with severe pain, and for prolapsus of the uterus, worse when driving, and accompanied by great pain in the back. It is of value, as a palliative at least, for epithelioma of the vagina and uterus, for cauliflower excrescences on the cervix, and for warts about the vulva, with extreme sensitiveness of the vagina, especially on coition.

Thuja occidentalis is of value for polypi of the vocal cords (it is the only one so spoken of in the Handbook), and it is to be thought of for cough coming on immediately after eating.

It has been used for lupus and for varicose ulcers but it is of especial value for fungoid excrescences on various parts of the body, for warts and condylomata that come in crops, are fissured and bleed easily. Hering has spoken of *Thuja occidentalis* in this connection as “A surplus of producing life; nearly unlimited proliferation of pathological vegetations, condylomata, warty sycotic excrescences, spongy tumours; exudates organise hastily; all morbid manifestations are excessive, but appear quietly, so beginning of diseased state is scarcely known”.

Hughes has said that Hahnemann recommended—“in old cases the larger excrescences be touched once a day with the tincture,” provided, of course, that *Thuja occidentalis* was the internal remedy.

Lachesis muta

Lachesis muta a constitutional remedy of the first order for the pre-cancerous and cancerous stages, especially so in the females approaching the fifth decade, following a period of glandular and circulatory disturbances affecting the thyroid, ovaries and liver. These disturbances are often accompanied by vertigo, flushes of heat palpitation, general hyperaesthesia (cannot tolerate

anything tied around the neck, chest or waist), and often arterial hypertension. If there is bloody discharge present, it ameliorates the patient (especially the menses). If on the other hand there is cessation of the discharge, the condition is aggravated (menopause). There is susceptibility to either extremes of temperature but especially to heat.

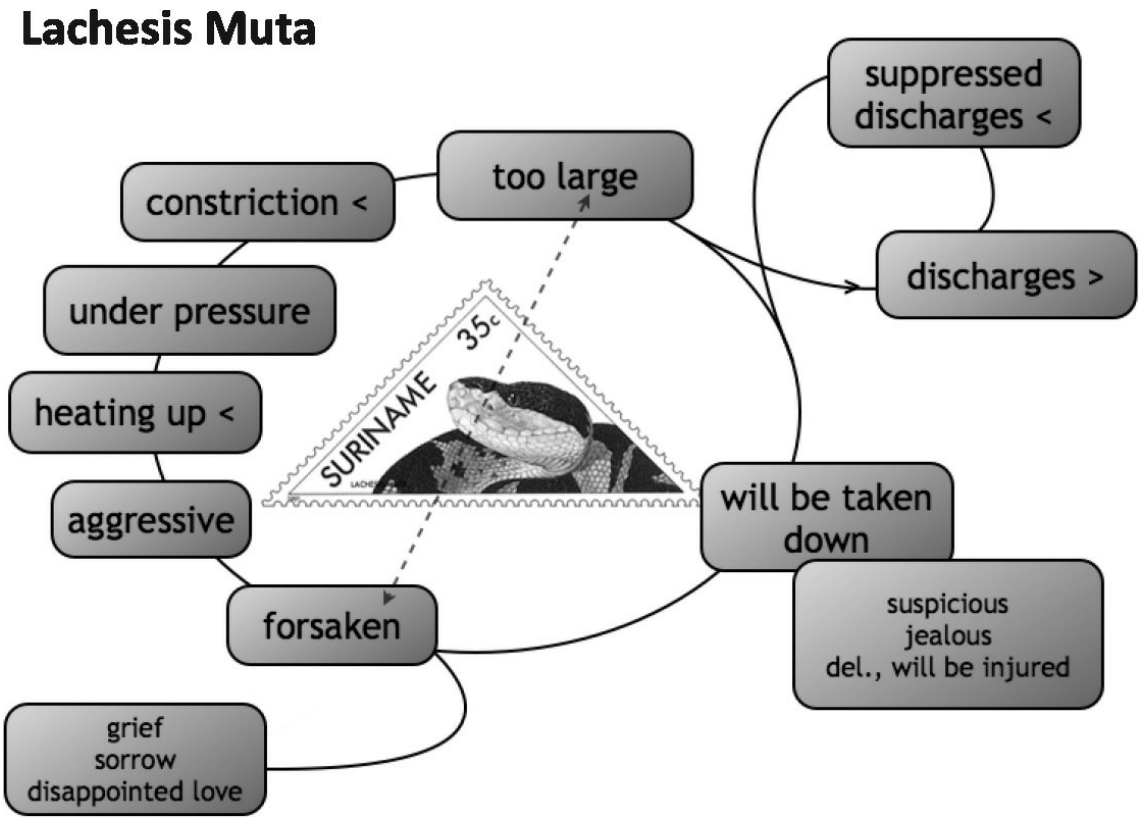


Image Courtesy: Will Taylor

Lachesis muta has a greater affinity for malignant than for benign growths. It has a strong affinity for malignant ulceration of skin and mucous membranes with easy bleeding–the blood being black, fluid, offensive, and with purplish discolouration. It has within its range cancer of face, buccal cavity, lips, tongue, stomach, liver, ovaries, mammae (with bleeding) and larynx. It also has an affinity for tumours of bones (especially vertebrae); nodes in urethra, neck and face; styes; and sebaceous cysts.

Lachesis' major delusion is, 'about to receive an injury from her surroundings' and 'she is being injured and wronged'. There is suspicion, restlessness, anticipatory anxiety and hypersensitivity (offended easily; sensitive to criticism). Other delusions include: he is persecuted; he is

pursued by enemies, and he has been poisoned; imagines enemies, who are trying to harm him, and there are robbers in the house and he wants to jump out of the window. The latter delusions often follow the primary delusion and give rise to an advanced mental-emotional pathology, like schizophrenia.

Lachesis muta responds to the delusions with very violent reactive fears. The idea of persecution issues stems from a relationship infected with mistrust. Any small acute circumstance, insignificant gesture or word can produce the grossest misjudgments (believes himself intentionally injured by his environment, and attaches the most hateful significance to the most innocent occurrences). Awash with anticipatory anxiety and jealousy, when *Lachesis* meet with a mishap, during the first moment of anger, they conclude that they have been deliberately injured or insulted (delusion, she has suffered wrong; delusion is injured by his environment); they interpret neutral and 'negligent' actions (like a delay in answering an email, in text) as intentional slights; meant to be harmful to her. Seeking constant reassurance from the beloved, that they are loved, they do not trust what they are told. They shout, *'so it is not coming from your heart!'*; it is maddening to deal and live with these personalities.

Anticipatory anxiety, anger, and all-consuming jealousy can lead to serious organic disease, given the correlation between coronary health and such emotions as these. Patients possessed by such high-risk temperaments, quick to anger and fast to explode, are represented by the archetype of a jealous boyfriend or a vengeful boss (after a jealous quarrel, she put both her hands to her chest and cried out, *'oh my heart*!*'* Then she fell down and was in an asphyctic state for nearby twenty four hours; no pulse could be felt, breathing was hardly perceptible; delusion, is going to have a heart attack and die). Cardiovascular problems increase proportionally to the level of anger and jealousy.

People with paranoia have often feelings of grandiosity and omnipotence. *Lachesis* is convinced that he possesses remarkable talents as a prophet, scientist, lover, and sportsman. *Lachesis* considers himself attractive, irresistible, inspired, and envied by everyone. Delusion that he will be sent to the asylum and that the medicine is a poison.

Lachesis can have fear of deep water, dogs, and unknown people; he shows great anticipation anxiety (delusion, he is going to be injured by his

surroundings; fear of death). Hypervigilance is also expressed by high shrieks when the child comes into a new situation such as entering a new doctor's office or a new school.

When it comes to Jung's conscious types, *Lachesis* is most frequently the extravert thinking intuitive type. However, under the influence of triggers (especially from ailments from disappointed love), he can easily become introverted, switching from loquacious behaviour to taciturn behaviour (repugnance to society and dislike to talk). *Lachesis* has excitement and liveliness in the evening, a kind of fanciful imagination; he sits up late at night at mental work, with great activity.

Through his intuitive function, he taps into the unconscious, even to the extent that he feels guided by a godlike figure through which his inspiration comes. Delusions of grandeur, of omnipotence, and of being possessed are the result; delusion he is charmed and can't break the spell; delusion, he is under a powerful influence; delusion, of higher power; delusion, he is some other person and delusion, he is under superhuman control; two wills, feels as if he had; delusion, she is some other person; delusion, hears voices that he must follow and confess things he never did and that she must kill and steal.

Ailments from grief and disappointed love play a great role in the pathology of *Lachesis* (chronic complaints after long lasting grief or sorrow). *Lachesis* has superior thinking abilities, but her reactions to grief are essentially different from *Aurum*, *Carcinosin*, *Sulphur*, *China*, and *Lycopodium*. All these possess great ego and great ambition with plenty of delusions of grandeur, but *Lachesis* is also the extremely passionate person who gets vexed about competition (in love and profession) with others.

Upon the approach of menopause, she is easily overcome by paranoia (delusion, there are conspiracies are against her). She becomes sensitive to perceived rejection (easily offended) as threats lurk everywhere. "My husband is probably looking for a replacement; my boss is trying to get rid of me, too, in order to hire a much younger and more attractive person". The resulting low self-esteem begets an overwrought response to slights, both real and imagined-all of which are presumed to be intentional.

Lachesis, with her Hippocratic sanguine temperament, cannot live without passion; she demands loyalty from her partner, but this demand often borders

on foolishness (ailments from foolish jealousy). Often there is no real basis for her jealousy except in her great imagination. Anger is never far behind when grief and disappointed love occur.

The unlived life can have severe consequences for the *Lachesis* patient on the physical plane, where cancer of the ovaries and uterus feature prominently. From a symbolic standpoint, cancer is a metaphor for life energies finding inappropriate, self-destructive expression in an uncontrolled and unbalanced growth. In this sense, cancer can be considered the revenge of a suppressed, unlived life. Unless *Lachesis* can find appropriate compensatory channels in which she can express herself, she can indeed come to harm, or in other words, get injured—either psychologically (dissociation) or physically (cancer). As too much remains unlived in *Lachesis*' life, feelings of hopelessness, melancholy (often leading to alcoholism, 'dipsomania hereditary'), frustration, and even suicidal thoughts overcome the *Lachesis* person when she begins to realise just how much of her authentic life has been neglected and ignored in favour of socially acceptable family traditions. Thus, the 'revenge' of the body and soul creates a midlife crisis.

Lachesis searches for protection against injury and attempts to 'find answers' via communication with people in high positions, writing letters, for example, to the Pope. As usual, we often see a religious compensation when the sexual outlet is either suppressed or unattainable; *Lachesis's* compensation matches the intensity of the sexual outlet. There is religious monomania and even fear of being damned. It is especially the female teenager who will follow the religious compensation when sexuality awakens (religious affections in puberty), especially if she is being brought up in a strict religious milieu where the topic of sex is taboo. Male teenagers have more of a tendency to engage in thrill-seeking, sexual, and dangerous behaviour. For *Lachesis*, when life remains unlived, the life that remains often does not seem fair; she consoles herself with tales of an 'eternal life' in which wrongs will be set right.

Besides the deep depression and the marked elation, the passion and love contrasted by hate and revenge, and the logorrhea and taciturnity, *Lachesis*' fanatical religiousness can turn into its own opposite, and we find the greatest atheists among *Lachesis* people for whom the promised paradise vanishes like an optical illusion (Godless, want of religious feeling).

Lachesis is especially prone to pangs of jealousy. Jealousy derives from a complex cocktail of competitiveness or increased ambition, delusions of grandeur, emotional insecurity, and situational dissatisfaction. The root of the torments of jealousy is the attitude toward the object of love as property. Jealousy obliterates rational thought and negative cognitive processes—from doubt to constant relentless preoccupation with a partner's faithlessness prevail. Jealousy leads to delusions in which one thinks the same thing over and over again (compelling ideas); extreme *Lachesis* cases, may have violent reactions to deception such as stalking, even murder (jealousy leading to a crime; jealousy driving to kill; jealousy with rage). For *Lachesis*' victim, such 'passionate love' seems irresistible, welcoming and flattering at first—until he discovers that she means to have 'sole and exclusive rights and privileges' over him. In other cases, less subtle tactics may be there such as yelling at him if he talks to someone, cutting him off from his friends and family, accompanying him on every outing, speaking to him in a derogatory manner, undermining a mate's self-esteem, or threatening violence (jealousy driving to a crime; jealousy with rage insane jealousy; jealousy driving to strike his wife).

Lachesis' jealousy (which is basically a feeling of being unlovable) is accompanied by a sense of deficiency which is hard to bear, and *Lachesis* converts her anger into distrust or suspicion—going through his belongings, phone, email, or even hiring a private investigator to retrace every minute of his day. The crude jealousy, functioning largely below the level of conscious awareness; it is characterised by rage, reproach, brutality, loquacity, foolishness, insanity and despair. This jealousy in *Lachesis* also has a hormonal component, the insecurity and passion being evoked when *Lachesis* approaches menopause; and before menses.

Lachesis is a person intoxicated with the power of her mind. To bolster her ego, *Lachesis* possesses loquacity as well. *Lachesis*' quality of speech depends on her state of pathology. When in balance, *Lachesis* is a very witty and brilliant conversationalist. There is quick comprehension and mental activity with almost prophetic perception. *Lachesis* talks too much and may realise it when she sees the person's face get rather tired. His ideas are abundant and no sooner does one idea occur to *Lachesis,* a number of others follow in quick succession. *Lachesis* wants to talk all the time; inclination to be communicative; vivid imagination and extremely impatient at tedious and

dry things. She has the most extraordinary loquacity, making speeches in very select phrases, but jumping off to the most heterogeneous subjects. One word leads into the midst of another story. The exceptional loquacity is marked by a rapid change of subject; she jumps abruptly from one idea to another. *Lachesis* talks and sings or whistles constantly. Her apparently nervous loquacity and delusional rambling are used to charm and stun her victim. (mocking, desire for satire). In a pathological state, her once refined speech begins to resemble the froth and foam on the lips of someone suffering an epileptic attack.

Lachesis children are generally very bright, and language is not really a problem for them, except that they can stammer or speak inarticulately because their speech and thought processes are hurried. They also may not speak at all if the thought process overwhelms them (abundant ideas; thoughts crowding around each other; thoughts, rush, flows of). *Lachesis* often cannot sleep for a long time owing to a continuous stream of flowing ideas. And the longer he speaks, the more incoherent his speech can become (speech incoherent, hasty and foolish).

Lachesis' loquacity is of a sycotic nature. Initially, at least, for the more stable *Lachesis*, the loquacity outlet is of a rather positive nature, she can use it to be a good lawyer, politician, teacher, or preacher.

The essence of *Lachesis* is the caveat or warning about an unlived life, or, 'the penalty of unlived life'; the unlived life causing cancer, as the *Carcinosin* state is reflected by exactly the same theme, letting others live her life, having no boundaries to prevent it. The appearance of cancer is the last warning to finally start living your own life. In *Lachesis*' cancer appears in the ovaries and other sexual organs, as they are the centre of repressed libido and sexual urges.

There is overstimulation on every plane, which requires an outlet, thus restlessness, anticipation anxiety, and hypersensitivity. Such a person feels that her life has been barren of opportunities, that people have been overly critical of her, and that she always has been treated unjustly. The feeling of not having reached her potential comes from discrepancy between the 'actual self', the 'ideal self', and the 'should-be self'; this is followed by secondary melancholy and depression. *Lachesis* seems to be unable to cultivate peace by removing egotism and jealousy. She also has a growing fear of tension

within herself; something might give away, she might even become insane (fear, insanity, of losing his reason). Often, such a mind has long conversations with itself, ranging in topic from vexing past conversations with others to perceived injustices he has suffered (ideas abundant, compelling; talking to himself, only when alone). The latter sentiment is definitely born of fixed ideas. There are palpitations, insomnia, chest pains, frontal headaches, neck stiffness and nocturnal emissions with amorous dreams in this tortured soul, all worse after sleep, which creates a great dread of the night. She may shed tears, but they will be tears of self-pity, not of sympathy with others.

The sexual outlet is another compensation for *Lachesis*. If a sexual outlet is possible, and not suppressed by the family, it also takes an extreme form. This results in either ‘great excitement of sexual desire; lascivious; idea of marriage seems unendurable’ or, he is so fixated on his partner that he becomes more sexually demanding (sexual passion increased; nymphomania, and sexual passion violent). His inadequacy shows in very foolish behaviour and all kinds of jealous reactions. After suffering heartbreak, a *Lachesis* person often shows self-destructive behaviour–drinking, smoking compulsive gambling. The female *Lachesis* person looks for love in all the wrong places and takes it one step further (nymphomania); disappointed by many heartbreaks, she can start a lesbian relationship (love with one of his own sex, homosexuality).

Lachesis often suffer from disturbed sleep; wakes up and starts talking nonstop for a few hours and falls asleep again. *Lachesis* feels worse after sleep or even a nap (short sleep aggravates; prolonged sleep aggravates); he has fear of death during his sleep from a heart attack—anxiety about the heart; there is seldom a refreshed sleep as their sleep restless with many dreams and frequent warning and again dozing.

The *Lachesis* patient is usually dark, spare, with a pale complexion. The face may acquire a purplish and bloated or red, congested, swollen appearance. The expression is anxious, suspicious, even furtive and the eyes wide as if in fear. Other physical signs that may be present are–shiny tongue with a ‘varnished’ look, spontaneous bruising, purplish discolouration, and foul smelling discharges.

Lachesis: Golden Tips from the Masters

- *Lachesis,* being a polychrest, is one of the most under-prescribed remedies. Because of its resemblance to other remedies like *Phosphorus, Sulphur, Staphisagria and Lycopodium*. In the absence of some very characteristic physical symptoms (especially cardiovascular issues, throat problems, intolerance to constricting clothing, and relief of symptoms through discharges), *Lachesis* is difficult to recognise on the mental plane.
- *Lachesis* is a major remedy for cardiovascular disease (strokes and heart attacks), and she often experiences constrictive pain, oppressive chest pain and palpitations with numbness in arm, >by sitting up. It is especially during those fits of jealousy that heart symptoms and fainting may appear. *Lachesis* prevents degeneration of the brain tissue in strokes and prevents recurrence of a stroke attack.
- *Lachesis* has bluish, dark, stagnant blood and purple discolouration and an anticoagulant action.
- Mystics or would-be mystics often require *Lachesis.*
- *Lachesis* changes in character when pregnant. She becomes more like *Natrum muriaticum*, avoiding company, when pregnant. She can become depressive and sad.
- Often he can only sleep on his right side, not on the left (sleep position, right side, left impossible).
- Palpitations common during pregnancy, < lying on left side.
- Hair loss during pregnancy.
- Frequent appearance of haemorrhoids during pregnancy; they can be big and even strangulating.
- When *Lachesis* becomes manic, she goes on a shopping spree (during manic depression)
- Fear of suffocation (*Pulsatilla*); intolerance of tight clothes, especially at the neck, as anything touching causes suffocation; intolerance may extend to tight clothing around the abdomen or tight shoes.
- Grief with a sense of revenge often leading to murderous acts and stalking.
- Palpitations, hot flashes, and hypertension; well-known triad in menopause.

- #1 remedy in severe septic conditions of the throat.
- Best remedy for rapidly maturing abscesses regardless of location (use a dose of 200C every two hours).
- Indicated in nosebleeds which are dark and generally accompanied by amenorrhea.
- Strong incessant urging for stool with practically no result (black-type remedy).
- #1 remedy for asthma attacks in sleep, which fail to wake.

Nitricum acidum

This remedy has a profound action on various cells of human tissue, producing multiple syco-syphilitic affections. It possesses an affinity for mucocutaneous junctions (oral cavity, anus) resulting in development of cracks, fissures and ulcers, ultimately leading to malignant changes. Its sphere of action includes malignancy of tongue, liver, rectum, uterus, breasts, larynx, skin and bones, with marked malignant cachexia. It also covers tumours of eyes (staphyloma, dermoid etc.) and mouth (painless); warts and condylomata at various places; polyps in ear, nose, larynx, and uterus, fibroids of uterus (with metrorrhagia); exostoses and caries of bones and hypertrophied prostate.

In *Nitricum acidum (Nit-ac.)*, there are two main groups of delusions with a common denominator, the sense that there is danger everywhere in the world (a feeling which can lead to isolation), and hyper vigilance. The first group of fixed ideas refers to the conviction that everyone seems to be out to harm him. The second group indicates hypochondriasis - he is convinced that his health is poor and that few people can be trusted to help him in his quest for wellbeing (delusion, he has an incurable disease, delusion being sick and delusion he is about to die). No amount of reassurance can help him. His brain is so powerful that it really can convince itself of illness. These delusions tend to reduce the *Nit-ac.* to a restless and fretful but combative individual. His nightstand is always topped with a cornucopia of pill bottles, and his hands routinely tremble as if his fingers housed jumping beans.

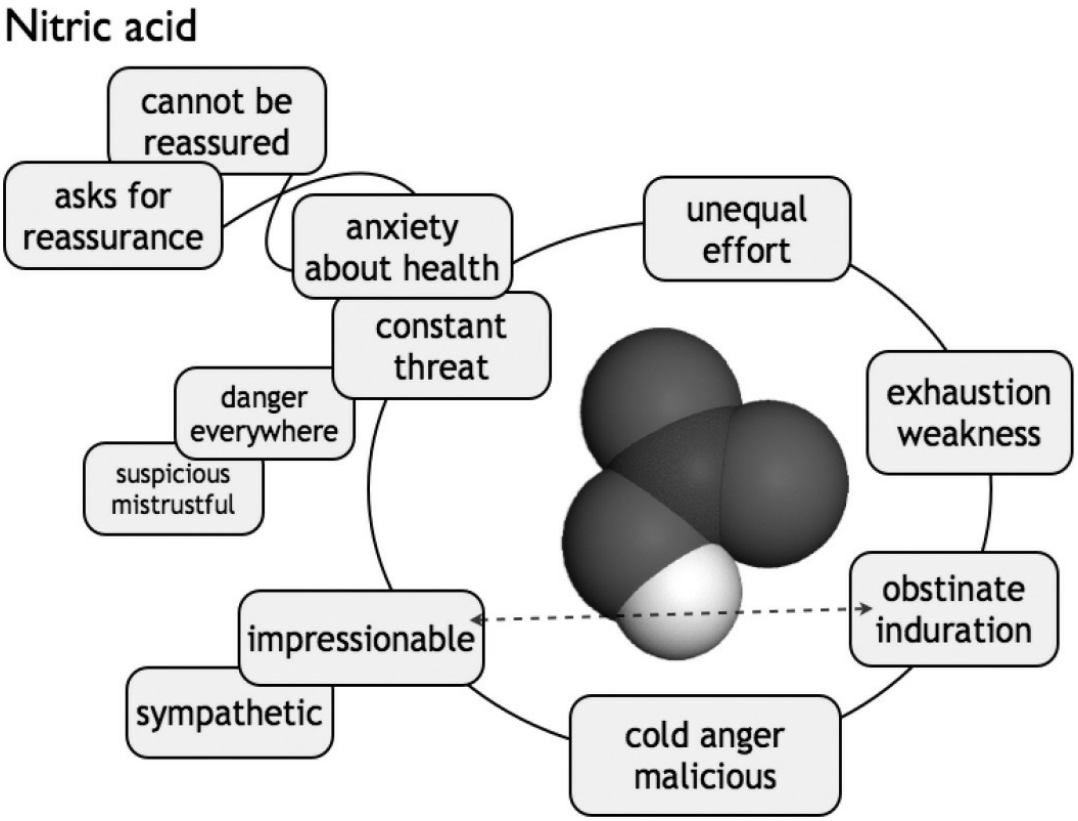


Image Courtesy: Will Taylor

His cyber delusion is expressed by the ‘delusion, he is engaged in lawsuits’ (anxiety as he was engaged in a lawsuit or dispute, causing uneasiness). This ‘engaging in lawsuits’ means that life, is a constant struggle for *Nit-ac.*, and not merely a metaphorical one against want of health, but also an actual struggle against other people. *Nit-ac.* discovers adversaries everywhere, lives in continual conflict, and dies with the sword in his hand. His delusion is supported by the delusion about criminals; everyone, or almost everyone, is considered an enemy (*Mercury*). The government, newspapers, and TV newscasters are engaged in a conspiracy against him, scheming against his welfare and that of his family. Doctors are not to be trusted, as they are in cohorts with pharmaceutical companies; the information gathered from internet are God-given resources to bolster his lawyer-like arguments (disposition to contradict; intolerant of contradiction; contemptuous and cynical; irritable when spoken to). These lawyerly thoughts disappear and reappear constantly in his mind (thoughts disagreeable tormenting). He will argue with any authority; he does not trust any authority. The lawsuits refer also to the fight for the preservation of his health; he feels he needs to be his

own protector, his own doctor, his own attorney, and his own scientist. Intoxicated by what he feels is a life full of magnificent actions, *Nit-ac.* identifies himself equally with ancient conquerors and saviours of society (excitable during debate).

The main cause or ailments from is ‘discords between chief (of the family) and subordinates’. Since the chief of the family has traditionally been the father, *Nit-ac.’s* delusion often stems from the intense control and domination exerted on him during childhood by a dominant father figure. The motherly principle is that of unconditional love; the mother loves her children not because they please her, but simply because they are her children. Fatherly love, on the contrary, is often conditional; it depends on the achievements and good behaviour of the child. A father loves that child the most that is most like him. Having failed to fulfil his father’s criteria for success, *Nit-ac.* has become a combatant and insurgent because of the strict authority and expectations of the father. This continuous struggle marks the *Nit-ac.* personality; he aggravates when admonished (admonition aggravates; intolerant of contradiction), and he swears and curses. In other words, he is a volcano ready to erupt; at the same time though, he is a nervous wreck continuously worrying about his health and sensitive to all external impression, especially to noise, and splashing of water and easily startled from fright. Even nature’s wrath and violence seems to unsettle *Nit-ac.* (mind symptom aggravate during thunderstorm).

Ailments from hurry, fright, grief and emotional excitement, are all very understandable, thinking about the tight-fisted father who wants the youngster to follow his rules exactly. The betrayal of the youngster’s dominant conscious function will lead to strong neuroses. In the case of *Nit-ac.*, neurosis has everything to do with health and resistance to authority. Later on, any small unkindness, or even a well-intentioned remark, might drive him to absolute rage (anger, violent; excitable with violent palpitations), confirming for him that, indeed, it all comes down to ‘me against the rest of the world’.

Nit-ac. is incapable of gaining insight about his real motivations through introspection, and he therefore projects everything (his unconscious) onto others. It is always the case that someone else has put him in a situation and should be blamed (excitable during debate; irritable when spoken to).

There is one thing that *Nit-ac.* seems unable to achieve - the confidence to approach his health issues with calmness and common sense (despair with rage, cursing and imprecations; delusion, talking insane; delusion, talking irrationally; suicidal disposition with fear of death). When he was younger, his ego was not allowed to develop; it was always challenged by the critical father figure, so now rebelling against others' opinions has become an automatic reflex—even later in life. This has caused the birth of secondary delusions about his health, *"I am really sick and fear for my life"* is his motto. The *Nit-ac.* person thinks that no one can be trusted to take the initiative to guard his health. The doctor had better be of his opinion and follow his advice as to what tests to perform—or he will look for another physician who will acquiesce! *Nit-ac.*, therefore, approaches his health issues with an enormous anxiety and fixed ideas of demise; anxiety about his disease, with fear of death; morbid fear of the cholera (i.e. fear of an incurable disease; in our time, fear of cancer).

Nit-ac. has anxiety from night watching and is sympathetic, which makes us think of *Cocculus*; little concerned as to his own health but is very anxious about others' sickness. Upon closer inspection, *Nit-ac.*'s sympathy and concern do not go that far as he is estranged from his family. In the first place, the night watching is about his own health (he is often anxious about his illness and constantly thinks about his past troubles; anxiety during sleep; sleep is anxious with sobbing, restless and unrefreshing and difficulties of going to sleep). If *Nit-ac.* devotes himself to night watching for someone else, it is for a friend who is always there to sympathise with him when he complains about his ailments (lamenting, wailing; hysteria) or for someone who shares his opinions.

Nit-ac. knows only two classes of people: those who are against him and those who are with him. It is this latter class, always a minority, that he is afraid to lose for the selfish reason that he needs their support (after continued loss of sleep, long lasting anxiety, over exertion of mind and body from nursing the sick, great anguish of mind from loss of dearest friend).

Due to an uncontrolled temper (fits of rages with curses and maledictions), *Nit-ac.* counts few people as friends, and everyone else is at best a stranger in his eyes, if not an enemy (delusion, he is surrounded by strangers). For *Nit-ac.*, there are two ways to look at a problem: "*my way and the wrong way*".

He cannot recognise the validity of others' views as potentially offering a more holistic approach to a given situation. And being 'for' *Nit-ac.* and of his opinion means doing everything he wants; it is a very selfish stance. If *Nit-ac.* has a partner, she must give up her life to help achieve his goals, which, with his undeveloped ego, are rather limited.

Nit-ac. is driven by his fixed idea that death is near and yet no one has diagnosed his mysterious illness (delusion, he has an incurable disease; fancies he will die soon, yet he is not physically ill). What *Nit-ac.* calls optimism is really mere persistence; he never gives up, as he keeps looking for the 'genius' healer who will finally find his disease (no doubt a special one). *Nit-ac.* is driven from physician to physician, anguished by his tormenting illness, real or perceived (at once she is taken with a peculiar anguish, runs to her physician, hat he is not at home, hires a carriage to drive to the home where she expects to find him; during her ride all her anguish is gone; arrived at home she feels as bad as ever, and feels herself thus forced to drive about the whole day; driving ameliorates the mental symptoms). He is convinced that no physician has ever diagnosed him correctly, as he must be suffering from an incurable disease (anxiety about his disease, with fear of death; morbid fear of cholera) or from an impending disease which surely will lead to his death (fear for death; hopeless despair). So this is, in a sense, a positive compensation; as long as he thinks he will find a trusted physician who will solve the riddle of his illness, he feels better. His talk is only about his disease, but at the same time he is very pessimistic and sucks the energy and patience out of his physician as he is convinced that nothing will help.

Nit-ac.'s pessimism about the outcome of a health issue mobilises him to act with alacrity. There is nothing like a looming disaster (real or perceived) to make him get things done. *Nit-ac.* believes he is a marked man, destined to suffer the torments of hell, roaming the earth in search of a little bit of relief that can only be found with a single trusted friend—who may be his always empathetic Homoeopath or physician. He is always pessimistic and can never be pleased. A modern analogy for the inner feeling of the *Nit-ac.* negative of mind is "life is a shit sandwich, and every day you're forced to take a bite." Hahnemann calls it, in his *Chronic Diseases*, 'a crabbed humor'. Full of hatred and vindictiveness. Being a narcissist he feels he belongs to an elite segment of the population that is always right and sees himself as a targeted victim of the authorities; his honour can only be restored by revenge, which

is based on his wounded narcissism. In order to ‘cure’ his injury, *Nit-ac.* must disobey the offender if not annihilate him. His motto is, *“I get even and I move on with my life”*.

He has ailments from grief, from fright; anguish from loss of his friend, ailments from anger; ailments from anger with indignation; violent anger; anger from contradiction; hatred, unmoved by apologies; hatred of persons who had offended; irritability when spoken to. No one can convince a *Nit-ac.* to accept an apology; long-continued rancor, insensible to apology and excuses; he is unmoved by apologies, obstinate. In fact, to justify his own behaviour, he constantly thinks of people who have offended him.

Since he is surrounded by ‘enemies’ and constantly engaged in lawsuits, the vigilant *Nit-ac.* can never let down his guard. Like anyone else who remains chronically hyper alert, this state finally wears him down, so that even the most insignificant unexpected event may shake him profoundly: very easily startled and frightened; starting up from fright and falling asleep; great weariness and indolence, as completely exhausted and bruised. The *Nit-ac.* personality edges easily towards a nervous breakdown; discontentment with himself even if he makes a trifling mistake. He cannot get rid of his sad thoughts; he has an easily excited annoyance and impatience. This hopeless and boundless despair, coupled with attacks of rage with curses, hardly helps him escape his delusion that he is always engaged in lawsuits.

The face appears pale, pinched with sallow complexion and dark rings around the orbits. The patient is likely to be emaciated with obvious weakness manifested by a constant desire to sit or lie down. The limbs show tremors or twitching of muscles. Discharges are offensive, thin, excoriating, bloody and of a dirty yellowish-green colour. Physiologically, the patient is chilly and shivery; even near the fire; the patient has cold hands and feet. There is craving for both fats and salt. Occasionally, there could be perversion of appetite with a desire for chalk, lime, earth. Bread always disagrees with the patient. The patient tends to be drowsy during the day. There is profuse sweat on hands and feet which are very exhausting and malodourous. The most prominent feature is extreme weakness and cachexia. Peculiar sharp splinter-like pain which comes and goes suddenly; pains are worse by touch, by contact, by movement, when swallowing, when passing a stool or from contact or dressings with the surface of an ulcer. Haemorrhages

are apt to occur from any mucous surface and are usually of bright red blood.

Nitricum acidum: Golden Tips from the Masters

- *Nit-ac.* wakes up irritated and dissatisfied and hates drafts; is always on edge
- Better when riding in a car (opposite *Cocculus*); nausea > with motion
- Sensation of having a 'bone' in the throat: prickly pains everywhere
- Is the most pessimistic remedy of the materia medica (opposite of Phosphorus, most optimistic one)
- Alternating with *Thuja* to resolve the roots of Sycosis
- Bad-smelling urine, like horse's urine
- #1 remedy for ailments due to overuse of antibiotics (diarrhoea)
- Remedy for ingrown toenails (south pole of magnet too)
- Easily bleeding warts (*Sabina, Thuja occidentalis*)
- Anal fissures (*Ratanhia*)
- Painful scars acting up (*Graphites, Staphysagria*)
- *Nitricum acidum* exhibits a singular power over the rectum and anus: it has cured prolapses, fistulas, and even fissures (C. Burnett)

Phosphorus

The cyber delusion of *Phosphorus* is that 'she is on a distant island'. The central idea is one of disconnection, which is also found in other fixed ideas such as, 'body is scattered about the bed, delusion of being double, delusion of floating in air, delusion of errors of personal identity, she is some other person' as well in the fixed idea that familiar things seems strange. The delusion reflects a sense of isolation and being fenced in—being removed from everyone; forsaken feeling; thus, *Phosphorus*'s first goal is to connect to others, so close ties with family and friends and cultivation of strong social connections in general are vital and important for her fulfilling, healthy life. For this, *Phosphorus* has the positive tools, including her beauty, sympathy, and loquacity.

Phosphorus is a compassionate person; the suffering she sees in others touches her almost as closely as does her own. Her compassion is not oriented individually, but to the world in its entirety as she has boundless

compassion for all living beings, and all of Nature's beauty. She is mindful, which makes her more connected to other people; an empathetic feeling of being 'at one with the universe'. This explains another theme of *Phosphorus*, delusions, seeing accidents. Such a fixed idea is always an intrusion on the patient's life as all possibilities are anticipated with fear. There is panic regarding the idea of imminent danger and death, especially when she is alone or her children and husband are away. Another theme is the delusional fears and distortions, 'delusions, fingers are thumbs, sees something coming out of corners, see frightful images; hears voices; sees dead person; is about to be choked; will be murdered, and delusions of fire, sees frightful phantoms, sees thieves and is pursued by the police'.

Phosphorus's fears are also related to nature (fear for thunderstorm), fears of impending disease, fear of being alone. Loneliness stemming from a lack of communication is a dominant emotion. *Phosphorus* demonstrates some delusions of grandeur also. She believes that she is great person and projects herself as such. This does not have much to do with achievements, although she has the delusion, she is doing business and the delusion, she is hard at work. She is not on the same level of haughtiness as *Platina*, she is much warmer and more charming; *Phosphorus* feels she is rich and noble, which probably helps her to connect to just about anyone in the world from the poorest to the richest (delusion, she is rich and delusion of wealth; delusion she is a great person of rank; delusion, she is distinguished; delusion her chair is rising up and delusion, she is the incorporeal light). These last two delusions express her elevated standing, in her eyes, among the general public; this is generally and gladly acknowledged by the recipients of her warm radiating presence, 'a ray of light' that falls upon the darkness of their existence.

Phosphorus has ailments from fright and anticipation. The sensitive *Phosphorus* person is full of fears, especially related to her own and her family's well-being. Her sympathetic nature explains the fixed idea of accidents of her self, and of her relatives (anxiety about others). Her fears are easily projected on others, such as, fear for impending disease, robbers, and death. Need for protection and connection leads logically to fear for being alone, as *Phosphorus* loves and needs company, warmth, and communication. *Phosphorus* remains afraid of ghosts, death, and visions once the unconscious takes over (fear of the dark in the evening in bed).

Phosphorus also has ailments from grief which is mainly related to disconnection (divorce, relocation, death, etc.) from people and animals that are important to her. Death is also more connected to her own fears, she asks herself, "*Am I next*?" The sickness and suffering of a family member are made her own; and losing even one friend causes immense grief in spite of the fact that she makes friends very easily. She gets attached all too easily and far too soon; it is therefore not uncommon that this child reacts to grief with serious diseases - juvenile rheumatoid arthritis, anorexia nervosa and bulimia. Losing support is seen as deception causing grief and mortification. And, in general for her, headache is caused by grief and undermines her constitution. *Phosphorus* is sensitive to those around her and to the suffering of others. She has a strong feeling function; she can look into the face of someone and realise what that person is experiencing—pain or pleasure, hurt or anger.

Phosphorus does not hesitate to flaunt her beauty in a flirtatious way, especially when younger. She is attracted to the intellectual and successful type, who excels in the thinking conscious function as it complements for her extreme feeling conscious function. Sexual excesses–'shamelessness; lascivious; uncovers herself and wishes to go naked'. *Phosphorus* has also ailments from celibacy and fear for celibacy. Celibacy does not mean being literally unmarried; it can also suggest not being connected to anyone, having no friends or others caring for her.

Phosphorus compensates by conveying the contents of the soul not only through talking (loquacity), but is commonly expressed through a drawing, sculpting, theater, dancing, crafts, painting, and writing in verse. *Phosphorus* is not only intelligent (active concentration and easy comprehension), but also interested in all kinds of extracurricular activities (desire for numerous things). These are all forms of communication, which is the major compensation of the *Phosphorus* child and adult, and when such communication is lost, the ensuing grief easily sends this child into her own dream world, reflecting autistic characteristics. Her grades at school and university are good, but could be better with a less active social life. She often runs out of energy (great indisposition to mental or physical exertion); she needs numerous breaks from mental work, (dullness and unable to think long no capacity for mental work; brain fag from mental overwork); otherwise, she will understand a question only after repeating and becomes

detached and sleepy.

Phosphorus (Greek. *pher*, *phoreo*: to carry, bear. *phos*: light) persons are the ‘vessels of light’; born with brighter outlooks; they simply see beauty and opportunity where others hone in on flaws and dangers. She is the way of lightness, playfulness, charm, attraction, and sensuality. She is wholly awake and fully alive; attuned to beauty, pleasure, and enjoyment, the play of love and life. She gives lightness and poetic inspiration, enjoys and grieves easily, loves and rejects often. Happiness, for *Phosphorus*, comes from within as well from without; she avails herself of the manifold blessings which surround her and appreciates them as well. She feels that life is indeed a glorious inheritance to be enjoyed; when in balance, loves life to the fullest; she is capable of wandering, always ready for an adventure. For *Phosphorus*, life seems full of fortuitous circumstances as she is fearless (in spite of the many fears she has) when it comes to trying something new. Instead of giving in to worry about what could go wrong, she tries new things. Variety in life increases her day-to-day happiness. Serendipity smiles on *Phosphorus* and her relaxed approach to life.

Phosphorus is characterised by a tubercular dissatisfaction, fidgety character, and quickness in shifting interests. Therefore, a need to change physically (restless travelling), mentally (changing study topics or interest often), and emotionally (easy connection to others but very often tires of and dispatches them). Travel is therefore the ideal solution; there are millions of people out there to be met and, if so desired, to be left, although she loves to stay in touch with many people around the world (excited imagination). She is the eternal seeker for truth and enlightenment, but often forgets to find it within herself. This is most easily observed when death must be faced; she has great fear of death. Her life’s purpose meets its end when she loses the financial means to maintain this lifestyle. At this point she suffers from a spiritual disease.

There is a theme of diffusion in *Phosphorus*. She wants to spread outward into the environment. She finds joy in being friendly, warm, and considerate and respecting others and making them happy. She organises her life around goals such as fostering community, connecting to family, and engaging creatively. *Phosphorus* experiences falling in love as exhilarating and intense experience. As it loses the desired intensity quickly, love ends in the wish for

never-ending conquests, always with the illusion that the new love will be better, and will result in finding *Phosphorus*'s soul mate. In this conquest, the tubercular person is greatly helped by her beautiful physique; the fine eyelashes, tall figure, beautiful eyebrows and angelic face. The chin is determined, mouth is enchanting, when she smiles royally; captivating and seductive eyes; the voice can be soft or enthusiastic, but its tone is always comforting. She can be reserved and professional in business. At social functions she fits in beautifully, even stands out. *Phosphorus* is little impressed by fame and only slightly more by fortune.

Phosphorus becomes easily animated, and also attracts attention with her appearance; behind this is the feeling that she is not getting enough attention, love, or care for herself. Because of this insecurity, she wants more friends and company. If she did not get love at home as a child, she seeks it outside by having numerous friends; however, most of the friends are superficial. Connection (even via the phone or computer) can mean security for the *Phosphorus* person. Such a quest also reflects the fiery or sanguine temperament of this person; very excitable, cheerful, and vivacious, and these emotions must find an outlet in exchanges with many people. However, *Phosphorus* is often clairvoyant, sees auras around people, and 'also hears voices, sees something coming out of the corner of her eyes and can have horrible visions at night'. This is due to a great sensitivity to all external impressions; the *Phosphorus* person is very impressionable, easily mesmerised and magnetised by others, but also sensitive to thunderstorms, of which she is very afraid. There is also sensitivity to noise, and light, from which she wants to shield herself. This leads to two opposite forces at work in *Phosphorus*—desire to be connected, and secondly, because of the great sensitivity and impressionability, she is often stuck. This is because of fears, especially of ghosts, devils, phantoms and hearing invisible things move, which in turn makes her fear losing her reason. To overcome these fears, to be able to explore the world, which is the driving force of this precocious being, connection to others is a desire and a necessity.

This attractive, sentimental, and extraverted person (with a great growth spur at puberty, often causing growing pains: *Calcarea phosphorica*) loves to be massaged, held, and kissed. *Phosphorus* accepts and craves for affection and, easily returns affection when received. She is also sensitive to the crying of children. This bleeding-heart mentality is also expressed by a great tendency

to bleeding on the physical plane, especially nose bleeding. She desires sympathy and compassion, and lack of love (whether real or incorrectly perceived) is a major reason for which this child may show autistic characteristics like difficulty in concentration and learning with difficulty, withdrawing on her own (refusing to answer, reflecting long before answering).

As much as she loves to explore the world, *Phosphorus* is very much tied to the family (homesickness). It is not uncommon, when moving away from her beloved neighbourhood, for a *Phosphorus* child to be afflicted by an autoimmune disease such as juvenile diabetes or juvenile rheumatoid arthritis. The grief and forsaken feeling that homesickness creates is apparently enough to turn the body against itself, as expressed in these destructive diseases.

Grief and cut-off communication are the main causalities of the extreme form of depression of *Phosphorus* person (*Phosphoricum acidum* state). In this state, she refuses to eat (anorexia nervosa), sits there as in a dream, brooding over her condition, her hair falls out; she becomes indifferent to everything, has indolence to work, and shows a weak memory for expressing herself (the opposite of her normal loquacity) as she is forgetful for words while speaking. Although she is better with consolation, during such a depression, she is irritable when questioned and desires solitude as she suffers from silent grief. She thinks that others are mocking her, which makes her become even more withdrawn. Children may masturbate, but this only increases their sadness and lack of energy. *Phosphorus* develops aversion to mental work and aversion to thinking with disconnected thoughts. Such a dark and dramatic change from her usual lightness, should catch the attention of every parent. In her apathy, *Phosphorus* is indifferent even to her own children, answers no questions or replies wrong.

Phosphorus: Golden Tips from the Masters

- *Phosphorus* and *Causticum* are inimical remedies and should never be given following each other without antidoting the previous remedy.
- When aggravation occurs after doses of *Phosphorus*, give *Psorinum*.
- #1 remedy for NWS lightning (with *Nux vomica*) with brain damage (loss of memory, confusion, and loss of energy).

- #1 remedy for fatty degeneration of the liver.
- Strong amelioration with short nap (opposite *Lachesis*); headaches disappear after a short nap (*Sepia*)
- Rare and peculiar symptom: the anus may stand wide open; diarrhoea and feces oozing from a wide-open anus; stool as soon as anything enters the rectum.
- In pregnancy, cold water intake relieves only until the water becomes warm in the stomach, then symptoms of morning nausea return. Also, pregnant woman has nausea and vomits when putting her hands in warm water.
- Antidote of MSG.
- Bright red bleeding without clotting.
- In pneumonia, *Phosphorus* does not want to lie on the affected side (opposite *Bryonia*).
- #1 remedy for diabetes and hypoglycaemia.
- NWS general anaesthesia.
- NWS pneumonia.
- #1 remedy for rheumatic stiffness with morning aggravation.
- Environmental illness; sensitive to noise, odours and people's energy and electrical magnetic fields.
- *Phosphorus* loves a good massage.

Conium maculatum

Conium's cyber delusion is that he is pursued by enemies. *Conium* feels that he needs to be on guard all the time, and this constant watching when people approach (shyness at the approach of people and yet dread of being alone) takes a toll on such a person. The paranoia creates hardness or induration; a shell for protection on all levels (mental, emotional, and physical), also fostering superstition—another reason to look at people as possible enemies (*Argentum nitricum*, *Medorrhinum*, *Rhus toxicodendron*, *Mancinella*, *Stramonium*).

Delusion, animals dancing on bed; someone was coming in at the door at night, someone is entering at night, house is full of people; he is persecuted; he sees people at his bedside in his room and sees thieves, and illusions of hearing. These fixed ideas all point to a single threat that someone will enter

his ‘house’ and try to take something away from him, usually at night and when he is in bed. A house usually is the relatively fixed symbol for the Self, the dreamer himself. The bed, in turn, is the symbol for sleep, the unconscious, place of birth and creation of life, where sexual activity takes place. So, it is a fear of someone robbing *Conium* of the ability to create life, of the place of birth, linked to sexual activity. It also includes the ‘delusion, see: dead corpse, brother and child’. The brother is the shadow side in the case of a man and the animus in the case of a woman; it seems to reflect the death of the characteristics of the animus—will, decision, activity, courage, authority, initiative, planning, sexual activity and aggression. The death of a possible child refers to a renewal of life, a rebirth of life. These translations have to be found back in *Conium*’s characteristics, in his losses and weaknesses, as we will discover. *Conium* also has a delusion, of fancy illusions. It is most likely the search for the restoration of the animus, the loss of sexual creativity and procreation reflected by the delusion of the death of a possible child, the renewal of life. There is a desire to return to the womb and to the Great Mother, a symbol for the collective unconscious. So *Conium*’s delusions reflect paranoia about a threat with a retreat into the unconscious as defence mechanism.

The greatest ailment from seems to be reversal of fortune. *Conium* has a great desire for two things—material possessions (haughty, likes to wear his best clothes; insanity, makes useless purchase) and sex (sexual thoughts intrude; satyriasis; lascivious), of which he has persistent thoughts. *Conium* is, therefore, very sensitive to the loss of a partner and to any economic or financial loss. But *Conium* has less grief than *Ignatia* after the death of a lover and is less melancholic than *Aurum* after a financial disaster. What the Homoeopath observes instead is that *Conium* will produce a cancer (right-sided breast cancer, uterine cancer, prostate cancer) six months to one year after such an emotionally stressful event. So *Conium* may be thought of in cases of cancer after grief or financial loss; this is due to the suppression and non-acknowledgment of his emotions as he has an emotional indifference and hardness. Originally he has ambition for fame, so a reversal of fortune can certainly be linked to monetary loss or loss of position.

Conium also has two important ailments from relating to sex, which at first seem contradictory - ailments from continence/celibacy and ailments from sexual excesses. They are expressed by Hering as one unit, hypochondriasis

and hysteria from suppression of or too free indulgence in sexual instinct and bad effects from suppressed sexual desire or from excessive indulgence. It refers to people who at one point in their life had normal or even excessive sexual activity or who react very quickly to any excitement with a sexual response, and for whom such activity has now come to a sudden halt for any reason. Celibacy is, of course, seen in priests and nuns, which puts them at risk for cancer of the prostate and uterus. Hunger, thirst, and the need for sexual satisfaction are physiological necessities, and if they remain unsatisfied for any length of time, a painful tension is felt. Intense sexual desire in *Conium* is a combination of physiological and psychological needs; because of the absence of a partner for any reasons, the physiological needs are not met. Psychological problems such as anxiety, sadness and even hysteria result from sexual abstinence or suppressed sexual excitement. At the same time, the grief experienced as a result of the sudden halt of these normal natural expressions leads to the pathology seen in *Conium* - a malignant indurated cancer.

Secondary for *Conium* is stress in general or ailments from emotional excitement; he cannot endure any kind of excitement; it brings on physical and mental depression, with weakness. Repetitive stress leads to the paralysed, chronic *Conium* state. In *Conium*'s case, 'ailments from care' have nothing to do with others but rather reflect loss of money and loss of his sexual outlets; he suffers ailments from care with aversion to company like *Natrum muriaticum*.

Conium compensates by escaping from reality, which can take different forms. Meditation is one form, and for *Conium* it is not equal to deep introspection and seeking an understanding of the self. Rather, as Hahnemann states in the proving, *Conium* is lost in deep meditation and anxiously thinks over the present and the future, and therefore seeks solitude. Isolation, loneliness, and anxiety are the only consequences of this introspection. It is interesting to note that deeply meditating individuals with much animus and less anima are 'hard-feeling' with cancer as pathology (*Carb-an, Sep, Con*). *Conium* indeed retreats into the unconscious, a search for the Great Mother, part of the collective unconscious and shunning conscious life, expressed by 'shuns light; quiet disposition, bright light is intolerable', light being a relatively fixed symbol of the conscious. *Conium* prefers to dress in dark or black clothes, representing the unconscious. It is not just light but also

noise–‘intolerable to noise with a painful sensitivity to noise and startled by it’. How difficult it is to connect with consciousness is also seen in the rubrics ‘confusion of the mind after siesta and sleeping’ (*Lachesis*), as even a short nap seems to hold *Conium* captive in the unconscious. Desire to be magnetised, for *Conium*, therefore reflects the desire to connect not to people but to the self-created dream world.

Conium has gradual induration/paralysis or hardening on all levels; mental and emotional induration takes place before the physical repercussions. The *Conium* patient has an inability to sustain any mental effort, creating tired and weary sensation in the brain with physical as well as nervous prostration. His memory is feeble with excessive difficulty of recollecting things, particularly dates. He has difficulties of correctly expressing himself nor can he rightly remember and there is such stupefaction that he has difficulties in understanding what he reads. There is obtuseness of all senses and he is wandering about as half asleep.

Induration on the emotional plane is seen as *Conium*’s lack of emotions in the way he treats others and even himself. Gradually, *Conium* goes from being a high-anxiety person to exhibiting indifference, especially when walking in open air, remarkable in view of the severe pathology he suffers from (i.e., cancer). He also becomes discontented with himself. He is easily disturbed by trifles, moved to tears and anxious. He has disinclination for business, and indolence rules. He is timid and cannot be persuaded to work; want of proper will. In fact, provings show that he takes a rather careless, indifferent approach to life—likes to wear his best clothes, makes useless purchases, cares very little for things, wastes or ruins them; does not want to work and prefers to play. Complete indifference and takes no interest in anything, with a paralysed feeling in all the limbs as though a great grief weighs upon him with inclination to sit still. There is disinclination for business and unsympathetic from indolence yet is he worse from being idle. This makes him a rather difficult patient to deal with, as the ‘enemy’ might also be the Homoeopath with his inquisitiveness. This is an introverted person who is not very forthcoming in the inquiry, but often a past history of many tremendous emotional sufferings can be found. *Conium* can look like a *Natrum muriaticum* person, but usually we have a *Conium* layer on top of a *Natrum muriaticum* one.

There is induration and gradual weakness on the physical plane as well. *Conium* comes from the Greek word *konos*, which means dizziness. Normally, *Conium* is resilient on the physical plane. First the mental/emotional symptoms are seen, while physically *Conium* remains strong. In *Conium*, everything is slow and gradual. Therefore, a *Conium* patient only shows up for a consultation when he already has severe pathology. For this reason, *Conium* pathology is seen rarely in children. The gradual hardening on the physical level leads to a slow-forming malignant cancer. The following rubrics indicate the kind of cancer are, cancerous affections, epithelioma, glands; ulcers lips cancerous; genitalia male, cancer; gen, female cancer of the ovaries; gen, female, cancer uterus.

Conium 's urinary symptoms are also peculiar; a keynote is: a constant urge to urinate with little or no result. The patient gets up at night because of his strong urge, but he has to strain hard to urinate a little. This can be so serious that he becomes anxious and desperate with perspiration, headache and vertigo (bladder, urging, ineffectual, with headache), and returns to bed exhausted; after a while the whole cycle starts again. Other prostate symptoms are: loss of prostatic fluid by merely touching a woman; discharge of prostatic fluid on every change of emotion, without voluptuous thoughts; emission prostatic fluid, while fondling women; seminal emissions, during caresses; seminal emissions while frolicking with a woman; loss of prostatic fluid with stool.

Conium: Golden Tips from the Masters

- Think of *Conium* when there appears the combination of headache and ineffectual urging to urinate. Also when ineffectual urination and vertigo. The typical triad of vertigo in *Conium* is: < from lying down, from getting up, and from turning in bed. Therefore, the patient keeps the head perfectly still. Dizziness disappears on closing the eyes.
- Right lobe of prostate is hard as a stone, firmly fixed and much stinging or biting (like flea bites); a weight like a stone in perineum.
- #1 in prostate cancer with spreading to the bones.
- #1 in cervical cancer (you can manipulate the pap smear result with 30C to 200C *Conium*).
- #1 in hard right-sided breast cancer.
- Recent cases of gonorrhea with orchitis and severe nocturnal pains.

- Usually there is a layer of *Conium* on the top of a *Natrum muriaticum* layer (in case of MS, breast cancer, prostate cancer)
- Ascending paralytic symptoms as in cases of MS (from the legs upwards while the brain remains clear)
- Grief from death of a loved one.
- Dryness in throat on a small spot.
- Pains and aches are relieved by letting the limbs hang down.
- Perspiration as soon as one sleeps or even when closing the eyes.

Carcinosin

Appearance of the *Carcinosin* patients is characteristic as to having blue sclera, cafe au lait complexion, moles. As with other remedies, the typical appearance if not always to be seen, but is strongly suggestive when it is present. There is a family history of cancer, tuberculosis, pernicious anaemia, diabetes, or leukaemia.

Carcinosin situation would arise in a family where he is the only child. Both father and mother are extremely competitive, who expect a lot from themselves and also from their child. Hence, the most obvious thing would be that they would like their child to is ‘achieve’. They urge or spur their children on to achieve, in the process totally quashing the individuality of the child. The dream which exemplifies this situation would be, ‘Dreams, looking for someone and failing to find him’. Looking for someone would really mean that the individual is looking for ‘his lost self’ which is lost in the desires of his parents’ wishes. His identity and personality is not allowed to develop. Identity is defined as the characteristics that establish ‘who’ a person is and ‘where’ he is going. *Carcinosin* does not really know ‘who’ he is or ‘where’ he desires to go because he is primarily guided by his parents’ wishes and whims. The latter part of the dream is more characteristic because he ‘fails’ to find that ‘someone’. So, his identity is totally diffused with his parents’ identity. They have a desire to make their child a ‘perfect’ child. Perfectionism is one of the greatest and commonest of traps of anxiety.

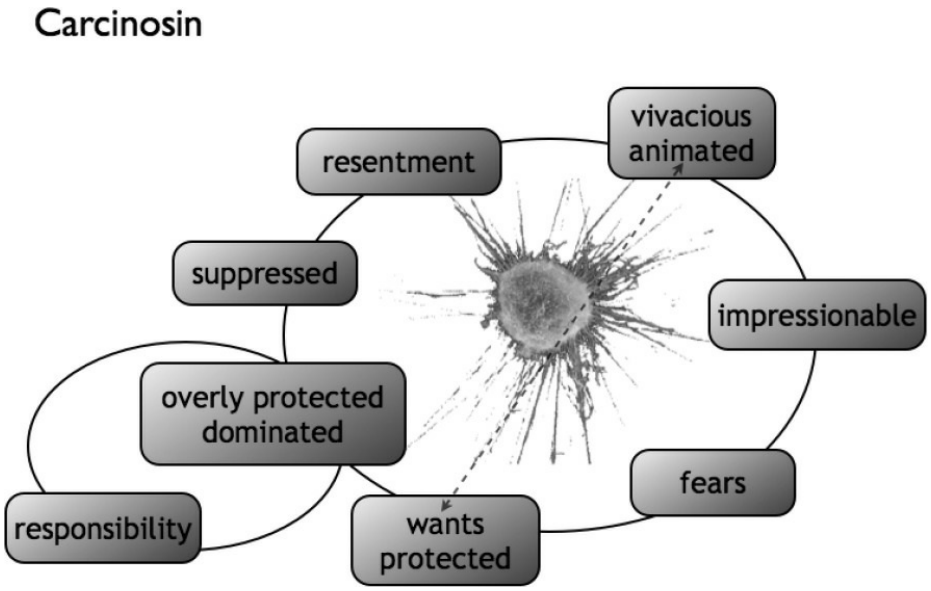


Image Courtesy: Will Taylor

The child then has a great need to please his parents albeit against his wishes, because if he does not he would be severely reprimanded and would be abandoned. So he starts to ‘adapt’ and ‘restrain’, in the process producing a lot of neurosis and fears which can be identified as, ailments from anticipation, biting fingers, dreams of work, fear before exams, fear of failure, fear that happen will something, fear of narrow places.

If this child continues being a ‘goody two shoes’, then he may end up being a spineless, dependent person, who can never grow up. The child never develops real potential. His sensitiveness, intuitiveness and perceptiveness do not develop. (Confidence, want of self; delusions, arms, do not belong to her; independent, cannot be; imbecility; learning, poorly)

Carcinosin also can be thought of in case of prolonged unresolved grief, e.g. mother who has a dyslexic or mentally retarded child which is a source of grief for the mother for the rest of her life. It can also be seen in the case of a woman whose husband is a chronic alcoholic which causes tremendous distress to the wife, or another whose son is a drug addict and she cannot do anything about it. (Ailments from, prolonged, unresolved grief).

A lot of domination in a *Carcinosin* case can produce a rebel child, who becomes defiant. - Anger, causeless, children; Anger, temper tantrums; Anger, violent; Authority, refusal to accept, of another; Censorious, critical;

Company, aversion to; Cruelty, inhumanity; Consolation <; Conversation <; Destructiveness; Disobedience; Fear, narrow places in; Fear, introversion of; Haughty; Irritability, without cause; Irritability, violent, children, in; Irritability, when attempting to concentrate; Irritability, from disappointment; Irritability, grief, from long; Kleptomania; Mania, acute; Mania, paroxysmal; Mildness, masking violence; Obstinate, headstrong, children; Rage, fury, children in; Reproaches others; Rudeness, of naughty children; Shrieking, sleep during; Schizophrenia; Thoughts, morbid.

Following the administration of *Carcinosin* there is often an inflammatory reaction, such as coryza, sore throat, cystitis or skin eruption. A month or two should elapse if possible before interfering with the action of the remedy.

Insomnia or sometimes a history of insomnia is there in cases in which *Carcinosin* is otherwise apparently indicated. Insomnia is present even in children. Sometimes the history of insomnia is in the past, but it is very characteristic. Alimentary disorders are almost equally strong pointer. Of the many kinds, vague dyspepsia, peptic ulcers, diarrhoea and vomiting, diarrhoea in infancy or childhood is found. *Carcinosin* has a reputation in peptic ulcers with a strong family history. Severe whooping cough or pneumonia, is found in the first two years of life in many histories.

Carcinosin patients are influenced by sea air one way or the other; sometimes it ameliorates, sometimes aggravates. Quite often these patients are better at one place on the coast, say East Coast and worse at the South Coast, or vice versa. Majority of the patients influenced in some way by the sea air. Knee elbow position in sleep is often there. Craving or aversion to salt, fruit, eggs, (fat).

Cadmium Salts and Cancer

The cadmium compounds bear a similar relationship to cancer as *Thuja* does to sycosis or *Mercury* to syphilis. *Cadmium* remedies are trimiasmatic, i.e., antipsoric, antisyphilitic and antisycotic, therefore, these are effective against cancer, which is composed more or less of all the three miasms of Hahnemann. *Cadmium sulphuratum*, and *Cadmium oxydatum* have been partially proven and Hering's *Guiding Symptoms of Materia Medica* provides some accounts of *Cadmium. Cadmium* is found in *Cannabis sativa* and in *Asterias rubens,* which is also a remedy indicated in breast cancer. Cadmium has become an environmental pollutant because of its widespread usage in industry. It is used in paints, rubber, batteries, photography, fireworks, fertilisers, etc. Dr Allen Neiswender states in '*The Journal of the American Institute of Homoeopathy*', "*…cadmium is found in trace amounts in the food we eat, the air we breathe and the water we drink. It is all pervasive that it would be difficult to eat a meal without ingesting small amounts of various cadmium compounds*". This observation, taken with Dr Grimmer's experience with these remedies in cancer cases, points out the value of these remedies as additions to the Homoeopathic materia medica.

The cadmiums have been used as antidote to various irritating and injurious conditions that could lead to malignancies. Irritations in the gastrointestinal tract due to faulty and adulterated food substances, chemicals in the water such as chlorine and aluminium poisoning from the use of aluminium cookware have all been treated with these remedies. Of course the cause of the irritation must be removed for a permanent cure. *Cadmium iodatum* is used as an antidote to x-ray and radium poisoning when the capillary beds are destroyed, leaving a necrotic ulcer as a side effect of the therapy.

The most commonly used cadmium remedies are *Cadmium sulphuratum, Cadmium metallicum, Cadmium iodatum*; others, infrequently used include *Cadmium arsenicosum, Cadmium phosphoricum, Cadmium oxydatum, Cadmium bromatum, Cadmium fluoratum, Cadmium selenicosum* and *Cadmium muriaticum*.

Cadmium sulphuratum

Cadmium sulphuratum (Cadm-s.) is one of the deepest-acting and most important medicines of the materia medica, affecting the blood elements and nervous system profoundly. Though its provings are meagre, through its use many cures of serious illnesses that did not respond to other remedies have been accomplished. In its native form, it is found closely associated with zinc; symptomatically also, it induces many of the states of that metal. Upon administration, *Cadm-s.* elicits a number of striking reactions that are commonly seen in all the other *Cadm-s.* First of all, the *Cadm-s.* patient feels cold, is always freezing, and all symptoms are aggravated by cold or from cold changes in the weather. *Cadm-s.*, also induces weakness and fatigue. Upon close examination, this weakness is found to be accompanied by a cachetic state that simulates the cachexia of advanced cancer or pernicious anaemia. Mentally there is a marked increase in irritability with a horror of solitude and work.

Kent places it symptomatically between *Arsenicum* and *Bryonia*, but in some of its nerve manifestations it resembles *Zinc* and *Phosphorus*, especially in its tendency to produce paralysis of single muscles or groups of muscles, such as in facial paralysis. There is tendency to produce necrosis and gangrene with profound blood changes which brings it into comparison with *Arsenicum* and the snake poisons. Wherever inflammatory processes start in the body under *Cadm-s.*, death of cellular tissues soon follows. Many cases of gastric and intestinal ulcers have been cured with this remedy; even cancerous conditions have been greatly mitigated and life prolonged. According to Clarke, apoplexy, boils, chilblains, cholera infantum, corneal opacity, other eye affections, facial paralysis, indigestion, meningitis, nasal polypus, ozaena, and yellow fever have been cured by this remedy.

The wearing effects of grief may require this medicine; also the bad effects following anger may call for it. Great irritability of mind is found in the *Cadm-s.* patient. Also there is a horror of solitude and of work. These symptoms are compatible with the extreme physical weakness and anaemia common to this patient. The appearance of the *Cadm-s.* patient is sad to behold, cachexic; thin; anxious expression; a grayish sallowness; blue circles around puffed lachrymose eyes. Such patients have the mark of deep illness stamped upon them. Blood disorders like pernicious anaemia and other changes in vital organs have long been at work and have culminated, or soon will, in cancer or some other chronic degenerative disease.

Patient suffers from bad effects of checked perspiration, exposure to a draft of cold air. The *Cadm-s.* patient is very chilly, lacking in vital heat to a marked degree; icy coldness even when near a fire; horripilation after drinking, with hot hands; sweat in axillae like *Hepar sulphuricum*; intense itching of the skin at night in bed; when touched; when cold; which is > scratching, causing a voluptuous feeling. Skin is blue, yellow, scaly, cracking, damp; suppurating herpes; chilblains. All agree this remedy is an antipsoric of the highest rank. The character of the pain is burning, cutting, and lancinating. There is a tendency to spasm and constriction in many parts, but especially the throat, that is often associated with painful, difficult swallowing. The nasal symptoms and conditions are pronounced and striking. Nasal polypus with blocked nostrils and severe types of eczema has been repeatedly cured by the remedy. Many symptoms are in the morning and after sleep; walking, ascending stairs. In fact any exertion or motion aggravates this patient and his symptoms (*Bryonia*). The sleep symptoms are troubled and broken as those found under *Lachesis* or *Opium*. Some uncommon sleep symptoms that resemble the carbons and the snake poisons are often seen, e.g., sleeps with eyes open; stops breathing on going to sleep; wakes up suffocating; symptoms worse after sleep; annoyingly protracted sleeplessness; insomnia. In the head there are keen afflictions: constriction; stitches; pulsation; hammering in the head, followed by vomiting; headache with restlessness, icy coldness of the body with epistaxis; constriction of throat; thirst; nausea; vomiting. Headache occurs upon awaking, from open air, from a draft of air, or from sunlight. Herpes of scalp is frequently found. Characteristic eye problems include: cannot read small type; night blindness; scrofulous inflammation; opacity of cornea; hot tears and swellings of the lids; hollow, deep-sunken eyes with blue circles around them.

Noises echo in the head. The nose emits an ulcerative or cancerous odour– ozaena; tightness at root of nose with tension inside; numbness of the nose, erysipelas and boils on the nose; caries of the nasal bones; ulceration of the nostrils.

Cadm-s. acts most intensely on the gastrointestinal tract and produces several symptoms, which include - nausea that is referred to the mouth, chest, and abdomen, with vomiting accompanied by cold perspiration and great weakness with inability to move, as all symptoms are < by the slightest motion (*Bryonia*), after drinking beer, forenoon, during the pregnant state.

Advanced cases of sickness exhibit the black vomit of the late stages of yellow fever or the coffee-ground vomit of cancer cases. There is burning and cutting pain in the stomach. Nausea of drunkards, especially the chronic, broken-down individuals, with pathological changes present; lancinations in the left hypochondrium, symptoms of stomach and hypochondria < by walking or carrying burdens. Salty or rancid belching with cold sweat on the face; cutting pains in the bowels and stools almost gelatinous, yellowish-green, semi-fluid (cholera infantum). Severe cutting in region of the kidneys; urine suppressed, scanty or bloody. Accompanying these symptoms, the face is bathed in cold perspiration and there are cutting pains in the abdomen. Black coffee-ground vomit similar to that in the severe types of zymotic diseases occurs. This remedy competes with *Arsenic* in the ulcerations of the stomach of drunkards. Beer aggravates the gastric complaints. It is one of our best remedies for the complaints and weaknesses of alcoholics.

This remedy should be a splendid one for such cases of vomiting during pregnancy that fail to respond to the usual remedies, and also for pernicious forms of vomiting of black blood from chronic ulcers or cancer of the stomach.

The chest feels dilated, sensation as if the lungs adhered to the chest; interrupted breathing during sleep; brown spots on the chest; swelling of external chest, suppuration of the axillary glands; chest symptoms < squatting. Cough with loss of consciousness, agitation and red face. In fact, the glands everywhere tend to enlarge and break down.

Extreme weakness of the male sexual organs manifested by too frequent seminal emissions - cured or checked by the remedy (Clarke). In the female, the remedy is effective during pregnancy; erysipelas of the mammae; inflamed nipples.

Other symptoms include salivation with bitter burning in the mouth and throat; fetid breath; ulcers, with dryness and burning constriction of the throat; spasmodic movements of the upper lip; facial paralysis from exposure to cold air (like *Causticum* and *Kalium phosphoricum*); crawling sensation on the face; chronic eruption on forehead, nose and around the mouth; swelling of the lips; salivation with an initial sweetish taste, followed by bitterness or burning; fetid breath; ulcers; dryness and itching; burning constriction in throat–dysphagia; brown spots on elbow; boils on the buttocks; restlessness

of the limbs; jactations; startings.

Such, in brief, is a general view of *Cadm-s.* Our proving of this remedy is still far too meagre. A wider knowledge of its symptomatology would enable us to cure severe types of intestinal diseases that often fail to respond to our ordinary remedies.

Remedies that may be compared with *Cadm-s.* are: *Zinc* in nervous conditions; *Arsenicum* is the nearest analogue, especially in the chronic gastric and intestinal conditions with weakness, burning pains, and deathly nausea. *Ipecac* and *Tabacum* for the extreme nausea and collapse symptoms; but these remedies correspond to the more acute and short-lasting complaints. *Ipecac* has nausea with a clean tongue as a characteristic. *Lachesis* may be compared in the constrictions of the throat and in other parts; also the onset of aggravation during and after sleep.

Cadmium metallicum

A study of the best proved of the cadmiums, viz., *Cadm-s.*, must give us a basis for comparison, until the proving of *Cadmium metallicum (Cadm-met.)* is completed, after which we shall have a greater number of symptoms and more comprehensive data to prescribe on.

During my work with *Cadm-met.* for last few years, I have recorded a number of cured symptoms induced in sensitive subjects during the drug's primary action, when the so-called aggravations so often occur. Brief descriptions of characteristic symptoms are as follows:

1. *Cadm-met.* engenders an impulsive irritability that may near the verge of insanity in its violence; this state alternates with deep depression. Loathing of life, hopelessness and apathy are seen, all joy is gone. The patient often is unable to concentrate and may say and do the wrong things, such as putting the salt in the tea instead of sugar. Vivid unhappy dreams of sickness occur, causing worry after awakening. Also noted is an aversion to people, to certain kinds of music, to noise. Odours and unpleasant things, even the thought of them may instill nausea.
2. Vertigo while looking at moving pictures, accompanied with the sensation of something taking the breath away, objects recede and return.

3. Constant severe neuralgic headaches; maddening pressing pains throughout the head, extending to eyes and ears.
4. Old ear discharge with ear pain returned after many years with improvement in hearing. Hearing had been gradually getting fainter for years, suddenly improved after ear discharge.
5. Some pressing pains in the liver and spleen. Violent attack of vomiting with headache; alternation of heat and coldness. Vomiting contains bile and acid.
6. Diarrhoea of black mushy stools, with intestinal pains, followed by improvement in chronic constipation of years' standing. Later, stools become clay-coloured.
7. Breasts felt enlarged and sore; this occurred in several patients. Having intense squeezing pain in region of the heart with a sense of weakness.
8. More frequent urination, discolouring the commode a brownish or deep lemon colour; very hard to wash off the bowl. Haemorrhages from the bladder and the rectum have been cured many times; commonly dark-coloured with small clots, but several bright red haemorrhages were cured.
9. Severe pain in all the joints. Numbness feeling of feet and hands while sitting.
10. Severe neuralgic pains in the face with plugged sinuses followed by facial paralysis after large doses of quinine and aspirin, cured with one dose of *Cadm-met.* 10M.
11. This remedy is best antidote to aluminium poisoning, especially the subtle form that arises gradually after prolonged intake of foods prepared in aluminium cooking utensils.

Cadmium iodatum

Cadmium iodatum (Cadm-i.) is a great glandular remedy–the cervical glands of the neck, the tonsils, the thyroid, the mammary glands, the entire lymphatic system, the testicles and the ovaries. The liver, the spleen and the pancreas are sooner or later involved under the influence of this remedy.

One distinctive mental symptom is hatred, hates everybody and everything. Atheistic and hateful with a high degree of self-pity. All these symptoms, together with an ulceration of the transverse colon, cleared up. A patient

under *Cadm-i.* lost his hatred, became quite humane, kind and gained greatly in weight.

This is a powerful antisyphilitic as well as antipsoric and antisycotic. In fact all the cadmiums may be classed in the three miasms of Hahnemann. The action of *Cadm-i.* is at times aggravated by extreme heat as well as extreme cold. As a rule the patient is less chilly than when under the influence of the other cadmiums. Only a glimpse of the possibilities of these wonderful medicines is shown here. More complete provings will add greatly to the power and use of our glorious Materia Medica.

Lesser Known Remedies

Alcoholus

- Cancerous cachexia with want of strength, want of appetite and prostration of the whole body.
- Chemotherapy induced peripheral neuropathy (CIPN) especially after prolonged use of carboplatin, cisplatin, oxaliplatin, vinblastine, vincristine. Symptoms that have been verified are formication, beginning especially in feet and legs, extending to loins or hands and arms, aggravation when going to bed, mornings and evenings, sleeplessness from constant tingling and numbness must constantly move the affected parts.
- Delayed healing of the wound, post-surgery for malignancies.
- Useful for radiation burns.

Anantherum

- It is useful in indurations of breasts, tongue and cervix characterised by ulceration, inflammation and enlargement of lymph gland.

Antimonium muriaticum

- Cancer of the lower lip.
- Cancer of oesophagus and oropharynx characterised by severe pain with abrasions on mucous membrane of mouth and fauces, ulcers on the tongue with inability to speak. Severe burning pain in throat and fauces with difficulty in swallowing, extending to oesophagus and stomach.
- Cancer of stomach, liver and colon, the following symptoms have been repeatedly verified - incessant vomiting with nausea followed by prostration, burning pain in stomach, griping pains in epigastrium and abdomen is tender to touch.
- Incessant efforts to vomit, and frequent abortive desire to defecate, with cold skin.

Asterius rubens

- Acne punctata, black tips with small red bases.
- Apoplexy; face red, pulse hard, full, frequent.
- Insomnia, sleeplessness, stroke, before.
- Glandular induration of stony hardness after bruises and injuries of glands ultimately leading to cancer as in cancer breast, lymphomas and Hodgkin’s lymphoma. Axillary and cervical lymph nodes enlarged knotted, indurated, worse night.
- Acute lancinating pain worse night in advance invasive duct cancer of mammae.
- Breasts swell the tissues around the nipples get indurated and hypertrophied; nipple sinks into a cavity.
- Cancer of breast in ulcerative stage with fetid discharges.
- Cancer of mammae; acute lancinating pain; drawing pain in breast; swollen, distended, as before the menses; breast feels drawn in. Left sided breast malignancy. Left breast feels as if pulled inward, and pain extends over inner arm to end of little finger. Numbness of hand and fingers of left side. Pain radiates down left arm to fingers, worse motion.
- Cancerous ulcers on the breast with blue and red spot on mammae, cracked nipple and oozing yellowish offensive fluid, the ulcer gradually invades the whole breast, having offensive odour.
- Scirrhous cancer in the breast that tightly adheres to the chest wall.
- Swelling of the breast days before menses appear.
- Increased sexual desire in women with cancer of the breast.
- Cerebral congestion accompanied with obstinate constipation.
- Cerebral metastasis due to breast cancer; the patient awakens with great distress at night time as from electric shocks in the brain. Congestive bursting headaches due to cerebral metastasis.
- Contraction of muscles and tendons. Chorea, general - pocket, keeping hand in, amel.
- Crackling in joints.
- Desire alcohol, strong cheese, brandy, tea, strong coffee and highly seasoned food.
- Gait reeling, staggering, tottering and wavering worse night; muscles refuse to obey the will.
- High blood pressure.

- Inclined to mental or bodily work, to walk, or engage in violent exercise example aerobics.
- Sycotic diathesis.
- Ulcers with granulations; bottom reddish, pale, edges hard, everted, sensitive with sharp pains

Baryta iodata

- Bone marrow affections producing lymphomas and leukaemias.
- Cancer of the thyroid gland where the gland is stony hard.
- Coarse rattling in the chest of old people due to small cell cancer of the bronchus.
- Enlarged and indurated (stony hard) cervical glands due to oral malignancy.
- Enlarged ovary due to cystadenoma, malignant cystadenocarcinoma, Brenner tumour, transitional cell carcinoma of the ovary, virilising Sertoli-Leydig cell tumour, arrhenoblastoma, germ cell tumour.
- Enlarged, inflamed and indurated tonsils leading to cancer of the tonsils.
- Induration of lymph nodes all over the body.
- Enlargement of the mesenteric glands in patients suffering from Lymphoma, Breast cancer, Lung cancer, Pancreatic cancer and Gastrointestinal cancer.
- Mesenteric adenitis from viral infections such as rotavirus or norovirus. It may also result from bacterial infections such as *salmonella*, *staphylococcus*, or *streptococcus*. *Yersinia enterocolitica*. This is the most common cause of mesenteric lymphadenitis in children.
- Fibroadenoma of the breast that is stony hard to touch.
- Generalised tenderness of the breast without any tumour.
- Induration of mammary glands leading to invasive duct carcinoma.
- Mammary cancer after physical trauma to the breast example car accident, cuts, punctured wounds, abrasions etc.
- Strong desire for open air.
- Sub-mandibular glands enlarged and tender.
- Very high leukocytosis.

Bismuthum subnitricum

- Ailments from gastroscopy, laparoscopy and any operation on abdomen.
- Terminal malignancies of upper GI tract where there is great exhaustion on the face, pale earthy appearance, Hippocratic face and blue rings around the eyes. Tongue coated white with sweetish or metallic taste in the mouth.
- Cancer of the stomach; nausea after every meal relieved by cold drinks; violent risings of a putrid smell with violent retching and vomiting of bile and brownish fluid with inexpressible pain in stomach cancer. Oppressive anxiety, small pulse, vertigo and prostration. Haemorrhage of dark blood.
- Cancer of upper GI tract characterised by severe pain which is better by bending backwards, also pain from the stomach and duodenum that extends upwards from the back.
- In cancer of stomach and oesophagus when there is vomiting of water as soon as it reaches the stomach, of food retained longer, of enormous quantities, at intervals of several days when food has filled the stomach; of all fluids as soon as taken; and purging, offensive stools with convulsive gagging and inexpressible pain, after laparotomy.
- In cancer of stomach sensation of pressure as from a load in one spot which is alternating with burning; pain cramping and spasmodic.
- Total loss of appetite in cancer.
- Eructations of wind; after drinking water; frequently empty, with discomfort in stomach.
- Intense burning, cramping pain; terrifying pain and faintness.
- Painless diarrhoea, accompanied with great thirst and vomiting.
- Slow digestion with foetid eructation.
- Desire: Cold drinks, cold food and sour. Thirst; for cold drinks.
- Hiccough due to pressure or load in stomach, worse after eating.
- In acute gastritis and gastralgia with retching and vomiting as soon as water or food touches the stomach. Violent pain in stomach causes fainting, burning pain in stomach that goes to spine, better by cold drinks. Gastro-enteritis. Stools - foul, papescent, watery, offensive with cadaverous odour.
- Cramping pains in the extremities.
- Pressing, tearing in the bones of the hands and of the feet.
- Unbearable solitude; desires light and company.

Cadmium salts

Cadmium has marked action on mucous membranes, especially that of the alimentary canal. It also acts on the mucous membrane of the nasal passage and the ocular conjunctiva.

- Advanced malignancies and terminally ill cancer patients who suffer with multiple complications.
- Cancer of colon accompanied by ischemic heart disease or thyroid disorder.
- Cancer of the gastro-intestinal tract because of chronic use of aluminium utensils.
- Cancer of the skull–sarcoma accompanied by vomiting.
- Cancer of the uterus with constant oozing of the dark red blood.
- Cancers in different parts of the body when exposed to cigarette smoking (active or passive).
- Cancers of gastro-intestinal tract after eating food that has been grown with the help of fertilisers that consists of carcinogens.
- Cervical spondylosis, pain is worse by bending forward, descending stairs, and lying on painful sides.
- Chronic depression leading to loathing of life frustration, hopelessness, apathy for years together ultimately culminating into malignancies especially of gastro-intestinal tracts.
- Chronic inflammation, suppuration and caries of the nasal passage which ultimately culminate into malignancies.
- Complication that arise after radiation therapy.
- During vomiting and diarrhoea strong desire to be left alone.
- Fibroadenoma of the breast leading to invasive duct carcinoma, retraction of the nipples.
- Haemorrhages from rectum due to adenocarcinoma.
- In cancer of stomach and upper gastro-intestinal tract there is nausea and vomiting of acid, black and yellow masses containing blood or bile, with exhaustion, cold sweat, anxiety, restlessness, trembling of lower jaw, icy coldness and thirst also gnawing, cramping pain in the stomach better by eating.
- Maddening pain in the head that extends to eyes and ears in malignancies of the brain.
- Metastasis of liver due to gastric intestinal malignancy.

- Plummer Vinson Syndrome.
- Post-menopausal malignancies of female genital tract.
- Prominently left sided.
- Recurrent attacks of gallbladder colic.
- Softening of bones due to repeated exposure to radiation.
- Sore pain in the breast with inflammation and swelling that precedes months before developing malignancies of breast.
- Strong aversion to music of every kind.
- Trigeminal neuralgia that is obstinate to pain killers and carbamazepine.
- Unhappy dreams of sickness of all kinds that worries the patient on waking in the morning.
- Very weak concentration, making constant mistakes in day to day things example putting salt in the tea instead of sugar, etc.

Calcarea acetica

- Excruciating, constricting pains of cancer.
- Small cell carcinoma of the bronchus characterised by loose rattling cough and an expectoration of casts of the bronchial tubes.
- Cancer of colon accompanied by looseness of bowels, stools of varying character, undigested, offensive, like spoiled eggs, mixed, soft and lumpy; undigested, whitish; stool first hard, then pappy, finally soft; scanty, mixed with blood; diarrhoea which does not weaken the patient; involuntary stool, as if fermented; feels best when constipated.

Calcarea fluorica

- This remedy is indicated when there is a hard stone like condition of the glands due to malignancies, bony exostosis that ultimately develops sarcomatic changes.
- Chronic fear of cancer which ultimately turns in to reality. Strong family history of cancer.
- Fibroadenoma of the breast leading to invasive duct cell carcinoma.
- If used after surgical operations for malignancy the tendency to adhesions is reduced.
- Angiomas and hemangiomas of newborn and infants.
- Oral cancers accompanied by cracked appearance of the tongue, with or

without pain. Induration of the tongue, hardening after inflammation.

- Cancer of the tonsils.
- Gastric malignancy accompanied by vomiting of undigested food, hiccough, flatulency, weakness and daintiness of appetite, nausea and distress after eating in people who are overtaxed by mental and physical stress.
- Cancer of colon characterised by lancinating pains in right hypochondrium worse midnight, lying on painful side, which causes a feeling of bursting outward; better by lying on painless side, and by doubling up; with restlessness.
- Cancer of testis, testes are hard, heavy, and tender.
- Enlarged myomas that ultimately developed into sarcomatic changes.
- Cancer of rectum and anus accompanied with fissure and piles. The cancerous ulcer has hard, elevated edges secreting thick yellow pus with surrounding purple skin.
- Squamous cell cancer of the scalp is characterised by ulcers of the scalp with callous, hard edges.
- There is characteristic bursting headache worse morning waking on, bending head forwards, exertion, noise, reading, vexation, and warmth, better in evening, cold applications, pressure accompanied by numbness.
- Tumours of the eyelids like basal cell carcinoma, squamous cell carcinoma accompanied with severe photophobia and glaucoma.
- Squamous cell carcinoma of the mastoid accompanied by the ossicula with history of chronic discharge.
- Squamous cell carcinoma of the nose and paranasal sinuses. Coryza thick yellowish green or greenish offensive gradually eroding the nasal septum and producing severe loss of smell.
- Benign tumours of pituitary gland that gradually increases and produces pressure effects on post nasal and pharyngeal area leading to nasal and pharyngeal symptoms.
- Metastasis of malar bones due to thyroid malignancies producing severe pain in the face, and painful submaxillary glands.
- Cancer from abuse of mercury due to dental fillings.
- Exostoses on cheek, fingers, patella, tibia and heel, or after injury. Hard, rough, corrugated elevations on bones, bruises of bones, caries leading to development of cancer.
- Metastasis in lumbar vertebra characterised by backache worse

beginning of motion, lifting, sitting relieved by continued motion and warmth.

- Cancer pains are shooting or stabbing, aggravated by cold or by humidity and relieved by warmth.
- Cancer of oropharynx characterised by nasal discharge, which is copious, thick, offensive and greenish yellow in colour, associated with bony lesions. Post-nasal discharge is also present. The throat is excessively dry with much burning and feeling of suffocation; worse by cold drinks and in the evening. Warm drinks afford relief.
- Strong syphilitic miasm in the background.
- Cancer development in patients suffering from congenital malformations e.g. cleft uvula, cleft palate (harelip), calcification of the eardrum, angioma, cephalhematoma, deficient tooth enamel, skeletal disharmony like funnel-shaped chest.

Calcarea oxalica

- Agonising pains of cancer especially of breast.
- Intense pains of cancerous ulcer anywhere in the body with no particular modality.
- Invasive duct carcinoma of the breast with severe ulcerations and cracks of the nipples.
- Development of cancer with tubercular background.

Calendula oficinalis

- Cancerous ulcers that are inflamed, painful with excessive, slough, and pus.
- Cancerous wounds that refuse to heal; wounds that are prone to erysipelas. External wounds with or without loss of substance; torn and jagged looking cancerous wounds; post-surgical operations; to promote healthy granulation and prevent excessive suppuration and disfiguring scars after surgical removal of cancerous tumours.
- Diabetic carbuncles.
- Inflamed cancerous ulcers, painful as if beaten; excessive secretion of pus, surrounding parts red, with stinging pains in ulcer; phagedenic ulcers spreading in depth and width; weak, indolent, sloughing, varicose

or haemorrhagic ulcers, aggravation at night.

- Collapse of lungs during surgical operation.
- Condylomata of uterus turning into cancer.
- Diminished appetite, but relishes food when eating.
- Exhausted from loss of blood and excessive pain.
- Febrile conditions post cancer surgery.
- Great disposition to take cold, especially in damp weather.
- Hemianopia and deafness from brain tumours
- It has a reputation as a homeostatic following the extraction of a malignant tumour.
- Prevents cicatrices and keloid tissue; stimulates healthy granulation. Prevents pus and threatening infection in open wounds.
- Recommended in post radiation burns of the mouth and oesophagus.
- Superficial burns and scalds.
- Traumatic and idiopathic neuroma; neuritis from lacerated cancerous wounds.
- Traumatic iritis.

Carbo animalis

- Adapted to scrofulous constitutions, especially children; or the venous plethora of elderly persons, with blue cheeks, blue lips and great debility, circulation feeble, stagnated, and vital heat sinks to a minimum. Glands indurated, swollen, painful; in neck, axillae, inguinal region, mammae; pains lancinating, cutting, burning.
- *Carbo animalis* is one of the best remedies for the established tumours, hard tumour; indurated and swollen lymphatic glands, sub-cutaneous venous distension, bluish discolouration of infiltrated tissues, burning pains, gastric flatulence.
- It has a special selective action on the breast and stomach cancer and merits special mention not only for its beneficial effects on the general state (gain of weight or temporary arrest of wasting) but also for its action on the tumour itself which regresses, becomes less hard with amelioration of pains.
- This remedy is indicated in the terminally ill elderly cancer patient where there is a general enfeebled atonic condition with venous engorgement, the veins are distended, the extremities and lips are blue;

there is a general lack of vital heat, feet are cold, the patient has an aversion to open cold air.

- After major cancer surgery when the patient is not convalescing properly and complains of coldness of the feet, there is a lack of vital heat, and an aversion to the open, cold, dry air.
- In cases of cancer of ovary especially right ovary; when the menstruation always produces great exhaustion. Induration of uterus that finally ends in uterine cancer, there is offensive discharge from the vagina with sensation of burning, tearing, heaviness and pressing downward.
- In ovarian and uterine malignancy there is copious dark or black offensive blood, worse morning; may flow only in the morning with great weakness and debility. There is severe coldness that accompanies the above condition with burning in the whole genitalia tract.
- It is useful in cancer of the breast, when there is a hard nodule with stinging pains and later when the tissues about the nodule becomes blue and mottled, the axillary glands become enlarged and indurated and there is a burning, drawing pain through the chest.
- It has been found of service in bony metastasis in sacrum and coccyx where sacral plexus is infiltrated with metastasis and produce severe neuralgia. There is a sensation as though the coccyx was bruised, which becomes burning if the parts are touched. Worse touch, pressing at stool, standing, walking and lying on back aggravates.
- In stomach, colon and pancreas cancer where there is excess of nausea and vomiting accompanied by burning and indigestion, can hardly tolerate simple food. Worse at night, after meat. Marked burning pain or empty feeling not relieved by eating. Worse eating and lying. Better passing stool or flatus.
- It frequently affords great relief in the pruritus that attends malignant diseases.
- Chronic cervicitis that ultimately ends in cervical cancer characterised by ulceration and induration of cervix with burning, acrid leucorrhoea.
- During menstruation, excessive prostration, can hardly stand up, with much pain in sacral region and down the thighs; feels so exhausted by the menstrual functions, that women is hardly able to speak; with much chilliness. Menses too soon, last too long, but not too profuse. Leucorrhoea, watery, acrid, and burning, with great debility, lochia,

acrid, very offensive which lasts too long, with much exhaustion, and venous plethora.

- Emaciation and low grade evening fever in terminally ill cancer patients.
- Secondaries in the abdomen accompanied by distension, weight as of a lump, incarcerated flatus and audible rumbling.
- Enlarged, hypertrophied glands, especially of a scirrhous nature with very fetid discharges in terminally ill cancer patients.
- Skin cancer with much ulceration and burning pains.
- Oppression of the chest, esp. in the evening, after meals, and at night. Hoarse suffocating cough in the morning, after rising, in the evening, sleep during, night and lying on right side, excited by a sensation of dryness in the throat. Expectoration purulent, greenish (suppuration of the lungs). Panting respiration. Sensation of coldness in the chest.
- Repugnance to greasy food. Weak digestion; almost all food causes distress.
- It is very useful in last stages of pneumonia, bronchitis and consumption, when the expectoration is purulent and extremely offensive.
- The patient complains of great debility and a sensation of suffocation with burning or coldness in the chest.
- The patient is sad, despondent and desires to be alone.
- The sweat stains yellow and is debilitating with fetid odour.
- Easily sprained from lifting even small weights; straining and over lifting easily produces great debility.

Carboneum sulphuratum

- Brain cancer in patients who are chronic alcoholics; cancer in workers of coal mines.
- Cancers in women who have been forsaken by their husbands.
- Chronic lead ingestion leading to neurological disease and malignancy.
- Cancer of ear, nose and throat accompanied by Meniere’s disease.
- Cerebral congestion leading to frank motor paralysis.
- Headache with vomiting due to increased intracranial pressure. Trembling, twitching and cramps in muscles months or weeks before paralysis happens due to increased intracranial pressure or stroke due to brain tumours. Tumours of the cerebellum.

- Chronic catarrh of bladder leading to cancer of bladder.
- Cortical visual impairment and cortical blindness due to brain tumours. Corneal reflex absent. Defective vision e.g. the most common visual disturbances might be caused by a brain tumour include blurred vision, double vision, foggy vision, partial or total blindness, a defect of seeing area in different parts (typically lost peripheral vision up to tube vision) and colour blindness. These visual disturbances mostly are results of developed optic neuropathy, as the results of direct (by tumour) and indirect (by elevated intracranial pressure) optic nerve damage.
- Arthritic nodosities of the hand. Gouty rheumatic constitution highly prone to develop auto-immune arthropathy. Painful exostosis on the head.
- Eyes and face sunken with locked jaw.
- Cerebral oedema from brain tumours esp. Gliomas. Epilepsy from brain tumours. Chronic paraplegia due to involvement of corticospinal tract and spinothalamic tract. Chronic sciatica of right lower limb. Deep tendon reflexes are exaggerated.
- Emphysema and empyema of the lungs.
- Desire for beer and alcohol and aversion to meat.
- Goitre.
- Liver enlarged and hard.
- Loquacity and stammering speech with cerebral stroke.
- Loss of consciousness and fainting from brain tumours.
- Loss of sudden memory with stroke.
- Loss of vision in multiple sclerosis.
- Paralysis of optic nerve, oculomotor and abducens nerve from brain tumours.
- Paralysis of the tongue with atypical speech.
- Paraplegia–unsteady gait, tottering; worse in dark.
- Plantar extensions.
- Progressive myopia.

Choline

- *Choline* is a constituent of *Taraxacum* root. It has given encouraging result in the treatment of cancer, especially through its action on the liver.

Cholesterinum

- Cancer of liver with severe hepatic engorgement. Cancer of left lobe of liver and gallbladder. It is used for cancer of liver where presence of jaundice or gallstones is important pathological finding.
- Gallstone colic, attacks come and go suddenly, pushing pain in region of gall duct, region of liver; sore, sensitive to touch or jar, aggravated by lying on the side. Profuse urine before the attacks; aggravated by bending or sudden motion.
- Severe burning pain in the right hypochondriac on walking, motion and jar. Has to hold the right hypochondrium by hand.
- Severe jaundice due to hepatocellular carcinoma, jaundice and gall stones.
- Tongue coated dirty yellowish-white.
- Insomnia from excessive physical and mental exertion.

Cinnamonum

- It is especially indicated in cancer when pain and fetor are present.
- It is useful in haemorrhages which are bright red in colour.

Cistus canadensis

- Development of cancer due to chronic exposure to vexation and emotional excitement.
- The patient is extremely sensitive to cold with marked coldness of various parts.
- Chronic nasal catarrh leading to cancer of nasopharynx. Cancer of nose, lower lip and jaw, the tumour is very sensitive to touch (*noli me tangere*). Caries of the lower jaw.
- Cancer of the mammary gland, naso-pharynx and neck. Abscess of mammae.
- Cervical lymph node enlarged and tender due to secondary metastasis from oral cancer, breast cancer, stomach cancer, lung cancer, etc. Enlargement and induration of lymphatic tissues all over the body. Head is drawn to one side by swelling of cervical glands. Induration and inflammation of parotid and submaxillary gland. Induration and

suppuration of mesenteric glands.

- Chronic laryngitis leading to cancer of larynx. Sensation of dryness as if sand in the larynx. A spongy feeling in the throat is very characteristic
- Throat dry with much hawking of thick, tough, tasteless mucus. Must swallow saliva to relieve the unbearable dryness, especially at night. Dryness in throat better after eating. Throat and laryngeal pain after mental excitement. Dry throat and pain in sinciput better by eating and drinking. Coldness of the tongue, in the throat, in the stomach, in the chest, and in the abdomen; cold feet.
- Sensitive to cold. Every draft of cold air seems to run right through them. Every exposure ushers in new complaints. Cold feelings in various parts of the body, such as larynx, chest, and abdomen. Tendency to recurrent coryza in winter with yellow discharge and much sneezing. Snuffles.
- Cracked canthi, lips and finger tips.
- Hard callosities on hands and all over the skin.
- Empty and cool eructation. Frequent nausea; with diarrhoea. Diarrhoea after eating fruit; after drinking coffee; thin, hot, yellow; worse from midnight till noon. Diarrhoea due to tuberculosis of intestine.
- Protruding the tongue hurts.
- Desire for acid food, spices, fruits and cheese, but pain and diarrhoea follow eating them.
- Mammae hard, swollen and tender.
- Chapped hands.
- After eating: pain in stomach; cold feeling in stomach. After drinking coffee, diarrhoea.
- Asthma, trachea seems too narrow, wants fresh air, worse when lying down.

Citricum acidum

- Menorrhagia due to cervical and uterine cancer.
- Bony pains in hands and feet due to skeletal metastasis.
- Neuralgia on tongue due to squamous cell cancer.
- Painful enlargement of spleen in leukaemia.

Cocculus indicus

- Vertigo in patients with cerebral malignancies, worse morning rising after, open air, coffee, eating after, menses before, mental exertion, motion, rising from sitting and stooping, loss of sleep, turning the head when, wine. Accompanied by vomiting, noises in ears, headaches, with tendency to fall sideways, better by lying down.
- Unmarried and childless women, sensitive and romantic girls who suffer from prolonged unresolved grief with excessive mortification and humiliation, finally ending in cancer of brain, spinal cord and female genital tract.
- Metro-menorrhagia in women with ovarian and uterine malignancies.
- Spinal cord tumours characterised by spinal irritation and great hyperesthesia of all the senses, with stiffness of the neck and pain in the lower portion of the spine. Painful contracture of limbs and trunk. Patient is constantly complaining of his back as if paralysed. Further there is unwieldiness of lower extremities; they cannot lift their legs while walking but drag them along. Knees sink down from weakness and they practically totter while walking, as if about to fall. Soles of feet go to sleep.
- Guillain Barre syndrome characterised by sense of prostration and constriction through the whole spine.
- Severe occipital headache, nausea and vertigo is a common symptom with majority of neurological problems.
- Hepatic metastasis characterised by spasmodic and flatulent colic with cramping pains in the stomach, preventing sleep, violent pinching, griping and cramping pains in the epigastric region, great distension of the stomach from accumulation of gases.
- Migraine due to brain tumours, they will often say that they feel dead tired, exhausted, and rather giddy. They have a peculiar sensation of the head being empty and numb, followed immediately by a sensation as if it would burst with pain, as if the skull were opening and shutting. The pain is very severe, particularly at the back of the head, and the intense pain is almost always accompanied by nausea and may go on to actual vomiting. It is aggravated by sleep; after having a little sleep they always waken with the headache much worse.
- It is greatly aggravated by any stimulant such as coffee, alcohol and

especially tobacco. During the headaches they develop intolerance for hot rooms, and want cold air. When the pain is severe in the occiput, the back of the head becomes extremely tender and they cannot bear to lie down. If the headache has continued for some time, particularly the occipital type, it extends down the back of the neck and the patient feels as if a tight cord were pulling the head back and down the spine. The pain is aggravated by motion particularly any sudden motion, also by mental effort, and by any use of the eyes.

- Following symptoms are repeatedly confirmed when there is cerebral metastasis or primary brain tumours, the typical picture is that of mental and physical prostration. All the reactions are slowed down. The patients cannot be hurried, they want a long time to do everything, all the movements are slow. There is a tendency to incoordination and they are liable to drop things, and complain of sudden jerking of the limbs. They are liable to suffer from violent headaches with nausea and vomiting. These may be brought on by any form of travelling, by car, boat, train or aeroplane. They suffer from great weakness in the knees and back, often with a sense of stiffness in the joints and a feeling of being almost paralysed, frequently coupled with a feeling of numbness. They are very sensitive to noise, jarring, or any sudden movement. The appetite is practically lost and there may be an acute aversion even to the thought of food. They suffer from sleeplessness and are prostrated by any loss of sleep.
- Dementia and Alzheimer's type of symptoms develop quite early before the actual tumour develops in nervous system. The following symptoms should indicate its presence, e.g., lassitude permeates throughout the illness. It is quite an exertion for him to stand; even talking is a taxation.
- A constant tendency to faint associated with a feeling of sickness and nausea, great hyperesthesia of all the senses and exalted susceptibility to impressions, starting and shuddering, migratory numbness which comes and goes inexplicably, and melancholia characterise. Mentally, they are distracted; they experience great difficulty in reading and thinking; slowness of comprehension is apparent from their speech and behaviours. They take a long time where they have to deliberate, as mental process is deficient. They cannot find right word while answering, partly due to forgetfulness, and partly to difficulty in understanding what is heard. At times this becomes so pronounced as to

border on imbecility.

- Metastasis in liver and abdomen characterised by severe cramp like pain in the liver producing hepatitis and jaundice coming especially after a bout of anger, midnight, touch, jar, cough, inspiration, intestinal colic, pain as if intestines squeezed between sharp rocks, worse riding, inspiration, bending double, jarring, accompanied by nausea from the thought or odour of food, painful distension of the abdomen.

Codeinum phosphoricum

- Excessive pain of cancer with no other indications.
- To be used in very low potency, with infrequent repetition.

Corydalis formosa

- Cancer in patients having strong past or family history of syphilis.
- Ulcers in the mouth and fauces leading to oral cancer.
- Chronic digestive disorders of the upper gastrointestinal tract characterised by thick coating of the tongue, excessive mucus in the mouth and fetor oris leading to cancer of oesophagus stomach and duodenum.
- Chronic enlargement of liver and spleen especially in chronic myeloid leukaemia.
- Development of cancer in patients suffering from AIDS.
- Lymphoma’s and Hodgkin’s terminal stages.
- Swelling of lymphatic glands in different parts of the body due to secondaries, autoimmune disease and leukaemia.
- Cancer cachexia.
- Offensive, profuse mucous secretion from the stomach.
- Icy coldness of the whole body with lack of vital heat.
- Lack of reaction in chronic disease.

Cundurango

- I have observed the value of *Cundurango* in oesophageal, stomach, or intestinal cancers–constant burning pains and vomiting. One of its valuable external sign is fissure of the labial commissures. It also acts on

cancer situated at the mucocutaneous junctions like lips, anus, and lids.

Eosinum

- Burning pains in the tongue due to cancer. The tongue is discoloured red.
- Burning under fingers and toe nails.
- Nausea and burning in the stomach in patients suffering from cancer of the stomach.
- Numbness of the tongue.
- Redness of lips with aphthae on inner surface in patients suffering from cancer of the oral cavity.

Euphorbia heterodoxa

- Burning pains in cancerous affections especially liver and bones, accompanied by terrible burning pains which are aggravated at rest, night; with restlessness, weakness, chilliness.
- Osteosarcoma of femur, skull with severe burning pain worst night.
- Pain of chordoma, coccygeal pain worst rising from sitting, sitting at stool.
- Cancer after abuse of mercury.

Formica rufa

- Cancer in patients who have lived a prolonged life of humiliation and insults.
- Cancer of the breast where pain extends to the back.
- Enlargement of mesenteric glands.
- Haemorrhage from the bladder due to transitional cell carcinoma.
- Tendency to form new growths like polyps.

Fuligo ligni

- Chronic irritation of mucous membranes of mouth and uterus leading to cancer.
- Cancer in chimney sweepers, especially scrotal cancer.

- It is useful in epithelioma of the skin and for cancer especially of scrotum and uterus.
- It is also used for obstinate non-healing malignant ulcers of the skin.
- Complimentary to *Kreosotum* in cancer.
- Suicidal thoughts due to suffering of cancer.

Galium aparine

The key sensation of the remedy would seem to be one of being overwhelmed. It is one of the fast growing weed that soon overwhelms the area in which it grows and with the clinical evidence of its efficacy in treating cancers, which would place it in a syco-syphilitic miasm. The sensation of being overwhelmed was found clearly in the mental and emotional pictures, in dreams, particularly of overwhelming responsibility, and in the way that physical symptoms became cumulatively overwhelming.

- It has a specific action on the urinary organs producing diuresis.
- It has been used for ulcerated cancers and for nodulated tumours of tongue.
- Benign ulcers on the tongue leading to malignancies.
- Cancer of the mammae with cracks on the nipple.
- Cancerous pain worst in the night.
- Enlarged lymph nodes in the neck due to cancers in the oral cavity.
- Malignancies of the tongue, skin and urinary tract.
- Ulcers on the tongue that indurated and non-healing.

Helleborus niger

- Altered sensorium characterised by slowness in answering thoughtless staring and involuntary sighing.
- Apathy and indifference with neurological disorders related to cancer.
- Behavioural problems in persons having cerebral metastasis or primary brain tumours.
- Cerebral oedema due to benign and malignant brain tumours producing dullness, drowsiness and indifferent behaviour.
- Depression in patients suffering from increased intra-cranial tension due to brain tumour.

- Increase intracranial tension leading to semi-paralytic condition; poor grasping of what they see, hear or taste; the picture is one of perfect idiocy. There is constant somnolence, out of which the person may be roused with difficulty, but he rarely gains full consciousness. He has no desire of his own and when left alone, he sinks back into slumber. He lies upon his back with his limbs drawn up.There is occasional sliding down in bed.
- It is an important remedy for deep coma, when midbrain or ascending reticular system of brain is damage; the patient cannot be aroused even with lot of stimulus; here it may be meningitis or a hydrocephalus associated with coma. There is fever, the hands and feet are cold, the head hot and the urine is suppressed. There is the 'cry encephalique', the eyes are wide open or sunken with staring. The pupils are dilated or alternately contracted, but insensible to light. Eyeballs turn upwards; squinting, vacant look. The head is rolled from side to side on the pillow or is drawn backward. There is rigidity of the cervical muscles, the forehead is wrinkled and covered with a cold sweat. The face is also pale, sunken, covered with cold sweat and wrinkled. There is horrible smell from mouth, lips dry and cracked, tongue red and dry, dropping of lower jaw, meaningless picking of lips, grinding of teeth, chewing motion, greedily swallows cold water, though unconscious, ptyalism, with sore corners of mouth. Thumb drawn into palm. Automatic motion of one arm and leg.
- Malignant brain tumours that produces neurological deficits of various kind example cranial nerve palsies, hemiparesis, hemiplegia, paraplegia, etc.
- Meningitis and encephalitis in patients with malignant disease of the brain where head is drawn back. There is stiffness of the cervical muscles. The skin of the forehead is contracted and covered with perspiration. The person starts and screams during sleep. There is hanging of the jaws, the breathing is irregular and there is sighing. The head is bored into the pillow, and there is an anatomic motion of one arm and one leg. It is of service in acute meningitis during the second stage when effusion has either taken place or is threatened.
- Neurological deficits like hemiplegia and loss of power in different parts of body due to metastasis in nervous system. This is characterised by muscles that do not act in harmony unless the attention is fixed upon

them; the walk is slow and tottering, and there are twitching, tearing pains in the limbs, sudden relaxation of muscles. Falling of object held in the hand. There is a staggering gait, with want of firmness in the legs, and bending of the knees, vesical tenesmus, impotence, with flaccid penis.

- Respiratory paralysis due to neurological affections resulting from malignancy of neurological system especially midbrain and medulla oblongata. The respiration is accelerated, arrested, deep, gasping, irregular, loud, panting or slow, stertorous. If patient is conscious, he is obliged to sit up.
- The urine is scanty, with a coffee-ground sediment, or it is suppressed. The patient is unconscious, stupid, the eyes are insensible to light, the urine is suppressed, the forehead is wrinkled, the jaws are moved as if chewing, the head is pressed back, there are sudden screams with continuous motion of an arm or foot.
- Diarrhoea is accompanied with neurological complaints like meningitis, encephalitis and coma. The stools consist of clear water of jelly-like mucus; this may be associated with tenesmus.
- Vomiting and convulsion due to increased intracranial pressure.

Hoang nan

- It is capable of ameliorating the fetor and haemorrhages of cancer by causing an improvement in the general condition.
- It is especially indicated in cancer of the glandular structures.

Hydrastis canadensis

- Adenocarcinoma of the stomach accompanied by empty all gone sensation in the epigastrium, with lack of appetite, congestion of the liver, constipation, the stools are pale and clay coloured, the tongue is coated yellow and there is a bitter taste in the mouth. Digestion of starches is impaired, causing sour eructations. There is inability to digest vegetables with a dull aching pain in the pit of the stomach, which causes a sensation of weakness in that region. Vomits all they eat, except milk and water mixed.
- All cancerous complaints are attended with weakness and great physical

prostration.

- Cachexia characterised by pale face with worn and weary appearance accompanied by myalgia.
- Cancer of nasopharynx accompanied by hypertrophic nasal catarrh, with profuse, yellow, tenacious mucus, the discharge passing into the posterior nares which become obstructed, the whole condition being followed by frontal headache, ulceration of the septum with tendency towards perforation, with thick, tenacious discharge, the ulcers bleeding on touch.
- Cancer of the rectum accompanied by prolapse of the rectum with ulcers in the mucous membrane and fissures about the anus that are dependent upon inertia or congestion of the lower bowel. Cancer of sigmoid colon associated with obstinate constipation; with dull headache; sinking sensation; during stool: smarting burning pains in rectum, after stool: burning and smarting in rectum; long-lasting pain in rectum; exhaustion.
- Cancer of the uterus characterised by ulceration of cervix and vagina or very frequently destroyed with epithelioma. Os uteri very tender. Hot watery discharge from uterus. Leucorrhoea: tenacious, ropy, thick yellow. Uterine haemorrhage; menorrhagia and metrorrhagia. Pruritus vulvae, with profuse leucorrhoea; sexual excitement.
- Cancerous pains that are knife like sharp and cutting.
- Cancerous tumour that are hard, adherent to skin and puckered.
- Hepatocellular carcinoma of the liver characterised by large, flabby tongue presenting a slimy appearance. It is covered by a yellow, furry coat. The appetite is impaired, there are sour eructations with a dull aching pain in the stomach better from eating. The liver is enlarged, hard, tender and sore with evidences of gall-stones. The skin and conjunctivae are yellow, the urine is dark coloured, and contains bile, while the faeces are light coloured. The bowels are usually constipated and the stools often mixed with mucus. Clothing feels uncomfortable about the groins.
- Invasive duct carcinoma of the breast with retracted nipple. Lancinating pain in breast extending up to the shoulder and down arm, pains like knives thrust into part. Hard, irregular tumour of left breast, nipple retracted, glands in axilla enlarged and painful, with cachexia.
- Malignancies in persons who have abused alcohol throughout their life and destroyed their constitution.

- Non-Hodgkin’s lymphoma characterised by glandular enlargement all over the body accompanied by atonic dyspepsia, gastric catarrh and a constipated state of the bowels with a broad indented tongue and distress after meals.
- Indicated in very serious cancer patients. Metastasis from cancer that totally deranges gastric and hepatic functions.

Kreosotum

- Bleeding, ulcerations, vegetations, develop rapidly and emit a burning discharge, excoriating, fetid; such are the principal signs of *Kreosotum* which act especially well in cancer of cervix.

Lupulinum

- Chronic gonorrhoea leading to genital cancer.
- Chronic myeloid leukaemia.
- Excessive pains of cancer.

Mercurius nitrosus

- The patient becomes suicidal with pain.
- Cancer cachexia.
- Cancer of the eye; it is of great value in various inflammations, especially pustular conjunctivitis and ulcers of the cornea, with burning and excoriating lachrymation, photophobia, great sensitiveness to heat or cold, sharp sticking pains and nightly aggravation.
- Cancer of the oral cavity characterised by inflammation of the mucous membrane, violent pain in the mouth, profuse salivation, coppery taste in the mouth with offensive odour.
- Cancer pain so severe that makes the person roll on the floor.
- Glandular tuberculosis.

Methylenum coeruleum

- Cancer of colon.
- Excessive tympanites.

- Non-small cell cancer of the bronchus with haemoptysis.
- Recurrent nephritis leading to cancer of kidney, never well since nephrectomy.
- Sarcoma of long bones especially of femur.
- Suppressed gonorrhoea leading to cancer.
- Uremia due to chronic nephritis.

Monilia albicans

- Allergic bronchial asthma.
- Barrett’s oesophagitis leading to severe acidity and burning sensation in the oesophagus worse any mental exertion. Heart burn worse eating or drinking anything.
- Cancer after suppressed eruptions or discharges.
- Cancer in people who are been dominated for years together. Cancer after suppressed emotions. Inhibited and suppressed to express their feelings and sentiments to others. Cancer in patients who cannot cope up with the demands of the modern society or cannot handle expectations of the people around them. Tendency towards exploitative relationships leading to cancer. Unable to handle day to day stress.
- Cancer of oesophagus, severe heartburn and nausea.
- Cancer of uterus and ovaries in women having severe dysmenorrhoea.
- Chronic eczema between fingers, elbows and dorsum of the feet. Chronic fungal infection between fingers and toes especially in wet and damp weather.
- Chronic offensive discharge from umbilicus.
- Chronic otitis media leading to deafness.
- Chronic sinusitis leading to cancer of nasal passages and nasopharynx.
- Desire for chocolate, milk, sweet and salt. One of the strongest remedy for craving for sweets.
- Extreme weakness and prostration after suppressed anger.
- Forsaken feeling from loved ones.
- Helpless and defenceless way in this kind of situation, showing vagueness and indirect and ineffectual aggression.
- Intertrigo and eczema in the inguinal region.
- Irresistible desire to clench teeth constantly.
- Severe constipation and diarrhoea or flatulence after abuse of antibiotics.

- Thick dry cracked lips and tongue in cancers of oral cavity.
- Ulcerative colitis with excessive flatulence. Celiac disease.
- Vulvitis and lichenoid vaginitis. Kraurosis of vulva leading to cancer of vulva and vagina.

Morbilinum

- Cancer of larynx producing laryngismus stridulus.
- Enlargement of the cervical lymph nodes due to secondaries.
- Hypertrophy and swelling of spleen in leukaemic patients and lymphomas.
- Leucoplakia and spots on the tongue that ultimately land up in cancer.
- Rattling cough with stridulus breathing.

Morphinum salts

- Acute and chronic uraemia due to metastasis in kidney, adrenal gland and urinary bladder.
- Asphyxia worse during sleep, worse lying down wakes up from the sleep gasping for breath.
- Bursting headaches due to brain tumour and intracranial tension. Cerebral metastasis leading to vertigo worse turning the head, strabismus, paralysis of the muscles of accommodation and ptosis. Cerebro-vascular accidents leading to coma in cerebral metastasis.
- Cancer pain unmanageable with morphine or any other pain killer. The patient twitches and turns and no position is comfortable.
- Cancerous pain is better by warm application
- Cancer of the pharynx and oesophagus with difficulty in swallowing especially solids.
- Clenched jaw, locked jaw, narrowing of the oral commissure due to advanced cancer in the oral cavity. Making speech almost impossible.
- Constipation dry hard black balls, stool has to be removed mechanically.
- Difficult speech from chorea; difficult to find expression; difficult speech from swelling of tongue; excited; hasty; hesitating.
- Dry brown dirty coated tongue with cancer. Dryness of the mouth with lack of appetite and constipation in terminally advanced cancer patients who are on morphine therapy.

- Dry, hard, teasing, exhausting cough, worse at night.
- Deathly nausea with vomiting in cases of cancer of oesophagus and stomach. Excessive nausea in patients who are on morphine for a long time, which include tramadol buprenorphine, methadone, diamorphine, oxycodone, pethidine, codeine and dihydrocodeine.
- Extreme susceptibility to pain; pains are so violent as to threaten convulsions or cause twitching and jerking of the limbs.
- Hiccough due to disordered or paralysed diaphragm, with dyspnoea, fainting and struggling for breath, Cheyne-Stokes respiration.
- Increase intracranial tension due to cerebral metastasis.
- Left sole icy cold, as if standing on oil cloth. As if worms were in legs. Staggering gait. Restlessness of legs; wants them held.
- Obstinate constipation in people who are on opiates group of drugs.
- Paralysis of fauces and pharynx so that swallowing becomes extremely difficult.
- Paralysis of the diaphragm.
- Paresis of internal recti.
- Profound depression in cancer patients.
- Respiratory paralysis with Cheyne stroke breathing.
- Retention of urine with prostatic hypertrophy.
- Staggering gait due to metastasis in the lumbar vertebrae and spinal cord.
- Trembles before and during a thunderstorm.
- Tympanites in cases of intestinal obstruction due to secondaries in the abdomen.
- Violent pulsations in carotid and temporal arteries due to cerebral congestion.
- Severe neuritis especially of upper and lower limbs after chemotherapy example:
    - Platinum-based drugs: carboplatin, cisplatin, oxaliplatin
    - Taxanes: paclitaxel, docetaxel, and cabazitaxel
    - Epothilones, such as ixabepilone
    - Plant alkaloids: vinblastine, vincristine, vinorelbine and etoposide, thalidomide, lenalidomide and pomalidomide
    - Bortezomib and carfilzomib
    - Eribulin.

Natrum cacodylicum

- Extreme weakness and prostration after chemotherapy.
- Puckering of the skin over the tumours.
- Severe anaemia in terminally ill cancer patients.

Natrum sulphuricum

- Automatic motion of hands, legs, thighs, and motions of the hands to head.
- Awkwardness of fingers and hands, drops things from hands due to weakness of extremities due to cerebral tumours.
- Cancer in patients with strong tubercular background
- Dementia from brain tumours.
- Increased intracranial tension due to cerebral malignancy producing convulsion characterised by involuntary movements on one side while other side is paralysed. There is coldness of extremities accompanied with convulsion. The convulsions are clonic epileptic type occurring after deep sleep with tetanic rigidity
- Malignancy of brain that are remotely connected to any major or minor head injuries.
- Paralysis of extremities due to neurological malignancy characterised by clenching of fingers and thumb.
- Parkinsonism features due to cerebral malignancy.
- Respiratory paralysis due to malignancy associated with respiratory system and neurological system characterised by respiration that is accelerated, deep, gasping, irregular, panting, slow, stertorous.
- Leukaemia of all forms accompanied by severe anaemia and early neurological involvements especially in acute lymphocytic leukaemia. Leukaemia with severe bony pains.
- Twitching of upper and lower extremities during sleep.

Okoubaka aubrevillei

- The stomach can only hold cold aerated water if drunk in small sips.
- Severe nausea and vomiting after chemo-therapy. Vomiting immediately after eating or drinking. Excessive prostration after vomiting.

- Watery stool immediately after eating or drinking, painless diarrhoea.

Ornithogalum

- This remedy has a remarkable action on the pyloro-duodenal sphere.
- Its main use are in cases which are associated with vomiting of coffee-ground colour.
- There is presence of pain in the stomach which is increased when food passes through the pyloric outlet.

Quercus

- Ascites in cases of malignant tumour.
- Chronic alcoholism with tendency to develop diseases of the bone marrow.
- Chronic fistula in anus ending in cancer of the rectum.
- Enlarged spleen in patients suffering from leukaemias.
- Febrile conditions associated with disease of the bone marrow.
- Spleen enlarged and tender.

Radium bromide

- It is useful for cutaneous epitheliomata and as an antidote for bad effects of x-ray radiation in a patient who has been treated too intensely.
- It is also used in cases of ulcers due to radium burns which take a long time to heal.

Rajania subsamarata

- Acute headache in cases of brain tumour, like a nail being driven into the head.
- Breath foetid, putrid, repulsive.
- Cancer of colon due to chronic amoebic dysentery, chronic bacillary dysentery, ulcerative colitis and irritable bowel syndrome.
- Cancer of colon gurgling in the right iliac fossa, with pain at McBurney’s point. Abdomen retracted into a boat shape.
- Cancer of female genitalia; labia majora excoriated.

- Cancer of the tongue and oral cavity–tongue fissured, with black stripe in the middle and red, excoriated edges. Aphthae and ulcerations which bleed at times, on the tip of the tongue.
- Cancer of tongue consequent after constantly chewing tobacco and tobacco related products. Black tongue especially in the centre. Excoriation on the sides of the tongue.
- Sticky saliva, nicotine-coloured, like that of a tobacco chewer.
- Constipation alternates with diarrhoea. Diarrhoeic stools, mucopurulent, blood-streaked, loosely bound, very foetid.
- Excessive prostration in cancer patients, jaw hangs, muscles relaxed, slips into bed. Severe prostration leading to collapse.
- Menses with offensive blood, blackish with a bitter odour.
- Non-small cell cancer of the lungs leading to pneumonia, abscess and gangrene of the lung.
- Post infectious encephalitis e.g., measles, mumps, chicken- pox.
- Post vaccination meningitis, encephalitis, meningitis in cancer patients.
- Skin cancers, painful ulcers with bluish blackish margins.

Rhamnus californica

- Brain tumours with bursting sensation in the head with every step better from pressure.
- Tendency to form large malignant ulcers between the gums and the cheeks. Cancer of the gums and lips accompanied by clean tongue in the centre.
- Rheumatic inflammation of joints.
- Soreness and sensitiveness all over head.
- Twitching eyelids.

Sempervivum tectorum

- Cancer of tongue due to excessive exposure to alcohol tobacco and pungent food. Scirrhous induration of tongue. Chronic soreness of the tongue that ultimately leads to cancer. Tongue has ulcers; bleed easily, especially at night; much soreness of tongue with stabbing pains. Enlarged and engorged veins behind the tongue. Fissure indurated tongue. In scirrhous cancer of the tongue, the side of the tongue is

ulcerated, sore and painful. Mouth ulcers that ultimately turns into malignancy. Whole mouth extremely sensitive due to ulcers in the mouth.

- Edmund Hale mentions several notable cases of ulcers in the mouth, suspiciously like cancer, have been reported cured by the local application, and internal use.
- In squamous cell carcinoma of tongue there are ulcers that bleed easily, especially at night, accompanied with much soreness with stabbing pains. The pains are aggravated by eating spicy and sour food.
- Persistent leukoplakic spots in the oral cavities that ultimately turns into malignancy. Oral candidiasis in patients suffering from cancer of oral cavity.
- Ranula on the base of tongue.
- Non-healing of the surgical wound after operation in the oral cavities due to squamous cell carcinoma.
- One of the best remedy for cancer of tongue, mammary gland and rectum.
- Stabbing, stinging pain in the breast worse at night in patients suffering from infiltrating duct carcinoma.
- Stinging shooting pain in cancerous ulcer.
- Tendency to produce chronic fungal infections of the skin like tinea versicolour and ringworm.
- Tendency to produce squamous cell carcinomas originating in the tissues that line the mouth, tongue, floor of the mouth, cheek lining, gingiva, lips, or palate.
- Tendency to produce warts.
- It is a very old domestic remedy, used for nearly the same purposes as the *Plantago*. It is applied to painful ulcers, boils and felons.

Scirrhinum

- Burnett proved it on himself, and produced ‘a tremendous sinking at the navel’, which he regarded as a keynote for its use.
- Breast cancer of old women. Breast cancer with excessive scirrhus tissue. Retraction of nipples.
- Cancerous diathesis.
- Deep sinking of navel is an important concomitant symptom.

- Enlargement and induration of glands all over the body.
- Induration of cervical glands.
- Lancinating pains of cancer
- Non-small cell cancer of the lungs.
- Recurrent tonsillitis leading to cancer of tonsils.
- Supra-clavicular and sub-mandibular lymph nodes enlarged, hard and tender.
- Used as an intercurrent remedy in breast cancer and adenocarcinoma of prostate gland and Hodgkin's and Non-Hodgkin's lymphoma.
- Varicose veins.
- Works wonderfully in thread-worm.

Scrophularia nodosa

- Almost specific remedy for Hodgkin's disease, and other lymphomas.
- Possesses an affinity for muco-cutaneous junctions (oral cavity, anus) resulting in development of cracks, fissures and ulcers, ultimately leading to malignant changes. Also covers tumours of eyes (staphyloma, dermoid, etc.) and mouth (painless); warts and condylomata at various places; polyps in ear, nose, larynx, and uterus; fibroids of uterus (with metrorrhagia); exostoses and caries of bones and hypertrophied prostate. Also has within its sphere malignancy of tongue, liver, rectum, uterus, breasts, larynx, skin and bones-with marked malignant cachexia.
- Mother tincture can be applied locally to enlarged indurated lymph nodes three times a day.
- Benign fibroadenomas of the breast in little girls with strong history of sycotic miasm. Fibroadenoma of breast leading to breast cancer especially right side of the breast.
- Cancer of sigmoid colon with several stools daily and tenesmus.
- Chronic appendicitis turning into cancer of appendix.
- Distressing photophobia.
- Eczema of ear, hot, stinging, itching, penetrating into the meatus.
- Great drowsiness before and after meals.
- Haemorrhoids painful, protruding, grape-like, swollen especially with cancer of rectum.
- Liver tender to touch.
- Ophthalmia neonatorum; intolerance of light; raw lids; pustular

ophthalmia and leucoma.
- Pruritus vaginae.
- Recurrent history of Epstein Barr virus.
- Recurrent periostitis of lower jaw due to malignancies of the jaw.
- Recurring metritis.
- Secondaries in the cervical lymph node, like knotted cords.
- Severe headache through temples, appearing in morning, extending to vertex and occiput due to bony metastasis from breast cancer.
- Stiff neck with pain and contraction of right sternocleidomastoid muscle due to enlarged cervical lymph nodes.
- Tubercular testis.
- Tumours of the hematopoietic and lymphoid tissues.

Sedum acre and Sedum repens

- In material doses, i.e., mother tincture or 1x and 3x, they have an undeniable action on cancer in general, give weight to the patient and occasionally modify the tumour or at least retard its progress. Their principal sign is their tendency for mucosal and cutaneous fissures which is so frequent in cancerous or precancerous state.

Viscum album

Viscum album's active principle is viscotoxin, a mixture of acetylcholine and choline.

- Acoustic neuroma with deafness.
- As a local application, as mother tincture in fungating cancers to reduce odour and secondary infection.
- Benign tumours turning into sarcomatous changes.
- Burning in the feet.
- Cancer in person suffering from uric acid diathesis.
- Cancer of cervix, uterus with excessive haemorrhage which is bright red, profuse, coagulated and gushing especially in postmenopausal women.
- Cancer of the sacrum and coccyx producing sciatica.
- Cancer pains–tearing pains.

- Chordoma especially around sacro-coccygeal area.
- Chronic endometriosis turning into cancer.
- Chronic valvular heart disease with low pulse rate and low blood pressure.
- Entrapment of vagus nerve by the secondaries in lymph node either from stomach or any intra-abdominal cancer.
- Epilepsy from brain tumour.
- Excessive hypersensitivity to noise in terminally ill cancer patients.
- Fibrillation of muscles with cancer cachexia.
- Formication in extremities post cisplatin chemotherapy.
- Metastatic deposit in the right shoulder joint characterised by feeling of a burning coal under the right shoulder.
- Multiple secondaries in spinal cord leading to right sided lumbago, sciatica.
- Obstinate constipation with hard and dry stools in cancer patients who are on morphine-sulphate.
- Pelvis syndromes associated with malignancies leading to severe sciatica worse lying in bed, cannot turn in the bed worse by slightest movement which produces terrible pains.
- Persistent vertigo in brain tumours.
- Restlessness of the leg; cannot keep the legs still.
- Rheumatoid arthritis ameliorated in fresh air and by the movement.
- Stiffness and muscular pains in the nape of the neck, and back producing torticollis in patients having secondaries in cervical lymph node.
- Suffocation when sleeping on left side in small cell cancer of lungs along with rattles in the bronchi and painful frequent cough which is scanty, grey or yellow.
- Weakness, tiredness and exhaustion better by drinking wine.

X-ray

The proving on X-rays was conducted by B. Fincke in 1897, on ten provers, using 6x, and published in the *Proceedings of the International Hahnemannian Association*, pages 47-76.

We are indebted to Dr John B. Campbell, one the original provers, for the discovery of the great value of this remedy in rousing the reactive vitality of

the system, both mentally and physically. Thus bringing to the surface suppressed symptoms of persons suffering from combination of the miasms. This is one of the strongest anti-sycotic remedy that very deep seated action and is frequently used to treat, palliate and cure malignancies. Dr Chiron and Dr A.H. Grimmer mentions that side effects of radiation can easily be antidoted by making frequent use of remedy *X-ray*.

Other indications of *X-ray* in my practice are:

- It is usually indicated in cases following skin lesions produced by repeated exposure to x-ray. X-ray is also used in leukaemia.
- It antidotes the unfortunate effect of radium in patients who have been treated by it.
- Amenorrhoea after chemotherapy and radiation.
- Anorexia with increased thirst.
- Aplastic anaemia.
- Arouses vitality and strength in patients who are on chemotherapy and radiotherapy.
- Atrophy of testes and ovaries due to exposure to radiation leading to sterility.
- Blue ring around the eyes years before developing cancer.
- Cancer in AIDS or SLE patients.
- Cancer of thyroid gland.
- Cancer that arises from lymphatic system, bone marrow like Hodgkin's disease, or Hodgkin's lymphoma; secondary cancers in lymph nodes; leukaemias of all types; myelodysplastic syndrome; AIDS associated lymphomas, osteosarcoma, wings tumour, fibrosarcoma, chondrosarcoma, multiple myeloma.
- Cancerous pains which are stinging.
- Cancerous tumour with excessive swelling and oedema.
- Chronic depression in cancer patients.
- Chronic fatigue syndrome.
- Chronic psoriasis that leads to skin cancer.
- Crackling of the neck.
- Desire for sweets and aversion to meat.
- Distressing pain of cancer.
- Dry cracked skin.
- Extra systole.

- Greenish diarrhoea during chemotherapy.
- Greyish mucus on teeth during chemotherapy.
- Haemorrhagic syndrome in cancer patients.
- Hair falling after chemotherapy.
- Ingrown toenail.
- Increased intracranial pressure in patients with cerebral metastasis.
- Insomnia in cancer patients especially during radiation and chemotherapy.
- Kidney colic in patients suffering from renal cell carcinoma.
- Lack of presenting complaints in cancer patients.
- Lack of reactivity.
- Leucocytosis, thrombocytopenia, and anaemia.
- Low sperm count.
- Necrosis of cartilages in cancer of larynx.
- Never well since chemotherapy.
- Never well since immunosuppressive therapy.
- Never well since radiation.
- Painful stiffness of neck in patients having metastatic carcinoma in the neck.
- Peau d'orange skin after mastectomy.
- Profuse night sweats in patients undergoing radiation and chemotherapy.
- Psoriasis of palms.
- Radiation burns. Radiation dermatitis.
- Rheumatism; of smaller joints like wrist and finger joints cracking sound in almost all joints, of the body.
- Sciatica of right side.
- Skin cancers that arises from excessive exposure to sun.
- Tendency to recurrent streptococcus infection in cancer patients.
- Tubercular constitution that ultimately develops cancer.
- Ulcerative colitis and irritable bowel syndrome ultimately ending into cancer of colon.
- Very low INR.
- Warts all over the skin.
- Weakness after infectious mononucleosis.
- Weakness after influenza.
- Wounds heal slowly.

Role of Indian Drugs for Cancer in My Practice

I have been a big believer of Indian herbs since my early days in Homoeopathy. I am grateful to the works of late Dr S.C. Gosh, Dr B.N. Chakraborty, Dr S.K. Dubey who taught me the significance of Indian herbs in day to day practice. Honestly, the results were fantastic, but I must confess that I had not used these herbs for cancer patients until I met the genius of Indian herbs, Dr Pankaj Bhatnagar from Delhi who showed me hundreds of successful cancer cases. Since then I have started using them in my practice. They are not only good for cancer but also for allied illnesses associated with cancer. I am grateful to him for sharing so much knowledge. I use most of these herbs in low potency. Some of the herbs are not available, and hence, I had to make potencies myself with the help of my daughter. I recommend St. George's Homoeopathic Pharmacy, Mangalore, and Wheezal Laboratories, Dehradun who make Homoeopathic remedies from these special herbs on request; they are extremely reliable.

Arabia acaota (Babool leaves)

Potency: 1x to 3x

It is used for reducing the inflammation, and oedema around hard and soft tissues, especially in cancer of hard and soft palate, larynx, pharynx and lungs.

Non-cancer uses:

- It has the power of shrinkage of mucous membrane, and so it reduces the swelling of urinary tract.
- Allergic disorders of the eyes, conjunctivitis, epiphora.
- Candida infection.
- Dental ailments: gingivitis, pyorrhoea, caries.

- Diabetes; to minimise the complications related to diabetes.
- Diarrhoea.
- Dysentery.
- Early union of fractures.
- Eczema.
- Haemostatic; it prevents bleeding.
- Leucorrhoea.
- Liver disorder.
- Local application in burns and septic wounds (sprinkle babool powder).
- Menorrhagia, metrorrhagia, dysfunctional uterine bleeding.
- Sexual disorders - spermatorrhoea, ejaculation disorders.
- Sore throat (gargle with babool powder).
- Tonsillitis.
- Urinary tract infection.
- Vaginitis.

- Worms.

Amaltas *(Cassia fistula)*

Potency: Q

It prevents pneumonia and reduces excessive secretion or phlegm in the lungs. It also helps in controlling the cough. If it is mixed with *Eucalyptus* Q, *Belladonna* Q, *Camphor* Q in its inhalation, it gives immediate relief in dyspnoea; in fact, this can be a substitute for nebulisation to relieve respiratory distress in Non-small cell cancer, Small cell cancer, Adenocarcinoma.

Non-cancer uses:

- Acidity
- Ageusia
- Asthma
- Common cold
- Constipation
- Fever

- Flatulence
- Intestinal disorders - chronic colitis
- Leprosy
- Skin disorders - chronic ringworm.

Amla *(Phyllanthus emblica)*

Potency: Q

It has regenerative power, useful in all types of cancer. Oral cancer, stomach cancer, oesophageal, pancreatic cancer. The destroyed cells are replaced by healthy cells in cancer.

Non-cancer uses:

- Acidity
- Anti-oxidant

- For ulcers
- Hairfall
- Improves immunity
- Skin allergies
- Purification of blood
- Improves eyesight.

Allium sativa (Lason, Garlic)

Potency: Q to 3x

Garlic is a powerful detoxifier providing protection against pollutants heavy metal toxicity. Through research, it has been shown that out of the 50 compounds present in garlic, 10 are active in reversing cancer development. It strengthens the heart, it also nourishes, and has a positive effect on stomach, spleen and lungs. It is also effective in the treatment of arthritis prevent breast cancer, heart diseases, stroke etc. The presence of allicin makes garlic to have offensive odour. But this can be avoided by removing the allicin before preparation.

Cancer larynx and pharynx, Cancer oesophagus, Cancer rectum, Cancer stomach, Cancer tongue.

Non-cancer uses:

- Africans use garlic as anti-bacterial agent to relieve boils, sore throats and infected wounds.
- French use garlic to relieve arteriosclerosis, allergies, asthma, arthritis, bronchial disorders, incontinence, acne, liver diseases, hypertension and emphysema.
- West-Indians use its bulb-extract to relieve hypertension. They apply the extract on the abdomen to facilitate parturition.
- It can also be used as a mosquito repellent when mixed with olive oil and applied on the body.
- It is an immune enhancer, liver protecting agent, anti-stress agent etc.
- In Thailand, people eat raw garlic to avert diarrhoea caused by parasites. A decoction prepared using fresh bulb is ingested orally to relieve inflammation. Crushed bulb is used as a poultice.
- In Yugoslavia, hot water extract of the bulb is used to relieve diabetes.
- Southwest Americans use garlic to relieve cough while Appalachians use it to relieve chest colds and pneumonia.
- Unani medicine uses garlic to relieve intestinal infection, dysentery, arthritis, colic in children, and food poisoning.
- The essential oil from garlic is used as diuretic, antimicrobial, antispasmodic, emmenagogue and anti-asthmatic.
- In nutrition, it is useful for the control of glucose tolerance for both high and low sugar in the body by helping to reduce or increase insulin requirement.
- It also helps to reduce blood cholesterol. It helps to protect against the narrowing of the arteries.
- Used in painful condition of wound and neurologic condition.
- If mixed with glycerine, it gives immediate relief in painful condition of oral cavity.
- Alzheimer’s degeneration.
- Asthma.
- Blood disorders.
- Digestive disorder.
- Diphtheria.
- Coughing.
- Diabetes.

Allium ursinum

Allium ursinum and *Allium sativum* share a number of benefits. Both types of garlic help maintain healthy cholesterol levels, have antioxidant properties, and also have antifungal and antibacterial properties. However, *Allium ursinum* has a number of advantages over *Allium sativum*. *Allium ursinum* possesses cholesterol and blood pressure regulating characteristics. It is anti-helmintic, anti-asthmatic, anti-cholesterolemic, antiseptic, antispasmodic, astringent, cholagogue, depurative, diaphoretic, diuretic, expectorant, febrifuge, hypotensive, rubefacient, stimulant, stomachic, tonic and vasodilator. The plant is considered to be a very efficient spring tonic, giving a boost to our immune system. It thus promotes the general health of the body, having positive effects on the liver, gallbladder, stomach and intestines. It is particularly efficient in reducing high blood pressure and cholesterol levels. It also has a good effect on fermentative dyspepsia. It eases stomach pains and helps promote digestion, and therefore can be used in the treatment of diarrhoea, colic, excessive gas, indigestion and loss of appetite. In the form of an infusion, it can be used in treatment of threadworms. Additionally, it can be beneficial in the treatment of asthma, bronchitis and emphysema. Juice made from the plant can be used in weight loss programs. When used externally, it can be helpful as a circulation stimulant in cases of rheumatic and arthritic joints.

Cancer oesophagus and cancer tongue.

Non-cancer uses:

- Anti-asthmatic
- Anti-bacterial
- Anti-fungal
- Anti-hypertensive
- Anti-oxidant
- Maintains cholesterol levels
- Rheumatism.

Aloe vera

It promotes the renewal of healthy, non-cancerous cells. It stimulates metabolism, fortifies the body and combats fatigue. Detoxifies the body, protects from autoimmune diseases. Improves blood circulation and combats diabetes and cholesterol. It is also a powerful human shield, it protects from infection, reinforces the metabolism and effectively stimulates the immune system. Good protector of the liver; promotes good blood circulation. Reinforce the immune system and improves blood circulation. Improves cellular oxygenation. It has very specific effects on the skin, acts against skin aging. Prevents skin cancer.

CA cervix, CA lungs, CA oral cavity, CA skin.

Non-cancer uses:

- A good remedy for burns, healing wounds, cuts and injuries.
- Eczema, dry skin, pruritic, psoriasis. Restores shine to hair skin and nails. Eliminates dandruff.

- Cleanses the intestinal flora and combats constipation.
- Antiseptic, antifungal.
- Antioxidant.
- Helps maintain cholesterol levels.
- Improves blood circulation.

Averrhoa bilimbi

It seems to be effective against coughs and thrush. It fights against cholesterol and is used as a tonic and laxative. It is also known to control internal bleeding in the stomach. It is also used to stop rectal bleeding and alleviate internal haemorrhoids.

CA colon, CA rectum.

Non-cancerous uses:

- Laxative properties.
- Remedy for haemorrhoids.
- Helps control cholesterol.

Black Pepper *(Piper nigrum)*

Potency: 1x to 6x

It acts as a stimulant of mucous membrane of oral cavity, oesophagus, lungs, etc.

CA stomach, CA duodenum, CA colon, CA liver.

Non-cancerous uses:

- Asthma
- Dementia
- Obesity
- Sinusitis
- Vitiligo.

Bael *(Aegle marmelos)*

Potency: Q

Its fruits pulp is highly energy giving for the patient especially when diarrhoea or dysentery occurs.

CA oesophagus, CA stomach, CA intestine, CA colon, CA rectum.

Non-cancerous uses:

- Diarrhoea

- Dysentery
- Weakness.

Banfasa *(Viola odorata)*

Potency: Q

Highly useful in CA lungs, CA throat; relives the cough and swelling of chest. CA oesophagus.

Helps in evacuating phlegm through stools.

Non-cancer uses:

- Acts as a tranquiliser.

Bambusa arundinacea

Bambusa is used to treat joint pains, back pains and various inflammatory conditions. It is used as a laxative and is helpful in inflammations, ulcers and wounds. *Bambusa* has astringent, acrid, sweet, cooling, expectorant, constipating, cardio-tonic, haemostatic, aphrodisiac, and diuretic properties. It is used to treat infantile epilepsy. It is used as an abortificient for kidney troubles. Also used for general mobility, strengthening of cartilage in osteoarthritis and osteoporosis, the most powerful silicon supplier. It has emmenagogue, vulnerary, and febrifuge properties.

CA brain, CA kidney, CA spinal cord, Secondaries in pelvis.

Non-cancer uses:

- Aphrodisiac properties
- Backache
- Constipation
- Joint aches
- Kidney affections
- Laxative
- Osteoarthritis

Boswellia serrata

Studies show that boswellia may reduce pain and inflammation of joints and may be useful in treating osteoarthritis. Boswellia might help to reduce joint swelling in cases of rheumatoid arthritis. Boswellia may interfere with the autoimmune process, which would make it an effective therapy for RA. Due to the herb's anti-inflammatory properties, Boswellia may be effective in treating inflammatory bowel diseases such as Crohn's disease and ulcerative colitis. For asthma, Boswellia can play a role in reducing leukotrienes, which causes bronchial muscles to contract. A study found that patients who took Boswellia experienced decreased asthmatic symptoms. The herb could play an important role in treating bronchial asthma. Boswellia acids act in a number of ways that may inhibit cancer growth. Boswellic acids have been shown to prevent certain enzymes from negatively affecting DNA. Studies have also found that boswellia may fight advanced breast cancer cells, and it may limit the spread of malignant leukaemia and brain tumour cells. Another study showed Boswellic acids to be effective in suppressing the invasion of pancreatic cancer cells. Besides being an effective anti-inflammatory, Boswellia can be an effective pain killer and may prevent the loss of cartilage.

CA bones, CA liver, CA spleen, Hodgkin's lymphoma, Osteosarcoma.

Non-cancer uses:

- Asthma
- Inflammatory bowel disease
- Osteoarthritis
- Rheumatoid arthritis

Camphor (*Cinnamomum camphora)*

Potency: Q

CA stomach.

Non-cancer uses:

- Diarrhoea
- Nausea
- Vomiting

Carica papaya folia

Carica papaya leaves juice significantly accelerates the rate of increase in platelet count among patients with dengue fever and dengue haemorrhagic fever. There is a protective effect for *Carica papaya* leaf extract against alcohol induced acute gastric damage and blood oxidative stress.

CA duodenum, CA intestine, CA liver, CA stomach.

Non-cancer uses:

- Antioxidant.

Cassia alata

Cassia alata or *Senna alata* is often called the Ringworm bush because of its very effective fungicidal properties. Besides skin diseases, it is also used to treat a wide range of ailments of stomach, fever, asthma, snake bite and venereal diseases. It has shown antibacterial activity against a wide range of

bacteria.

CA rectum, CA skin.

Non-cancer uses:

- Asthma
- Eczema
- Herpes
- Impetigo
- Psoriasis
- Ringworm
- Scabies
- Syphilis

Catharanthus roseus

It is known as Madagascar periwinkle; it was used in Madagascar, and in many of the countries as a folk treatment for diabetes. Researchers investigating its medicinal properties discovered that it contained a group of alkaloids that had potential uses in cancer treatment. Two of these alkaloids, vincristine, and vinblastine, can be used in purified form to treat common types of leukaemia and lymphoma. The discovery of vincristine is credited with raising the survival rate of childhood leukaemia from under 10% to over 90%.

Non-cancer uses:

- Diabetes
- Diarrhoea
- Dysentery
- Haemorrhoids
- Hypertension

Crataeva niruvala

It inhibits the formation of urinary stones and it is a diuretic. It reduces the production of urates within the body. It increases the tone of the bladder and prevents the formation of stones. It has tonic properties too.

CA adrenal gland, CA kidney.

Non-cancer uses:

- Prostatitis
- Urinary tract infection

Cressa cretica

It is a useful mother tincture for asthma, bronchitis, dyspepsia, flatulence, colic, anorexia, anaemia, diabetes and skin disease. This species is reported to be anti-bilious, anti-tubercular, and expectorant. It is used for anthelmintic, tonic and aphrodisiac purposes, enriches the blood, and is useful in constipation, leprosy, asthma, urinary discharges, in the treatment of diabetes and general debility.

CA bladder, CA liver.

Non-cancer uses:

- Anaemia
- Anorexia
- Diabetes
- Impotency
- Tuberculosis

Daruhaldi *(Berberis aristata)*

Potency: Q

It has a property to increase urine output and hence acts as a diuretic.

CA bladder, CA prostate, Renal cell carcinoma.

Non-cancer uses:

- Hematuria
- Renal calculi
- Retention of urine
- UTI

Devadar *(Cedrusdeodara)*

Potency: Q

It helps in healing of the wound if applied externally. It is very useful during dropsy, urinary tract cancer, swelling of cancer wounds and lymph node metastasis.

CA bladder, CA prostate, CA urethra, Metastasis in lymph nodes.

Non-cancer uses:

- Acne
- Conjunctivitis
- Diabetes
- UTI

Eucalyptus (Nilgiri)

Potency: Q

It is used as external application, or inhalation. It is useful in relieving respiratory distress and spasm by inhalation. If used as external application with pine (leaves) Q, and sheesham (leaves) Q, it helps in faster healing.

Heals cancer wounds with maggots, CA bronchus, CA larynx, CA nasopharynx.

Non-cancer uses:

- Anti-fungal properties
- Anti-inflammatory properties
- Asthma
- Bronchitis
- Burns
- Sinusitis

Eschscholzia californica

California poppy is used for insomnia, aches, nervous agitation, bed-wetting

in children, and diseases of the bladder, and liver. It is used to promote relaxation. It causes general weakness, torpor, accelerated respiration, and complete paralysis of the limbs. In combination with other herbs, California poppy is used for depression, long-term mental and physical tiredness (neurasthenia), nerve pain, various psychiatric conditions, blood vessel problems, sensitivity to weather changes, and sedation.

CA brain, CA kidney, CA lungs.

Non-cancer uses:

- Bed-wetting
- Depression
- Insomnia
- Nervousness
- Neurasthenia
- Paralysis of limbs

Fenugreek

Fenugreek is used for digestive problems such as loss of appetite, upset stomach, constipation, and inflammation of the stomach (gastritis). It is also used for conditions that affect heart health such as hardening of the arteries (atherosclerosis) and for high cholesterol and triglycerides. Fenugreek is used for kidney ailments, beriberi, mouth ulcers, boils, bronchitis. Fenugreek is rich in vitamins such as thiamine, folic acid, riboflavin, niacin, vitamins A, B6 and C and are a storehouse of minerals such as copper, potassium, calcium, iron, selenium, zinc, manganese, and magnesium. Fenugreek mother tincture is a rich source of vitamin K as well. Fenugreek seeds are rich source of trigonelline, lysine and L-tryptophan. The seeds also contain a large amount of saponins and fibres that could account for many health benefits of fenugreek. It increases breast milk. Fenugreek contains saponins that help reduce the body’s absorption of cholesterol from fatty foods. Prevents diabetes; an unusual amino acid (4H0-11e), so far found only in fenugreek, has possible anti-diabetic properties such as enhancing insulin secretion under hyperglycaemic conditions, and increasing insulin sensitivity.

Studies have shown that the fibres in fenugreek help prevent certain cancers. For example, it is found that fenugreek has oestrogenic effects and could be a

possible alternative to hormone replacement therapy (HRT). Other studies have shown that saponins and mucilage in fenugreek bind to toxins in the food and flush them out, thus protecting the mucus membrane of the colon from cancers. The positive effect of fenugreek on physiological aspects of male libido was also found, and that it may assist to maintain normal healthy testosterone levels. Fenugreek aids in digestion and it is said to be an effective remedy for heartburn or acid reflux, because the mucilage in fenugreek seeds assists in soothing gastrointestinal inflammation, coating the stomach and intestinal lining. Fenugreek complements the diet and exercise for weight loss. This thermogenic herb also aids weight loss by suppressing appetite, increasing energy in the short term, and potentially modulating carbohydrate metabolism.

CA bone, CA breast, CA colon, CA liver, Lymphoma.

Non-cancer uses:

- Aphthae
- Bronchitis
- Eczema
- Erectile dysfunction
- Gastritis
- Infertility
- Parkinsonism
- Tuberculosis

Fragaria vesca

CA kidney, CA liver, Metastasis in abdomen.

Non-cancer uses:

- Anasarca
- Biliousness
- Convulsions
- Erysipelas
- Gonorrhoea
- Urticaria
- Renal calculi

Gajpipli *(Scindapsus officinalis)*

Potency: Q

It is useful during lactation, it opens the ducts of lacteal glands.

CA lungs, CA breast, CA spleen, CA liver.

Non-cancer uses:

- Ascites
- Bronchitis
- Hepatomegaly
- Pain in breast
- Splenomegaly
- Swelling of breast

Guduchi *(Tinospora cordifolia)*

Potency: Q

Leukaemia, metastasis in the bones.

Non-cancer uses:

- Allergies
- Gout
- Leprosy

Genda (Marigold, Tagetes erecta)

Potency: Q

It has the power to stop bleeding of wounds immediately if applied externally.

CA rectum, CA bones, Lymphoma, CA female genitals.

Non-cancer uses:

- Blepharitis
- Bleeding wounds
- Conjunctivitis
- Cramps
- Eczema
- Gastritis
- Sprains
- Warts

Gambhari *(Gmelina arborea)*

Potency: Q

It acts as a tonic. Also used for different types of blood cancers.

CA oesophagus, CA stomach, Leukaemia.

Non-cancer uses:

- Bleeding disorders
- Constipation
- Dysuria
- Hairfall
- Infertility

Garcinia cambogia

Garcinia cambogia, a tropical fruit also known as the Malabar tamarind, is a popular weight-loss supplement. It blocks your body's ability to make fat and it puts the brakes on your appetite. It could help keep blood sugar and cholesterol levels in check, too. Garcinia cambogia may make it easier for your body to use glucose, the sugar your cells need for energy. That is another reason, besides weight loss, that people with diabetes are interested in it. Some research has found that Garcinia cambogia can also improve cholesterol levels, lowering triglycerides and LDL and raising HDL.

CA liver, CA stomach.

Non-cancer uses:

- Bleeding disorders
- Cholesterol
- Diabetes
- Gastritis

Graviola officinalis (Annona muricata)

Graviola is a powerful herb, which has excellent medicinal properties. Though the leaves of the *Graviola* tree is the one that possesses the highest medicinal properties, the fruits, the bark, the seeds and the roots also have properties that can cure many human ailments. The extract of the *Graviola* herb is a potent cancer-fighting agent; it has been proven very effective in curing any kind of cancerous disease, including tumours of the brain, breast, colon, lung, pancreas, prostate, and skin, etc. Scientists at Purdue University have claimed that there is a direct relationship between acetogenins and cancer. They state that the presence of annonaceous acetogenins will reduce the chances of cancer in humans. *Graviola* belongs to the family of *Annonaceae*. *Graviola* extract resists the further growth of cancerous cells by inhibiting the enzymes needed for the growth of these cells, similar to an antibiotic, as well as by interfering with the mitochondrial anerobic energy metabolism of cancer cells, while not effecting the aerobic energy metabolism of healthy cells. Thus, *Graviola* is an excellent herb in resisting the growth of cancerous cells without any side effects, and assists the body, esp. the liver, in detoxification. Thus, it is a perfect, natural chemotherapeutic agent. It is a potential antioxidant. It is very effective for high or low blood pressure. The other medicinal uses of *Graviola* extract include: it is a very good anti-depressant, anti-bacterial, anti-viral, vasodilator and sedative. Consumption of *Graviola* extract has proven that it is a very good reliever of stress by improving the blood supply to brain and heart muscles. Also it eliminates all kinds of health affecting worms and parasites that inhabit the human intestine and increasing the appetite. *Graviola* extract can be applied on the skin to improve the complexion too.

CA bones, CA liver, CA lymphatic system.

Non-cancer uses:

- Atherosclerosis
- Heart disease
- Hypertension
- Insomnia
- Leishmaniasis
- Malaria
- Rheumatism
- Worms

Guarana

It contains a large percentage of Caffeine, so this can be used for certain forms of sick headache. Guarana is used for weight loss, to enhance athletic performance, as a stimulant, and to reduce mental and physical fatigue. It is a frequent addition to energy and weight loss products. Some people also use Guarana to treat low blood pressure and chronic fatigue syndrome (CFS), and to prevent malaria and dysentery. lt is also used to enhance sexual desire, to increase urine flow, and as an astringent. Other uses include treatment of ongoing diarrhoea, fever, heart problems, headache, joint pain, backache, and heat stress. It has been used in the past as an aphrodisiac, diuretic, astringent, and to prevent malaria and dysentery, diarrhoea, fever, headache, and rheumatism.

CA bones, CA kidney, CA liver, CA male genitalia, CA oral cavity.

Non-cancer uses:

- Hypotension
- Malaria
- Obesity
- Rheumatism

Harad *(Terminalia chebula)*

Potency: Q

Acts as a purgative and as an anti-cancer drug in all types of cancer.

It is a nectar according to Indian system of medicine.

CA colon, CA liver, CA oesophagus, CA rectum, Leukaemia, Lymphoma.

Non-cancer uses:

- Anaemia
- Anorexia
- Bronchitis
- Gout
- Haemorrhoids
- Vomiting

Hing (Asafoetida)

Potency: Q to 3X

Useful for cancer of oesophagus, stomach and intestines. In CA lungs, it is highly effective and reduces the size of cancer growth. It can also be used as an expectorant in cough, bronchitis, and dyspnoea. It may cause vomiting in few cases that too, in the beginning, but this is a good sign of improvement.

CA intestines, CA lungs, CA oesophagus, CA stomach.

Non-cancer uses:

- Bronchitis
- Dysmenorrhoea
- Nausea and vomiting
- Neuralgia
- Toothache
- Obesity

Haldi *(Curcuma longa)*

Potency: Q

Useful in blood cancers, skin disease related with malignancy. Also has the power to reduce swelling and acts as a wound healer.

CA colon, CA liver, CA oral cavity, CA oesophagus, CA rectum, Leukaemia, Lymphoma.

Non-cancer uses:

- Alzheimer’s disease
- Arteriosclerosis
- Arthritis
- Asthma
- Diabetes
- Eczema
- Psoriasis
- Swelling anywhere on the body

Harpagophytum procumbens

Pain in joints, tendon and muscles. Aggravation on change of weather. Osteoarthritis is a highly prevalent musculoskeletal disorder. *Harpagophytum procumbensis* a traditional South African herbal remedy used for rheumatic conditions. *Harpagophytum* has been used for centuries as a medicinal plant to treat a wide range of illnesses, from digestive system disorders to infections and sores. It has been found to be effective in the treatment of degenerative rheumatoid arthritis, osteoarthritis, tendonitis, kidney inflammation and heart disease. *Harpagophytum procumbens* also seems efficacious in the treatment of arthritic hip and knee pain.

CA bones, CA glands, CA kidney, secondaries in bones.

Non-cancer uses:

- Heart disease
- Inflammation of the kidney
- Osteoarthritis
- Rheumatoid arthritis
- Tendonitis

Indigofera tinctoria

The plant *Indigofera tinctoria*, popularly known as Neely in Tamil, belongs to the family Fabaceae, is found throughout India. *Indigofera tinctoria* is bitter, thermogenic, laxative, trichagenous, expectorant, antihelminthic, hepato-protective, anticancerous. Useful in gastropathy, splenomegaly, cephalalgia, cardiopathy epilepsy, neuropathy, chronic bronchitis, asthma, ulcers, skin diseases, diuretic and is useful for promoting the growth of hair. *Indigofera tinctoria* is also used in constipation, liver disease, heart palpitation and gout.

CA bones, CA glands , CA liver, CA lungs, CA spleen.

Non-cancer uses:

- Asthma
- Chronic bronchitis
- Epilepsy

- Gout
- Laxative
- Liver diseases
- Splenomegaly

Indrajow *(Wrightia tinctoria)*

Potency: Q

It is useful in vaginal cancers, as it reduces the pain and discharge. It is useful for CA uterus and CA cervix.

CA cervix, CA uterus.

Non-cancer uses:

- Dandruff

- Non-specific dermatitis
- Psoriasis

Jyotishmati (Mal Kangani, *Celastrus paniculatus*)

Potency: Q to 1x

It is useful after neurosurgery, if the patient has lost the memory; also useful for memory loss due to enlarged brain tumour. It cures comatose condition. It is also effective for depression.

Brain tumours, enlarged cervical lymph nodes.

Non-cancer uses:

- Adenitis
- Cervical lymphadenopathy
- Comatose conditions

- Constipation
- Flatulence
- Loss of appetite
- Loss of memory
- Osteoarthritis
- Rheumatism

Khair (Katha, *Acacia catechu*)

Potency: Q to 1x

It is useful in oral cancers as it heals the ulcerated mucous membrane of oral cavity, oesophagus and stomach. It also relieves CA tonsils and pharynx, hoarseness of voice.

CA mouth, CA oesophagus, CA pharynx, CA tongue, CA tonsils.

Non-cancer uses:

- Anaemia
- Bronchitis
- Dental problems
- Diarrhoea
- Hoarseness of voice
- Leprosy
- Pyorrhoea

Kalijiri (*Centratherum anthelminticum*)

Potency: Q

It is used internally and externally. It reduces metastatic swelling of lymph nodes if applied externally and also reduces the swelling of axillary lymph node in CA breast by external application. It increases the milk and discharge from the breast and hence gives relief in painful condition of breast (whether malignant or benign). It helps in fast healing.

CA breast, CA colon, CA gallbladder, CA oesophagus, CA stomach.

Non-cancer uses:

- Acid-peptic disease

- Constipation
- Gastritis
- GERD
- Hiccoughs
- Eczema
- Psoriasis
- Dysmenorrhoea
- Bleeding gums

Khus (Anantherum, Chrysopogon zizanioides)

Potency: Q

Skin cancer.

Non-cancer uses:

- Allergies
- Anti-septic properties
- Gout
- Rheumatism

Khubkala (Hedge mustard)

Potency: Q

It acts as a tranquiliser, gives relief and relaxes the mental condition of the patient.

Colon cancer, Gastric cancer.

Non-cancer uses:

- Allergic conditions of upper and lower respiratory tract.
- Cholera.
- Hoarseness of voice.

Kachnaar (Bauhinia variegata)

Potency: Q

It is useful in CA metastatic lymph nodes with wounds either in neck, axilla, groin or retroperitoneal region.

Enlarged, swollen and indurated lymph nodes, Hodgkin’s disease, Lymphomas, Metastatic lymph nodes

Non-cancer uses:

- Bleeding disorders
- Haemorrhoids
- Leprosy

Lotus *(Nelumbo nucifera)*

Potency: Q

It acts as a wound healer, blood purifier. It has a cooling property if applied externally on wounds and hence useful in burning pain of wounds and swollen parts.

Hodgkin’s lymphoma, Leukaemia, Myelo-proliferative disorder

Non-cancer uses:

- Acts as a blood purifier.
- Relieves burning pain.

Lucca cocus (Peepal Gum)

Potency: Q

Leukaemia, CA mouth, CA oesophagus, CA stomach, CA tongue.

Non-cancer uses: It acts as a blood purifier.

Lodhra *(Symplocos racemosa)*

Potency: 1x to 6x

It is useful for all types of blood cancer and also for thalassaemias and spleen disorders. The results are remarkable. Lodhra is grahi (absorption enhancing), sheeta (cooling), and laghu (light) which itself is a unique combination, which makes it very useful in reducing inflammation and heaviness in the body. Lodhra is used in epistaxis (raktpitta), the people who have high pitta generally experiences nose bleeding, the absorbing quality of lodhra helps in thickening of blood to stop haemorrhage. According to Ayurvedic texts, the main indication of Lodhra is to maintain the pitta (Agni) and the kapha (phlegm) in the body. Lodhra contains khashayras (Astringent) and due to this, its formulations made from the bark are generally used to soothe the pitta and its ill effects in our body. It is clearly referred in Ayurvedic texts that Lodhra helps in making the body attractive and skin glow. It also helps in maintaining the shape of the body. Lodhra helps to detoxify the blood. Powdered form of the bark of lodhra is used to heal wounds. It lowers the pH of the body; due to which inflammation process is accelerated, enhancing the

wound healing process. Due to its Grahi (absorption enhancing) property, it is used in clotting and in diseases like diarrhoea. Lodhra is especially used to improve the women's health. In diseases like Menorraghia, it is highly effective as it relaxes the uterine tissues and acts on the relaxed mucus membranes. Lodhra has proved to be very useful for leucorrhoea. Lodhra is also prescribed to women after delivery. Lodhra is indicated in eye disease, powder formation of its bark along with ghee is used in eyes. A combination of sugar, ghee and a paste of lodhra leaves are used to treat cough. Lodhra in paste form is used to treat the skin diseases like leprosy.

CA bones, CA glands, CA lungs, Lymphomas.

Non-cancer uses:

- Bronchitis
- Irritable bowel syndrome
- Non-healing wounds
- Skin affections
- Ulcers

Lawsonia inermis

Lawsonia inermis has been used as astringent, anti-haemorrhagic, intestinal antineoplastic, cardio-inhibitory, hypotensive, sedative and also has a therapeutic action against amoebiasis, headache, jaundice and leprosy. It is bitter, acrid, diuretic, emetic, expectorant, anti-inflammatory, constipating, depurative, hematinic, febrifuge, trichagenous. It is useful for wound, ulcers, strangury, cough, bronchitis, cephalgia, hemicranias, lumbago, rheumatalgia, diarrhoea, dysentery, leprosy, leucoderma, scabies, boils, hepatopathy, splenopathy, anemia, haemorrhages, haemoptysis, fever, ophthalmia, amenorrhea, falling of hair, greyness of hair, jaundice. *Lawsonia inermis* was used to enhance the wound healing activity and enhanced wound contraction. It has also demonstrated antibacterial activity.

CA colon, CA female genitalia, CA liver, CA skin.

Non-cancer uses:

- Amenorrhoea
- Amoebiasis

- Anemia
- Hypotension
- Jaundice
- Leprosy
- Rheumatism

Mulethi (Liquorice)

Mulethi’s use is specifically indicated in the treatment of chronic acidity, ulcers and chronic bronchial conditions. Mulethi also activates ulcer healing. It also acts as an anti-stress and anabolic agent. Mulethi is a good source of calcium, glucose and iron. Mulethi is a remedy for relieving pain, discomfort and other symptoms caused by acrid matter in the stomach. Mulethi is used in Ayurveda for the treatment of respiratory and digestive disorders. Mulethi mixed with honey brings relief in dry cough. A small piece of raw mulethi when chewed provides relief by soothing the throat inflammation. In sore throat also chewing raw mulethi can provide relief. Mulethi alleviates muscular pains and chronic joint problems. Mulethi powder mixed with jaggery and water is also used as a laxative in constipation. It rejuvenates the brain by increasing the circulation of blood in the central nervous system, balances the sugar level in the body and relieves respiratory ailments like allergies, bronchitis, colds, sore throats and tuberculosis. Mulethi acts as an effective cure for stomach problems, including inflammatory disorders, skin diseases, and liver problems.

CA larynx, CA oral cavity, CA pharynx, CA trachea, CA adrenal gland, CA stomach, CA colon, CA rectum.

Non-cancer uses:

- Gastric ulcers and Hyper acidity.
- Bleeding stomach ulcers caused by aspirin.
- Constipation.
- Colitis and Haemorrhoids.
- Oestrogen balancing.
- Adrenal insufficiency (Addison’s disease).
- Catarrh, Bronchitis, Asthma and Cough.
- Anti-bacterial.

- Liver supportive.
- Hepatitis.
- High cholesterol and heart diseases.
- Poor memory.

Makardhwaja

Potency: 3X, 6X

It is a great cardiac, mental, nervous, and seminal tonic. There is violent palpitation of heart, indigestion and vertigo. It stimulates the system in convalescents after long lasting diseases. It is also valuable in spasmodic cough and asthma with aggravation at night.

CA brain, CA lungs, CA lymph nodes, Leukaemia.

Non-cancer uses:

- Anxiety
- Asthma
- Impotency
- Vertigo

Mangifera indica

It is one of the best remedies for passive haemorrhages - uterine, renal, gastric, pulmonary, and intestinal. Also used externally for bleeding gums. Atonic conditions, poor circulation, relaxed muscles. For chronic ailments due to suppressed gonorrhoea. For women for chronic pelvic disorders. Chronic rheumatism.

CA bladder, CA bones, CA glands, CA ovary, CA uterus.

Non-cancer uses:

- Bleeding gums
- Gonorrhoea
- Rheumatism
- Ulcers on the extremities

Muira puama

It is a tonic and aphrodisiac. It is a valuable remedy for impotency. *Muira puama* is used for preventing sexual disorders and to increase interest in sexual activity. In combination with other herbs, it is used as a remedy for male sexual performance problems erectile dysfunction. The short term effects of Muira puama include increasing blood flow to the pelvic area, aiding erections in men as well as sensation and orgasm in women. Longer term use enhances the production of sex hormones in both sexes. Muira puama is known in some circles as “the Viagra of the Amazon” and in fact, many people now consider it the new Yohimbe but with considerably less side effects. A study showed a significant improvement in both erectile function and sexual desire and it is thus known as “Potent Wood”. It is reported to be anti-diarrhoeal and helps in dysentery. It is also used for upset stomach, menstrual disorders, joint pain, and paralysis caused by poliomyelitis; and as a general tonic and an appetite stimulant. Muira puama is one of the most active botanicals with a long history of traditional use as an energy tonic, general health improver and remedy for impotence and sexual insufficiency. Muira puama has also been used for stress management, nervous system stimulation and for overall general health. It has been used to tonify the nervous system and to treat cases of mild exhaustion. It can also help with gastrointestinal and reproductive disorders, while its anti-rheumatic properties have been used for treating stress and trauma.

CA anus, CA bones, CA colon, CA glands, CA male genitalia, CA rectum.

Non-cancer uses:

- Diarrhoea
- Dysentery
- Impotency
- Paralysis
- Poliomyelitis
- Rheumatism

Nirgundi *(Vitex negunda)*

Potency: Q, 1x

It is used externally and internally. Useful for CA testes, penis and prostate. It has the power to reduce splenic enlargement due to blood cancers, thalassemia and other types of blood disorders. It also has the power to kill maggots when used by external application.

CA anus, CA colon, CA lungs, CA rectum.

Non-cancer uses:

- Anxiety
- Asthma
- Muscle stiffness

Neem *(Azadirachta indica)*

Potency: Q

Used for blood cancer, malignant wounds with metastatic lymph nodes.

CA bones, CA colon, CA glands, CA liver, CA lungs, CA oesophagus, CA oral cavity, CA pancreas, CA prostate, CA skin, CA spleen, CA stomach.

Non-cancer uses:

- Diabetes
- Gingivitis
- Leprosy
- Loss of appetite
- Worms
- Lyme disease
- Prostatitis

Nux vomica

Potency: 3X, 6X

Is the greatest of polycrests, because the bulk of its symptoms correspond in similarity with those of the commonest and most frequent diseases. It is frequently the first remedy indicated after over dosing, establishing a sort of equilibrium of forces and counteracting chronic effects. *Nux vomica* is pre-eminently the remedy for many of the conditions incident to modern life. The typical *Nux vomica* patient is rather thin, spare, quick, active, nervous and

irritable. He does a good deal of mental work; over study and close application to business, with its cares and anxieties. This indoor life and mental strain seeks stimulants, coffee, wine, possibly in excess; or again, he hopes to quiet his excitement, by indulging in the sedative effects of tobacco, if not really a victim, to the seductive drugs, like opium etc. These things are associated with other indulgences; at table, he takes preferably rich and stimulating food; wine and women play their part to make him forget the close application of the day.

CA anus, CA bones, CA colon , CA glands, CA liver, CA lungs, CA oesophagus, CA pancreas, CA rectum, CA skin, CA spleen, CA stomach.

Non-cancer uses:

- Acidity
- Acne rosacea
- Apoplexy
- Asthma
- Biliousness
- Headache
- Lumbago
- Neuralgia

Nardostachys grandiflora

It can be used internally as well as externally. It is a well-known brain tonic and imparts a sense of calm and peace to mind. The herb is mixed with cold water to form a paste and reduce burning sensation, inflammation, pain, and improving skin texture. It is used as a deodorant in case of excessive sweating. The powder also helps in treating mental retardation and mental disorders, regularising digestion in the body, regularising respiratory tract and suppressing general body weakness. It is useful for urine-related problems and maintaining the circulatory system. The herb increases appetite, relieves the phlegm in cough and asthma, proves useful in hepatitis and treats enlargement of the liver. It is used as an adjunct in the treatment of sexual debility and impotence. It relieves symptoms like vertigo, seizures etc. in fever. Since it exerts a cleansing effect on the uterus, it is used in menstrual ailments like dysmenorrhoea and inflammation of the uterus. The herb stops

fermentation and gas in the stomach. It is considered as one of the best herbs for treating epilepsy. It reduces hyperactivity, restlessness and aggressiveness in hyperactive children.

CA brain, CA liver, CA stomach.

Non-cancer uses:

- Acidity
- ADHD
- Brain tonic
- Epilepsy
- Flatulence
- Seizures
- Vertigo

Nigella sativa (Black Seed)

It has been widely used as anti-hypertensive, liver tonic, diuretic, digestive, anti-diarrhoeal, appetite stimulant, analgesic, antibacterial and in skin disorders. It also has anti-diabetic, anti-cancer, immune modulator, anti-microbial, anti-inflammatory, spasmolytic, bronchodilator, hepato protective, renal protective, gastro-protective, antioxidant properties etc. “There is healing in the Black Seed for all diseases except death”.

CA anus , CA bones, CA colon , CA glands, CA liver, CA lungs, CA oesophagus, CA pancreas, CA rectum, CA skin, CA spleen, CA stomach, Leukaemia.

Non-cancer uses:

- Asthma
- Bacterial infections
- Bronchitis
- Diabetes
- Fungal infections
- Hypertension
- Liver affections

Paan (Desi) (Betel)

Potency: Q to 3x

It is used as an antiseptic in catarrhal affection, bronchitis. Good for cancer of respiratory tract. It is also useful for foul smelling ulcer or malignant wounds by external application. It reduces swelling of CA breast if applied externally.

CA lung, CA naso pharynx, CA lips, CA cheeks, CA alveolus, CA oral cavity.

Non-cancer uses:

- Antiseptic properties
- Bronchitis
- Helps in digestion

Pishun (Kasar)

Potency: Q or 1x

It can stop the excessive bleeding from uterus immediately. It is also useful even in cancer (fourth stage) with metastasis to various organs etc.

CA cervix, CA ovary, CA uterus.

Pudina *(Mentha piperita)*

Potency: Q

It is useful in painful condition of CA stomach, duodenum. It relieves the burning pain, vomiting and nausea.

CA duodenum, CA stomach, CA oral Cavity, CA liver.

Non-cancer uses:

- Dyspepsia
- Heartburn

- Flatulence
- Gallstones
- Influenza
- Liver affections
- Otitis media
- Pruritis

Pinus L (Pine leaves, *Pinus sabiniana*)

Potency: Q

It is useful in wounds where maggots appear. As the drops of *Pinus L* mother tincture are put on maggotic wound, all maggots shall come out easily. On the same wound if *Pinus L*. Q, *Eucalyptus* Q, *Sheesham* Q, *Bell* Q and *Paan* Q are applied thrice daily, it heals faster.

CA bladder, CA kidney, CA lung, CA pancreas, CA skin.

Non-cancer uses

- Magotic wounds

Phyllanthus niruri

Stonebreaker has a long history in traditional herbal medicine in every tropical country it is found in. For hundreds of years, *Phyllanthus Niruri* has been used as an herbal remedy for kidney stones, viral infections, liver disorders, bacterial infections, and many other ailments. The clinical beneficial effects of *Phyllanthus Niruri* may be related to urethral relaxation, helping to eliminate Calculi or to clear fragments following lithotripsy, or also to a putative reduction of the excretion of urinary crystallisation promoters such as calcium. Altogether, these studies suggest a preventive effect of *Phyllanthus Niruri* in stone formation or elimination, but still longer-term randomised clinical trials are necessary to confirm its therapeutic properties. Extensively used for treating liver ailments. *Niruri* is an important herb which is used for problems of the stomach, genitourinary system, liver, kidney and spleen.

CA kidney, CA lungs.

Non-cancer uses:

- Calculus in the kidney
- Flu
- Tuberculosis
- Viral infections

Rhilava (*Anacardium*)

Potency: 1x to 6x

It is useful for cancer wounds.

CA bones, CA brain, CA glands, CA skin, CA spinal cord.

Non-cancer uses:

- Brain fag
- Paralysis
- Rheumatism
- Spinal affections
- Weakness

Ratanjot (Periwinkle, *Vinca rosea*)

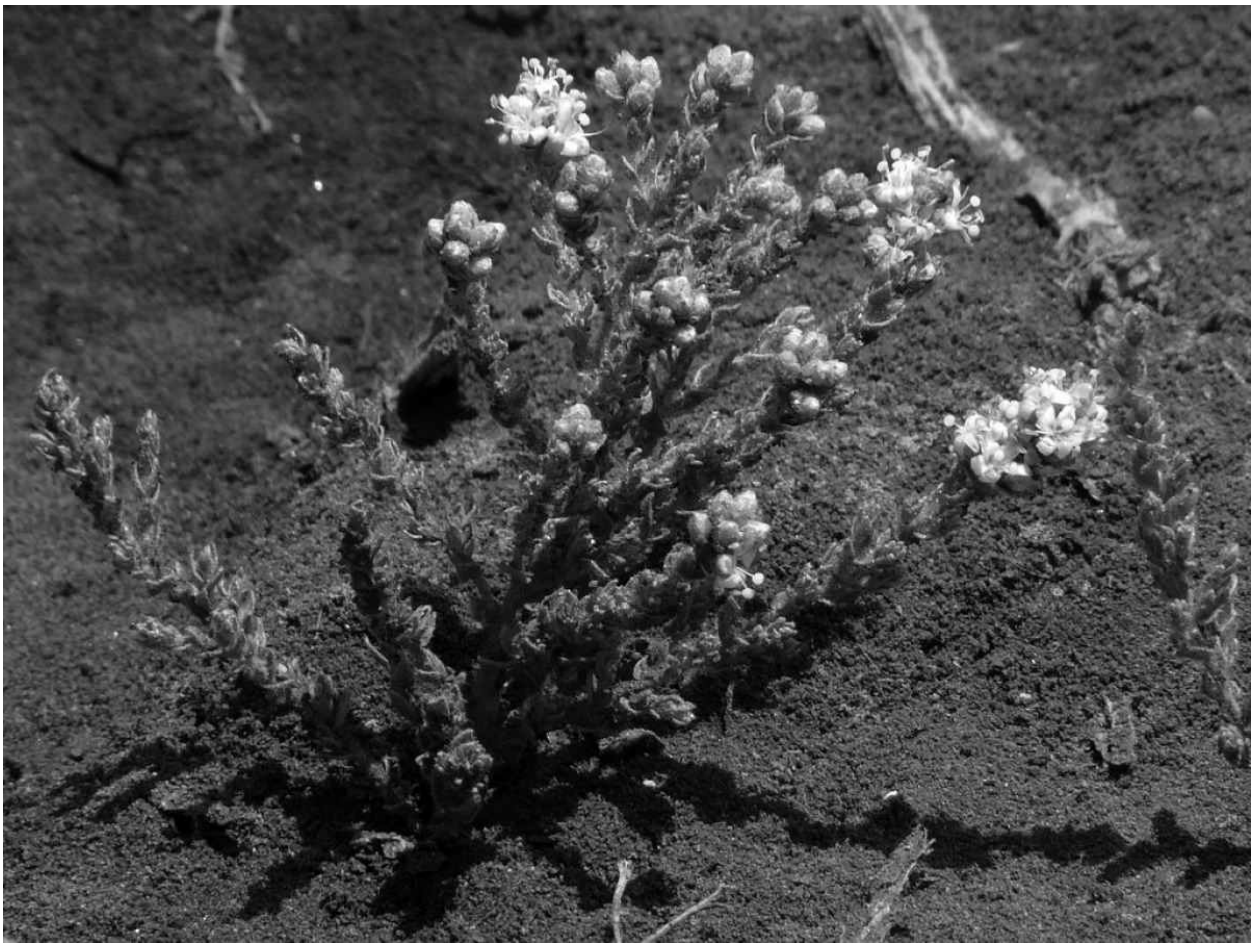
It is indicated in diabetes mellitus, tumours, and epilepsy.

CA brain.

Non-cancer uses:

- Diabetes
- Epilepsy

Rudanti *(Capparis mooni)*



Rudanti is among the most mysterious and most sought after herbs in Indian Mythology. The miracle associated with this herb is due to its alleged potentiality for resurrecting life. So this plant is commonly known in Sanskrit as ‘Sanjeevani’ as it prolongs the life and prevents the onset of old age. The whole plant is used for medicinal purposes. Traditionally, the plant is used in diabetes and asthma. It is used as an expectorant, stomachic, and anti-bilious. The plant has anti-helmintic, stomachic, tonic and aphrodisiac purposes, enriches the blood and is useful in constipation, leprosy, asthma and urinary discharges. It is reported to be anti-bilious, anti-tubercular and expectorant. The plant is traditionally used as expectorant and anti-bilious agent. This species is reported to be anti-bilious, anti-tubercular, and expectorant. It is used for anthelmintic, tonic and aphrodisiac purposes, enriches the blood, and is useful in constipation, leprosy, asthma, and urinary discharges, in the treatment of diabetes and general debility. In parts of the Middle East, the whole plant is boiled and taken as a tonic, aphrodisiac, expectorant and to stimulate the appetite. It is also given as a vermifuge, to treat constipation and

as a purge in jaundice. In India the plant is used as an antiseptic, and the leaves, roots and seeds are taken as a tonic.

CA glands, CA liver, CA rectum.

Non-cancer uses:

- Asthma
- Constipation
- Diabetes
- Impotency
- Jaundice
- Leprosy
- Tuberculosis
- Urinary complaints

Syzygium jambolanum (Jamun seeds)

Potency: Q

CA female genitalia, CA lungs, CA male genitalia, CA pancreas.

Non-cancer uses:

- Arthritis
- Asthma
- Diabetes
- GIT disorders
- Sexual impotence

Supari *(Areca catechu)*

Potency: Q

It is useful in CA mouth and throat.

CA mouth, CA oesophagus, CA stomach, CA throat.

Non-cancer uses:

- Anaemia
- Diabetes
- Hypertension
- Leucorrhoea

Sheesham *(Dalbergia sissoo)*

Potency: Q

It is useful for burning pains of cancer wounds. It also acts as a blood purifier. It helps in healing of ulcers and ulcerated mucous membrane.

CA alveolus, CA cheeks, CA face, CA gums, CA mouth, CA nose, CA pharynx.

Non-cancer uses:

- Obesity
- Urinary Tract Infection
- Vitiligo

- Worms
- Rhinitis

Sida retusa

Sida retusa is used for fever, asthma, cough and joint pain. It is used to relieve swelling and headache. It is also used for diarrhoea and also for indigestion. The plant has been used for rheumatism and for tuberculosis. It is also used for gastritis, diarrhoea, dysentery, inflammation, irritation, ulcers. Also used for any inflammation of respiratory system, irritation, coughs, bronchitis. It is useful for cystitis, any painful irritated condition, haematuria from benign causes.

CA bladder, CA lungs, CA stomach.

Non-cancer uses:

- Asthma
- Bronchitis
- Cystitis
- Gastritis
- Hematuria
- Pain in joints

- Rheumatism
- Tuberculosis

Simarouba glauca (Lakshmitaru)

The plant is anti-bacterial, anti-tumourous and is good for gynaecological problems. It was effective for cancer patients and it could also bring down side effects of chemotherapy, minimise appetite loss and ensure fast recovery. Scientifically, isolated studies have shown that several compounds such as the quassinoids in *Simarouba* has anti-tumour and anti-leukaemic (against blood cancer) action. The leaves are considered to be very effective in curing cancer of first and second stages, whereas in later stages, improvement in quality of life is what is expected.

CA breast, Leukaemia.

Non-cancer uses:

- Dysentery
- Diarrhoea
- Malaria
- Worms

Spirulina

Blue-green algae are used as a source of dietary protein, B-vitamins, and iron. They are also used for weight loss, attention deficit-hyperactivity disorder (ADHD), hay fever, diabetes, stress, fatigue, anxiety, depression, and premenstrual syndrome (PMS) and other women's health issues. Some people use blue-green algae for treating pre-cancerous growths inside the mouth, boosting the immune system, improving memory, increasing energy and metabolism, lowering cholesterol, preventing heart disease, healing wounds, and improving digestion and bowel health. *Spirulina* contains Omega 3, 6 and 9s and is especially high in Omega-3s. *Spirulina* is extremely high in Chlorophyll, which helps remove toxins from the blood and boost the immune system. *Spirulina* has a very high concentration of bio-available iron and is excellent during pregnancy and for those with anaemia and will not cause constipation. *Spirulina* is a great source of other nutrients vitamins B1 (thiamine), B2 (riboflavin), B3 (nicotinamide), B6 (pyridoxine), B9 (folic acid), vitamin C, vitamin D, vitamin A and vitamin E. It is also a source of potassium, calcium, chromium, copper, iron, magnesium, manganese, phosphorus, selenium, sodium and zinc. *Spirulina* is also incredibly high in calcium with over 26 times the calcium in milk, making it excellent for children, the elderly and during pregnancy. *Spirulina* may be helpful in allergies and allergic reactions *Spirulina*'s phosphorus content makes it helpful as part of a tooth demineralisation regimen. *Spirulina* can increase fat burning during exercise.

CA liver, Hodgkin’s lymphoma, Leukaemia, Multiple myeloma.

Non-cancer uses:

- ADHD
- Anxiety
- Diabetes
- Fever
- Hypertension
- Lowers cholesterol
- Obesity
- PMS
- Wound healing properties

Tulsi *(Ocimum sanctum)*

Potency: Q

It helps in relieving the pain of cancer and reduces the swelling.

CA larynx, CA lungs, CA pharynx, CA throat.

Non-cancer uses:

- Asthma
- Bronchitis
- Fever
- Viral infections

Wrightia tinctoria

It has astringent, anti-inflammatory and anti-bacterial properties, is effective in treating various skin disorders. It is also a potent antidandruff agent, which is beneficial in treating scalp disorders. It is used for psoriasis and other skin diseases.

CA bones, CA glands, CA liver, CA skin, CA stomach.

Non-cancer uses:

- Flatulence
- Fungal infections
- Hypertension
- Leprosy
- Psoriasis
- Toothache

Yashthi *(Glycyrrhiza glabra Linn.)*

Potency: Q

It has a power to regenerate tissues. It also reduces the cough, hoarseness of voice. It acts as an expectorant. In Traditional Chinese Medicine, it is considered the ‘great balancer’ and is used in many TCM herbal preparations.

CA stomach, CA oral cavity, CA lungs.

Non-cancer uses:

- Aphthae
- Asthma
- Bronchitis
- Epilepsy
- Herpes viral infections

Zingiber (Ginger)

Useful for CA bones and affections of the gastro-intestinal tract.

CA bones, CA stomach, CA colon, CA liver, CA bones, CA glands, CA pancreas, CA oesophagus, CA oral cavity.

Non-cancer uses:

- Blood thinner
- Dyspepsia
- Flatulence
- Irritable bowel syndrome
- Morning-sickness
- Motion-sickness
- Nausea
- Pain in abdomen
- Tinnitus

Cancer Treatment by Pioneers of Homoeopathy

The clinical experiences of various Homoeopaths in the treatment of tumours would serve as useful guidelines for us in our management of such cases. A few of these are presented here:

Blackwood's Cancer Remedies

1. Cancer (General): *Citricum acidum, Cinnamomum, Conium maculatum, Hoang-nan, Hydrastis canadensis, Hydrocyanicum acidum, Kali permanganatum, Sempervivum tectorum, Thuja occidentalis, Trifolium pratense.*
2. Cancer (Breast): *Asterias rubens, Carbo animalis, Conium maculatum, Hydrastis canadensis, Phytolacca decandra.*
3. Cancer (Cervix): *Caltha palustris, Natrums, Secale cornutum.*
4. Cancer (Gastric): *Arsenicum album, Carbolicum acidum, Cundurango, Geranium maculatumn, Hydrastis canadensis, Ornithogalum, Papaya vulgaris, Salicylicum acidum.*
5. Cancer (Liver): *Cholesterinum.*
6. Cancer (Pancreas): *Calcarea arsenicosa.*
7. Cancer (Tongue): *Kalium cyanatum.*
8. Carcinoma: *Arsenicum bromatum.*

Dr Fortier Bernoville Cancer Remedies According to Location

1. Testicles: *Aurum metallicum.*
2. Scrotum: *Fuligo ligni.*
3. Skin: *Arsenicum album, Cinnabaris, Cundurango, Galium aparine, Kalium arsenicum, Petroleum, Radium bromide, Scrofularia nodosa, Thuja occidentalis.*
4. Eye (lids): *Cundurango.*
5. Periosteum: *Phosphorus, Ruta graveolens, Symphytum.*
6. Lymphatic glands in general: *Carbo animalis.*
7. Glands in general: *Calcarea fluorica, Iodium, Scrofularia nodosa.*
8. Face: *Cinnabaris, Thuja occidentalis.*

9. Neck: *Cistus canadensis, Mercurius solubilis (parotids).*
10. Lips: *Cundurango.*
11. Tongue: *Gallium aparine, Kali cyanatum* (inconstant action; note that the saliva contains small quantities of *potassium ferrocynate*), *Sempervivum tectorum.*
12. Pharynx: *Cistus canadensis.*
13. Oesophagus: *Cundurango.*
14. Stomach: *Carbo animalis, Cundurango, Hydrastis canadensis, Kali bichromatum, Lycopodium clavatum.*
15. Duodenum: *Ornithogalum.*
16. Intestines: *Arsenicum album, Cundurango, Carbo animalis, Petroleum, Sedum repens.*
17. Cecum: *Ornithogalum.*
18. Sigmoid colon and rectum: *Ruta graveolens, Scrofularia nodosa, Sempervivum tectorum.*
19. Anus: *Cundurango.*
20. Liver: *Cholestrinum, Choline, Lycopodium clavatum, Phosphorus.*
21. Pancreas: *Phosphorus.*
22. Uterus: *Aurum muriaticum natronatum, Cinnamonum, Kreosotum, Sepia officinalis.*
23. Breasts: *Asterias rubens, Conium maculatum, Carbo animalis, Hydrastis canadensis, Plumbum iodatum, Sempervivum tectorum, Thuja occidentalis.*

Cancer Remedies According to Dr Gilchrist

According to the type of tumours, the Homoeopathic remedies are:

1. Semi-malignant tumours:
    a. Fibro-plastic: *Arsenicum album, Bryonia alba, Lachesis muta, Mercurius solubilis, Sulphur.*
    b. Recurring fibroid: *Arsenicum album, Calcarea carbonica, Dulcamara, Lachesis muta, Silicea terra.*
    c. Enchondroma: *Baryta carbonicum, Calcarea carbonicum, Graphites, Hepar sulphur, Ledum palustre, Sepia officinalis, Silicea terra, Sulphur.*
2. Malignant tumours:

a. Scirrhus: *Belladonna, Carbo animalis, Carbo vegetabilis, Conium maculatum, Nux vomica, Sepia officinalis, Silicea terra, Staphisagria, Sulphur.*
b. Encephaloid: *Aceticum acidum, Antimonium tartaricum, Arnica montana, Arsenicum album, Artemesia vulgaris, Carbo animalis, Causticum, Chelidonium majus, China officinalis, Kreosotum, Nux vomica, Pulsatilla pratensis, Rhus toxicodendron, Sepia officinalis, Squilla maritima, Zincum metallicum.*
c. Melanosis: *Aceticum acidum, Argentum nitricum, Arsenicum album, Chelidonium majus, Iodium, Kreosotum, Lachesis muta, Mercurius solubilis, Nitricum acidum, Petroleum, Silicea terra, Squilla maritima.*
d. Epithelial: *Aceticum acidum, Argentum nitricum, Aurum metallicum, Chelidonium majus, Pulsatilla pratensis, Sulphur, Thuja occidentalis.*
e. Carcinomatous ulcers: *Apis mellifica, Arsenicum album, Hepar sulphur, Lachesis muta, Mercurius solubilis, Sepia officinalis, Silicea terra, Sulphur.*
f. Tumours on the head: *Arsenicum album, Calcarea carbonica, Chelidonium majus, Graphites, Hepar sulphur, Mercurius solubilis, Petroleum, Phosphorus, Rhus toxicodendron, Sepia officinalis, Silicea terra, Staphisagria.*
g. Eyes: *Arnica montana, Arsenicum album, Bryonia alba, Belladonna, Calcarea carbonica, Causticum, Chamomilla, Conium maculatum, Hepar sulphur, Kalium carbonicum, Lycopodium clavatum, Mercurius solubilis, Nux vomica, Phosphorus, Pulsatilla pratensis, Rhus toxicodendron, Sepia officinalis, Silicea terra, Staphisagria, Sulphur, Thuja occidentalis.*
h. Nose: *Aurum metallicum, Calcarea carbonica, Causticum, Kalium carbonicum, Mercurius solubilis, Natrum carbonicum, Natrum muriaticum, Phosphoricum acidum, Pulsatilla pratensis, Rhus toxicodendron, Thuja occidentalis.*
i. Face: *Arsenicum album, Aurum metallicum, Belladonna, Carbo animalis, Causticum, China officinalis, Conium maculatum, Hepar sulphur, Kreosotum, Mercurius solubilis, Nitricum acidum, Nux vomica, Pulsatilla pratensis, Sepia officinalis, Sulphur, Zincum metallicum.*

j. Mouth: *Belladonna, Calcarea carbonica, Carbo vegetabilis, Chamomilla, China officinalis, Lachesis muta, Mercurius solubilis, Nitricum acidum, Nux vomica, Phosphorus, Pulsatilla pratensis, Sepia officinalis, Sulphur, Zincum metallicum.*
k. Neck: *Calcarea carbonica, Calcarea phosphorica, Causticum, Mercurius solubilis, Nitricum acidum, Sulphur.*
l. Arms: *Arnica montana, Belladonna, Causticum, Pulsatilla pratensis, Rhus toxicodendron, Sepia officinalis, Silicea terra, Sulphur.*
m. Chest: *Apis mellifica, Arnica montana, Belladonna, Carbo animalis, Lachesis muta, Nitricum acidum, Nux vomica, Pulsatilla pratensis, Rhus toxicodendron, Silicea terra, Sulphur.*
n. Back: *Antimonium tartaricum, Arnica montana, Arsenicum album, Carbo animalis, Causticum, China officinalis, Conium maculatum, Hepar sulphur, Nux vomica, Pulsatilla pratensis, Rhus toxicodendron, Silicea terra, Sulphur.*
o. Stomach and Viscera: *Antimonium tartaricum, Arsenicum album, Artemesia vulgaris, Hepar sulphur, Sulphur.* (See *Colloid*, *Scirrhus*, and *Encephaloid.*)
p. Legs: *Arsenicum album, Belladonna, Hepar sulphur, Lachesis muta, Nitricum acidum, Nux vomica, Pulsatilla pratensis, Rhus toxicodendron, Sepia officinalis, Silicea terra, Sulphur, Zincum metallicum.*
q. Male genitals: *Arnica montana, Arsenicum album, Graphites, Kalium carbonicum, Lycopodium clavatum, Mercurius solubilis, Nitricum acidum, Nux vomica, Phosphoricum acidum, Pulsatilla pratensis, Rhus toxicodendron, Sepia officinalis, Staphisagria, Sulphur, Thuja occidentalis.*
r. Female genitals: *Arnica montana, Belladonna, Calcarea carbonica, Carbo animalis, Carbo vegetabilis, Chamomilla, China officinalis, Conium maculatum, Graphites, Kalium carbonicum, Kreosotum, Lycopodium clavatum, Mercurius solubilis, Nitricum acidum, Nux vomica, Pulsatilla pratensis, Rhus toxicodendron, Staphisagria, Sulphur, Thuja occidentalis.*
s. s. From a blow: *Arnica montana, Conium maculatum, Staphisagria.*

Dr J. Compton Burnet’s Clinical Experiences

Burnett strongly condemns the surgical removal of tumours because the tumour is only a manifestation of generalised disturbances and therefore its mere removal does not put right the general disturbance in the system–which then expresses itself either by recurrence of the tumour or by a graver pathology in a more vital part of the system.

1. Scope of Homoeopathy in the treatment of tumours: Tumours are definitely curable by Homoeopathic medicines. However, there does develop an incurable stage in the course of illnesses and then the medicines can only palliate.
2. Selection of the medicine: Burnett found that he was often unable to cure tumours by selecting the medicine according to symptom similarity alone. He then found that it was essential to take into consideration the following aspects of the medicine:
   a. First, the Seat of Action (location)
   b. Second, the Kind of Action (manifested through the symptoms, i.e., the sensations, modalities and concomitants)
   c. Third, the Range of Action (Pathology–the entire disease process from the onset): Usually, it is the range of action that often becomes a limiting factor in the cure of tumours. When the range of disease exceeds the range of action of the medicine, one can only palliate.

   Burnett states: "*in the graver forms of disease the only bodies that I am acquainted with which have a range of action coincident with the disease-processes themselves are those of zoic nature and frequently those which are causal or constituent of these same processes"*. By zoic medicines Burnett refers to the nosodes like *Bacillinum*, *Morbillinum*, *Variollinum*, etc. these zoic medicines are deep-acting medicines and act at both levels–the diathesis as well as the local pathology and hence they are important.

   Burnett has found that the medicines that are often helpful in the process of cure are the organ remedies, i.e., those medicines which are specific for and act at the level of the location and the pathology, example, *Ceanothus* for splenic affections.

3. Potency and Repetition: The organ remedies are administered in material doses, like - mother tinctures, 1x, 3x, etc., and repeatedly. The zoic medicines are administered in high potencies infrequently.

Burnett's experience also suggests that changing of acting medicines leads more quickly to a cure than going on with the same one. Cure (whenever it is possible) take place gently and slowly over a period of few months to a few years.

Experiences of Dr Fortier Bernoville and Dr A. H. Grimmer

1. Scope of Homoeopathy.
   Homoeopathic treatment can be useful in cancer:
   a. to retard the progression of cancer,
   b. to palliate the cancer pains,
   c. to cure the pre-cancerous state, and
   d. to oppose the 'general intoxication' in a case of confirmed cancer.
2. Selection of the medicine.
   There are two lines of action, general and local:
   a. General treatment: This includes the medicines given during the pre-cancerous phase, the cancerous phase, and after it. This comprises:
      i. Constitutional or Basic remedies: These are the polychrest remedies selected mainly on the basis of the mental and physical general symptoms and to a limited extent on the basis of physical particular symptoms. Examples: *Arsenicum album, Carbo vegetabilis, Carbo animalis, Calcareas, Causticum, Graphites, Ignatia amara, Iodium, Kalis, Lachesis muta, Lycopodium clavatum, Mercurius solubilis, Natrums, Nitricum acidum, Nux vomica, Petroleum, Phosphorus, Sepia officinalis, Silicea terra, Sulphur, Thuja occidentalis.*

         The potencies suggested are (as a general guideline): high potencies for the precancerous phase and medium and low potencies for the cancerous phase. In the precancerous phase, the results obtained with the use of these medicines alone are good; however, in the cancerous phase, the results obtained with the use of these medicines alone are very uncertain and cure is extremely rare.
      ii. Cancer remedies: These are selected principally on the basis of the physical particular symptoms and the concomitantly present

general symptoms. The characteristic indications of some of the remedies are not clearly available in our literature due to inadequate provings and one should try to compensate for this through clinical experience and further experimentation. Fortier-Bernoville has divided these remedies into arbitrary groups for convenient working. They are:

A. The most habitual remedies: They have the most constant action on the tumour element as well as the general state. Examples: *Carbo animalis, Cistus canadensis, Scrofularia nodosa, Cundurango, Hydrastis canadensis, Kreosotum, Ornithogalum, Phytolacca decandra, Sedum acre, Sedum repens, Sempervivum tectorum*.
B. Remedies for pain: These are selected primarily on the basis of the modalities and type (sensation) of pain and to a certain extent on the basis of the location of the pain. Examples: *Apis, Arnica montana, Arsenicum album, Bryonia alba, Calcarea acetica, Euphorbium, Magnesia phosphorica, Nitricum acidum, Ruta graveolens*.
C. Tumour remedies: These are selected on the basis of their location and pathology, i.e., their selective effects on a tissue or organ. Examples are given in the Table: 3.1.

Table 3.1: Tumour remedies and their working tissues

Remedies	**Working Tissues**
Silicea terra and its satellite remedies: *Calcarea silicata*, *Lapis albus*.	Connective and interstitial tissue
Baryta carbonica	Sclerosed and indurated tissues, especially breast adenomas
Aurum arsenicum, *Aurum metallicum,* *Aurum muriaticum natronatum*	Indurated and scirrhous forms of malignancy
Plumbum iodatum	Indurated and scirrhous forms of malignancy
Selenium	Sarcomas

The *Calcareas*	Lymphatic glands
Calcarea fluorica	Connective tissue and glands
Aurum metallicum, *Ruta graveolens,* *Silicea terra,* *Symphytum*	Osseous tissue

D. Several minerals and acids: The results with these do not appear to be encouraging. Examples: *Aceticum acidum, Arsenicum bromatum, Antimonium chloridum, Carbolicum acidum, Carboneum sulphuratum, Calcarea iodata, Calcarea oxalica, Cinnabaris, Formic acid, Kali cyanatum, Plumbum iodatum, Ova tosta*.
Other remedies: *Anantherum muricatum, Choline, Cholestrinum, Cinnamomum, Eosine, Fuligo ligni, Galium aparine, Hoang-nan, Radium bromide, X-ray*. All these medicines are administered in the low potencies, occasionally even in material doses when in mother tincture for those from the vegetable kingdom.

iii. Drainage and canalisation remedies: These remedies are supposed to drain the toxins produced in the body. They are selected on the basis of their local action and administered in material doses, that is, one or two drops of a well prepared tincture. They are more effective during the precancerous than the cancerous phase. Examples are given in the Table 3.2.

Table 3.2: Working area of drainage and canalisation remedies

Working Area	**Drainage and Canalisation Remedies**
Lips	*Cundurango*
Tongue	*Galium aparine, Kali cyanatum, Sempervivum tectorum*
Pharynx	*Cistus canadensis*
Oesophagus	*Cundurango*
Stomach	*Carbo animalis, Cundurango, Hydrastis canadensis, Kali bichromicum, Lycopodium*

	clavatum
Pylorus and duodenum	*Ornithogalum*
Intestines	*Arsenicum album, Cundurango, Carbo animalis, Petroleum, Sedum repens*
Caecum	*Ornithogalum*
Sigmoid colon and rectum	*Ruta graveolens, Scrofularia nodosa, Sempervivum tectorum*
Anus	*Cundurango*
Liver	*Carduus marianus, Chelidonium majus, Cholesterinum, Choline, Lycopodium clavatum, Phosphorus, Taraxacum*
Pancreas	*Phosphorus*
Uterus	*Aurum mur natronatum, Cinnamomum, Kreosotum, Sepia officinalis*
Breasts	*Asterias rubens, Conium maculatum, Carbo animalis, Hydrastis canadensis, Plumbum iodatum, Sempervivum tectorum, Thuja occidentalis*
Testes	*Aurum metallicum*
Scrotum	*Fuligo ligni*
Skin	*Arsenicum album, Cinnabaris, Cundurango, Galium aparine, Kali arsenicum, Petroleum, Radium bromide, Scrofularia nodosa, Thuja occidentalis*
Eye (lids)	*Cundurango*
Periosteum	*Phosphorus, Ruta graveolens, Symphytum*
Lymphatic glands	*Carbo animalis*
Glands	*Calcarea fluorica, Iodium, Scrofularia nodosa*
Face	*Cinnabaris, Thuja occidentalis*
Neck	*Cistus canadensis, Mercurius solubilis* (parotids)

b. Local treatment: This is possible only during the actual cancerous phase. Local treatment also forms an important aspect of the

therapeutic regimen, be it operative intervention or radiotherapy or Homoeopathy. Mother tinctures of certain remedies, especially those from the vegetable kingdom, can be used locally through baths or compresses. The tinctures used most often by them are (Table 3.3):

Table 3.3: Local treatment of cancers

Cancer	Local Application
All cancers	*Hydrastis canadensis, Phytolacca decandra, Scrofularia nodosa, Sedum repens.*
Stomach	*Cundurango, Conium maculatum, Ornithogalum*
Breast	*Bryonia alba, Conium maculatum*
Ulcerated cancers	*Calendula officinalis*

Dr Grimmer has also mentioned *Cadmium iodide, Fluoricum acidum* and *Silicea terra* as remedies for the ill-effects of radiotherapy.

Experience of Dr Robert T. Cooper

Dr Cooper has elaborated a particular system of plant remedies for the treatment of cancer and calls it Arborivital Medicine. He states: "*..in the living plants we get a force which, if applied in accordance will arrest its progress and even cause its dispersal. Further, that while artificial preparations, dilutions and triturations are required for the better demonstration of such a force in mineral substances, they are not required for proving the existence of a like force in plant remedies. To this force I gave the name arborivital, and the action that results there from Arborivital Action. Cooper administered to his patients of cancer tinctures made from living plants with proof spirit as the preservative, in single / unit doses, the selection of the remedy being in accordance with Law of Similars*".

He believed that when malignancy is localised to one part of the body, it can be easily acted upon. However, if the cancer mass is large, there is a danger to the patient's life as the vital powers may be exhausted by the draining or outpouring of the cancerous material and this may be accelerated by the constant repetition of medicines. Therefore, it is advisable to allow a single

dose to expend itself and not interpose anything till then. The cases of tumours that he mentions in order to illustrate his viewpoint have been treated with the following medicines–*Actea racemosa, Atropa belladonna, Calcarea carbonica, Calendula officinalis, Caltha palustris, Camphor bromide, Carbo animalis, Cephaelis ipecac, Colchicum autumnale, Conium maculatum, Crocus sativus, Crocus vernalis, Daphne mezereum, Ferrum phosphoricum, Ferrum picricum, Helleborus viridus, Helleborus niger, Helleborus foetidus, Iris versicolour, Juniperus communis, Laurocerasus, Magnesia carbonica, Matthiola annua, Nerium oleander, Ornithogalum umbellatum, Ranunculus bulbosus, Ruta graveolens, Scrophularia nodosa, Spiraea ulmaria, Senecio doronicum, Thuja occidentalis, Zincum phosphoricum*.

Experience of Dr J. H. Clarke

Dr J. H. Clarke stress the fact that cancer is the end product of a great variety of causes, that is, cancer in one individual is different from the cancer in another. In most cases, Dr Clarke did not find characteristic symptoms, the remedy selected was therefore based mainly on the location and the pathology and the potency was a low one, usually below 30. He cites cases of cancer treated with *Hydrastis canadensis* 1, administered in repeated doses. Dr Clarke strongly supports Dr Cooper’s views on the approach to a case of cancer.

Homoeopathy and Chemotherapy

The basic principles of chemotherapy and Homoeopathy are quite dissimilar, and hence in principle these two types of therapies cannot and should not be given to the same person. However, looking at the practical side, we find that most of the patients who consult us for cancer are either reluctant to take only Homoeopathy or they come in such an advanced stage of cancer that it becomes difficult to even palliate with Homoeopathic treatment. Hence in my practice of treating cancer patients over the past forty years, I advise surgery, chemotherapy, radiation under the following circumstances:

1. Lack of practical experience in curing a single case of cancer in the last forty years by Homoeopathy alone.
2. To reduce the bulk of tumour either by surgery or radiotherapy or chemotherapy so that the Homoeopathic drugs can act better. Also, *if tumour bulk is reduced, chances of metastasis are less.*
3. Not coming across enough literature in recent times regarding the treatment of cancer only by Homoeopathic drugs world over, i.e., a combined multidisciplinary approach is far more practical.
4. In the U.S.A. and Europe, there are many legal technicalities involved in treating cancer patients only with Homoeopathy as first line of treatment.

Every doctor treating cancer patients should know that chemotherapy side effects can be effectively treated by accurately prescribed Homoeopathic medicines:

1. **Hair loss:** Some Homoeopathic medicines that have been useful to me are *Radium bromatum, China officinalis, Ferrum phosphoricum, X-ray,* and *Arsenicum album*.
2. **Sore mouths:** Give *Echinacea* mother tincture local application or *Phytolacca berry* mother tincture for gargles or *Eupatorium aromaticum* in low potency internally , as well as *Aloe vera* gel and Manuka honey topically.
3. **Nausea and vomiting:** Homoeopathic treatment for this particular side effect is much more superior as most antiemetics have side-effects like constipation, headaches, flushing of the skin, fatigue and weakness, indigestion, insomnia and twitching. For severe nausea and/or vomiting

following chemotherapy following medicines have been very useful to me: *Apomorphia* 6 or 30, *Carcinosin, Kreosotum, Carbolicum acidum, Arsenicum album, Colchicum officinalis, China officinalis, Ipecacuanha, Tabacum* in frequent doses, which has invariably proved beneficial.

4. **Loss of appetite:** Some of the Homoeopathic remedies that have been useful to me are *Iodium, Arsenicum album, Lycopodium clavatum, Phosphorus, Carbo animalis, Carbolicum acidum, Bromium, Hydrastis canadensis, Kalium iodatum* and *Kalium sulphuratum.*
5. **Constipation:** Some Homoeopathic remedies which have been of use to me in practice for constipation are *Sepia officinalis, Ruta graveolens, Alumina, China officinalis, Hydrastis canadensis, Bryonia alba, Nux vomica, Opium,* and *Colocynthis*.
6. **Diarrhoea and cramps, and lactose intolerance:** Some of the Homoeopathic medicines that have been useful to me in practice for the complaint are *Conium maculatum, Cadmium sulphuratum, Nux vomica, Aceticum acidum, Magnesium carbonicum, Sepia officinalis, Radium bromatum* and *Aloe socotrina*.
7. **Lymphedema:** Following are the some Homoeopathic medicines for lymphedema that have been useful to me are *Bufo rana, Baryta carbonicum, Thuja occidentalis, Apis mellifica,* and *Ledum palustre.*

Homoeopathic Remedies for Cancer Pain

1. *Arsenicum album*: Pains are maddening, burn like fire. Pains are better by local application of heat, pain causes shortness of breath or chilliness. Sudden great weakness with restlessness is important concomitant.
2. *Apis mellifica*: Burning, itching, stinging pricks as with red hot needles associated with numbness, shiny red discolouration. Especially useful for relieving pains which arise from carcinoma of the tongue, breast, larynx and ovary.
3. *Arnica montana*: Bruised pain which arises from the cancerous part associated with ecchymotic blue black spots following traumatism. Chiefly used in cases of benign and malignant tumour of the breast.
4. *Bryonia alba*: The pains are bursting, stitching or heavy sore, going backwards. Slightest movements are very painful. While coughing holds sides, chest and head. Pains are associated with streaks of red - lymphangitis, especially in breast cancer where breast ought to be supported or bound.
5. *Calcarea acetica*: A remedy for excruciating, constrictive cancer pains.
6. *Euphorbium*: There is extreme sensation of burning with lancinating pain, especially in bones at night. Chiefly useful for relieving the pains of osteogenic sarcoma and multiple myeloma.
7. *Eupatorium perfoliatum*: This is a good remedy for severe bone pains, as if the bones were being broken, accompanied by tremendous aching and stiffness. It can help pain due to bone cancer, bone metastases, and/or pathologic fractures due to cancer in the long bones and spinal column.
8. *Magnesium phosphoricum*: This is a good remedy for cancer pains, which are spasmodic, intense, aggravated at night and ameliorated by warmth and pressure.
9. *Ruta graveolens*: The pains are bruised, sore, aching with restlessness, especially arising from osseous or periosteal tissue. There is presence of intense weakness. The selective sphere actions are bone, periosteum, ligaments, tendons, cartilage and rectum.

Homoeopathic Therapeutics of Cancer

Childhood Cancers

For childhood cancers, a collateral treatment including surgery, chemotherapy and radiation treatment along with Homoeopathy can be advisable.

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Arsenicum album, Calcarea carbonica, Calcarea phosphorica, Medorrhinum, Natrum phosphoricum, Natrum muriaticum, Natrum sulphuricum, Thuja occidentalis, Tuberculinum.*

Some other remedies that have been useful to me in treating these cases are: *Aceticum acidum, Arsenicum iodatum, Benzinum, Benzoin oderiferum, Benzolum, Bothrops, Bothrops atrox, Bothrop jacara, Crotalus horridus, Ferrum picricum, Hecla lava, Sulphur, X-ray*.

Brain Tumours

I used single Homoeopathic medicines on constitutional basis for last three decades but honestly many times the size of the tumours do not reduce, hence here we need to sometimes give remedies from the sycotic miasm, especially *Conium maculatum, Helleborus niger, Thuja occidentalis*.

Some important constitutional Homoeopathic medicines which have been useful to me in practice for such cancer cases are: *Baryta carbonica, Baryta iodata, Calcarea carbonica, Calcarea flourica, Carcinosinum, Causticum, Conium maculatum, Plumbum metallicum, Zincum metallicum.*

Some other remedies that have been useful to me in treating these cases are: *Aethusa cynapium, Apis mellifica, Apium, Apomorphinum, Belladonna,*

Glonoine, Helleborus niger, Hydrastis canadensis, Napthoquinone, Plumbum metallicum, Syphilinum, Sulphur, Zincum metallicum.

Retinoblastoma

Some important, constitutional Homoeopathic medicines that have been useful to me in practice for cancer cases are: *Calcarea carbonica, Conium maculatum, Lachesis muta, Lycopodium clavatum, Phosphorus, Silicea terra, Thuja occidentalis.*

Some other remedies that have been useful to me in treating these cases are: *Apis mellifica, Arsenicum album, Belladonna, Carbo animalis, Laurocerasus, Phytolacca, Syphilinum.*

Head and Neck Cancer

As most of the oral cancer has a very high rate of recurrence hence Homoeopathy is the best choice to be started very early in the disease.

Breast Cancer

Some important, constitutional Homoeopathic medicines that have been useful to me in practice are: *Aurum metallicum, Aurum muriaticum, Aurum muriaticum natronatum, Calcarea iodata, Calcarea silicata, Conium maculatum, Carcinosinum, Causticum, Cuprum metallicum, Graphites, Lachesis muta, Lycopodium clavatum, Mercurius solubilis, Naja tripudians, Nitricum acidum, Plumbum metallicum, Psorinum, Silicea terra.*

Some other remedies that have been useful to me in treating these cases are: *Alumina, Apis mellifica, Argentum nitricum, Arsenicum iodatum, Asterias rubens, Carbo animalis, Castor equi, Cicuta, Causticum, Gaertner Bach., Kreosotum, Lapathum acutum, Lapis albus, Myristica sebifera, Phosphoricum acidum, Phytolacca, Schirrinum, Scrophularia nodosa, Silicea terra, Thiosinaminum.*

Thyroid Cancer

Homoeopathy once again is the treatment of choice in early as well as advanced cases, best candidate would be the one post-surgery where partial

disease is still remaining and Iscador therapy is very useful when lymph nodes are involved. Mostly constitutional remedies are useful in most of the cases.

Lung Cancer

Constitutional Homoeopathic treatment is the ideal way to go about treating a lung cancer case. Post-operative Iscador therapy Series can be suggested to the patients to help improve immune system, delay metastasis and thus complement Homoeopathic treatment to give better life quality. Since I have so far very little experience treating lung cancer only with Homoeopathy I would not like to risk the life of my patients for the sake of Homoeopathic treatment and hence a collateral treatment including surgery, chemotherapeutic, radiation treatment is always advisable as an when necessary depending on the case.

Some important, constitutional Homoeopathic medicines that have been useful to me in practice are: *Anthracinum, Argentum nitricum, Calcarea carbonica, Calcarea flourica, Kalium carbonicum, Lycopodium clavatum, Phosphorus, Sulphur, Thuja occidentalis.*

Some other remedies that have been useful to me in treating these cases are: *Acalypha indica, Anthracinum, Asparagus, Hydrogen, Sanguinaria canadensis*.

Oesophageal Cancer

Some important, constitutional Homoeopathic medicines that have been useful to me in practice are: *Alumina, Aurum metallicum, Calcarea flourica, Conium maculatum, Kalium carbonicum, Natrum muriaticum, Phosphorus, Silicea terra, Sulphur, Thuja occidentalis.*

Some other remedies that have been useful to me in treating these cases are: *Carbo vegetabilis, Cundurango, Hydrastis canadensis, Rumex.*

Gastric Cancer

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Argentum nitricum, Aurum muriaticum*

natronatum, Aurum metallicum, Calcarea flourica, Conium maculatum, Kalium bichromicum, Kalium carbonicum, Lachesis muta, Lycopodium clavatum, Natrum muriaticum, Phosphorus, Platina, Plumbum metallicum, Sepia officinalis, Silicea terra, Staphisagria, Sulphur, Thuja occidentalis.

Some other remedies that have been useful to me in treating these cases are: *Antimonium sulphuratum aureum, Arsenicum iodatum, Arsenicum sulphuratum flavum, Arsenicum sulphuratum rubrum, Bismuthum, Cadmium, Cadmium arsenicosum, Cadmium bromatum, Cadmium chloratum, Cadmium fluoratum, Cadmium gluconicum, Cadmium iodatum, Cadmium muriaticum, Cadmium metallicum, Cadmium nitricum, Cadmium oxydatum, Cadmium phosphoricum, Cadmium sulphuratum, Cadmium selenicusum, Carbo vegetabilis, Crotalus horridus, Geranium, Hydrastis canadensis, Kreosotum, Lobelia inflata, Magnesium phosphoricum, Mercurius corrosivus, Ornithogalum, Polygonum hydropiperoides, Uranium nitricum*.

Colo-Rectal Cancer

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Alumina, Calcarea carbonica, Causticum, Graphites, Kalium carbonicum, Lycopodium clavatum, Mercurius solubilis, Natrum sulphuricum, Nitricum acidum, Nux vomica, Staphisagria, Sulphur, Thuja occidentalis*.

Some other remedies that have been useful to me in treating these cases are: *Aloe socotrina, Alumen, Anthraquinone, Arsenicum album, Arsenicum iodatum, Carcinoma coli, Collinsonia, Germanium metallicum, Hydrastis canadensis, Iodium, Lycopodium clavatum, Muraticum acidum, Ornithogalum, Polygonum hydropiperoides, Polypus recti nosode, Ruta graveolens, Ratanhia, Scrophularia nodosa, Sedum acre, Sedum repens, Sedum telephium, Semen tiglii, Sepia officinalis, Silicea terra, Solanum tuberosum aegrotans, Spigellia, Staphisagria, Thiosinum, Uricum acidum, Variolinum.*

Liver Cancer

Homoeopathy has many effective drugs that has a marked action on liver, here I would like to especially mention the role of Indian drugs which were

popularised in early 1900 by Homoeopaths from Calcutta, according to me they are known as organ remedies, supported by constitutional Homoeopathic medicine, I have seen in many cases metastasis been dissolved from the liver.

Pancreatic Cancer

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Cadmium metallicum, Carcinosinum, Hydrastis canadensis, Lachesis muta, Lycopodium clavatum, Mercurius solubilis, Natrum sulphuricum, Nux vomica, Phosphorus*.

Some other remedies that have been useful to me in treating these cases are: *Phosphoricum acidum, Arsenicum album, Arsenicum iodatum, Atropinum, Belladona, Cadmium iodatum, Cadmium sulphuricum, Calcarea arsenicosum, Carbo animalis, Chionanthus, Curcuma longa, Hydrastis canadensis, Mercurius iodatus ruber, Pulsatilla pratensis, Uranium nitricum.*

Prostate Cancer

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Conium maculatum, Calcarea flourica, Chelidonium majus, Iodium, Lycopodium clavatum, Medorrhinum, Magnesia muriatica, Mercurius solubilis, Natrum sulphuricum, Nitricum acidum, Phosphorus, Plumbum metallicum, Sepia officinalis, Staphisagria, Sulphur, Thuja occidentalis*.

Some other remedies that have been useful to me in treating these cases are: *Benzoicum acidum, Baryta oxalsuccinata, Chimaphila umbellata, Copaiva officinalis, Carbo vegetabilis, Causticum, Ferrum metallicum, Ferrum picricum, Hydrangea arborescens, Iodium, Melastoma ackermanni, Naphthoquinone, Pareira brava, Polygonum hydropiperoides, Populus tremuloides, Pulsatilla pratensis, Sabal serrulata, Scirrhinum, Selenium, Sulfonalum, Sulphur iodatum, Thymol, Zincum picricum.*

Renal Cancer

In advanced renal cancer, conventional cancer therapy has very little to offer, if at all, and since the results are often not satisfactory, and with lots of side

effects, Homoeopathy is the drug of choice, even before surgery. Homoeopathy should be started, for symptomatic relief, especially haematuria. Homoeopathic drugs like *Germanium, Hamamelis virginica, Millefolium* are very useful.

Bladder Cancer

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Argentum nitricum, China officinalis, Calcarea carbonica, Chelidonium majus, Hepar sulphur, Iodium, Kalium bichromicum, Kalium carbonicum, Lycopodium clavatum, Mercurius corrosivus, Mercurius solubilis, Natrum muriaticum, Nitricum acidum, Nux vomica, Phosphorus, Pulsatilla pratensis, Sarsaparilla, Thuja occidentalis, Tuberculinum, Zincum metallicum.*

Some other remedies that have been useful to me in treating these cases are: *Apis mellifica, Arsenicum album, Belladonna, Berberis vulgaris, Brachyglottis repens, Cadmium sulphuricum, Cadmium arsenicosum, Cannabis indica, Cannabis sativa, Cantharis, Carbo animalis, Carbo vegetabilis, Chimaphila, Clematis erecta, Coccus cacti, Doxorubicine, Equisetum hyemale, Hydrangea, Kalium bichromicum, Kalium carbonicum, Kreosotum, Lithium carbonicum, Malicum Acidum, Mercurius solubilis, Natrum sulphuricum, Nitricum Acidum, Ocimum sanctum, Pareira brava, Polygonum hydropiperoides, Plumbum metallicum, Phytolacca decandra, Phosphoricum acidum, Rhus aromatica, Senecio aureus, Sarothamnus scoparius, Solidago, Taraxacum, Thuja occidentalis, Uva ursi, Viola odorata.*

Testicular Cancer

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Alumina, Argentum nitricum, Aurum metallicum, Aurum muriaticum, Conium maculatum, Medorrhinum, Mercurius solubilis, Phosphorus, Sulphur, Syphilinum, Thuja occidentalis.*

Some other remedies that have been useful to me in treating these cases are: *Arsenicum album, Bromium, Carbo animalis, Clematis erecta, Fuligo ligni, Oxalicum acidum, Silicea terra, Spongia tosta.*

Uterine Cancer

Homoeopathic constitutional drugs help for long term management especially after hysterectomy, and, also in advanced cases with metastasis, good palliative care can be obtained using Homoeopathic drugs.

Cervical Cancer

Some important constitutional Homoeopathic medicines that have been useful to me in practice for cancer cases are: *Aurum muriaticum, Aurum muriaticum natronatum, Carcinosinum, Calcarea flourica, Lachesis muta, Medorrhinum, Natrum muriaticum, Phosphorus, Sepia officinalis, Tarentula hispanica, Thuja occidentalis*.

Some other remedies that have been useful to me in treating these cases are: *Arsenicum album, Arsenicum iodatum, Benzoquinonum, Bovista, Bufo rana, Cadmium iodatum, Cadmium muriaticum, Cadmium sulphuricum, Calcarea phosphorica, Calendula officinalis, Cantharis, Carbo animalis, China officinalis, Crotalus horridus, Elaps, Fuligo ligni, Gossypium herbaceum, Graphites, Helonias, Hydrastis canadensis, Iodium, Iridium metallicum, Kalium bichromatum, Kalium tartaricum, Lapis albus, Lilium tigricum, Magnesia carbonica, Magnesia muriatica, Mentha pulegium, Mercurius iodatus flavus, Methylenum coeruleum, Monilia albicans, Oleum animalis, Paronychia illecebrum, Scirrhinum, Scrophularia nodosa, Secale cor, Sedum acre, Thymolum, Thlaspi bursa pastoris.*

Ovarian Cancer

Homoeopathy is the best bet after proper evaluation; mostly the ideal cases are the ones post ovarectomy. In advanced cases also, Homoeopathic drugs helps a lot in preventing recurrent ascitis or pleural effusion.

Melanoma

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Argentum nitricum, Arsenicum iodatum, Arsenicum album, Bromium, Carcinosinum, Calcarea carbonica, Kalium sulphuricum, Lachesis muta, Silicea terra, Thuja occidentalis.*

Some other remedies that have been useful to me in treating these cases are: *Carduus marianus, Graphites, Hyoscyamus, Hydrastis canadensis, Kalium arsenicosum, Kalium sulphuricum, Plumbum metallicum, Radium bromatum, Sulphur.*

Bone Cancer

A constitutional Homoeopathic approach is the best choice, use of anti-syphilitic medicines are very useful, or drugs like *Syphilinum, Calcarea flourica, Fluoricum acidum, Hecla lava, Kalium iodatum*, etc.

Lymphoma

Hodgkin's Lymphoma

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Aconitum, Arsenicum album, Arsenicum iodatum, Baryta iodata, Bromium, Calcarea flourica, Calcarea iodata, Carcinosinum, Conium maculatum, Kalium bichromicum, Kalium chloricum, Kalium iodatum, Lapathum acutum, Lycopodium clavatum, Natrum muriaticum, Natrum sulphuricum, Phosphorus, Sarothamnus scoparius, Scrophularia nodosa, Syphilinum, Tuberculinum.*

Some other remedies that have been useful to me in treating these cases are: *Aurum muriaticum, Kalium muriaticum, Muriaticum acidum, Secale cornutum.*

Non-Hodgkin's Lymphoma

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Baryta carbonicum, Baryta iodata, Calcarea carbonica, Calcarea iodatum, Carcinosinum, Cistus canadensis, Iodium, Kalium chloricum, Kalium muriaticum, Natrum muriaticum, Phosphorus, Tuberculinum.*

Some other remedies that have been useful to me in treating these cases are: *Arsenicum iodatum, Aurum muriaticum, Conium maculatum, Muriaticum acidum, Phytolacca decandra, Sarothamnus scoparius, Scrophularia nodosa,*

Syphilinum.

AIDS Associated Lymphoma

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Calcarea carbonica, Carcinosinum, Iodium, Lachesis muta, Medorrhinum, Mercurius solubilis, Nitricum acidum, Phosphorus, Sulphur, Tuberculinum, Thuja occidentalis.*

Some other remedies that have been useful to me in treating these cases are: *Arsenicum album, Arsenicum iodatum, Calendula officinalis, Corticotropinum, Olibanum sacrum, Penicillinum, Psorinum, Urinum, Unicaria tomentosa, Tuberculinum residuum Koch.*

Sarcoma (Soft Tissue)

Homoeopathic drugs in early stage will help to reduce the size or keep the size stable, mostly constitutional drugs should be used here, in little advanced cases, one can apply Homoeopathic drugs to cope with symptoms like pain, swelling, inflammation and necrosis; also constitutional drugs are very useful to prevent metastasis.

Mesothelioma

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Aurum metallicum, Calcarea carbonica, Causticum, Conium maculatum, Medorrhinum, Mercurius solubilis, Natrum muriaticum, Nitricum acidum, Phosphorus, Phytolacca decandra, Sepia officinalis, Silicea terra, Syphilinum, Thuja occidentalis, Zincum metallicum.*

Some other remedies that have been useful to me in treating these cases are: *Arsenicum album, Arsenicum iodatum, Carbolicum acidum, Cundurango, Eucalyptus globulus, Hydrastis canadensis, Kreosotum, Nitricum acidum.*

Trophoblastic Disease

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Conium maculatum, Graphites, Hydrastis*

canadensis, Kreosotum, Lachesis muta, Lycopodium clavatum, Murex, Phosphorus, Sepia officinalis, Thuja occidentalis.

Some other remedies that have been useful to me in treating these cases are: *Amorphophallus riviere, Asafoetida, Aurum muriaticum natronatum, Aurum sulphuricum, Benzoquinonum, Bufo rana, Cadmium iodatum, Cadmium metallicum, Calcarea flouricum, Cantharis, China officinalis, Elaps corallinus, Erodium cicutarium, Fuligo ligni, Gossypium, Iodium, Kalium flouratum, Magnesia muriatica, Magnesia phosphorica, Mercurius iodatus ruber, Phytolacca decandra, Plumbum iodatum, Rhus toxicodendron, Scrophularia nodosa, Sedum acre.*

Metastatic Cancer

Some important constitutional Homoeopathic medicines that have been useful to me in practice are: *Abrotanum, Anacardium, Antimonium muriaticum, Arsenicum album, Arsenicum iodatum, Asterius rubens, Aurum metallicum, Bacillus Gaertner, Baptisia, Bothrops atrox, Bothrops, Bromium, Bufo rana, Cadmium metallicum, Cadmium sulphuratum, Calcarea flourica, Calcarea iodata, Carbo animalis, Carcinosinum, Causticum, Chelidonium majus, Cicuta, Conium maculatum, Fluoricum acidum, Hecla lava, Hydrastis canadensis, Kalium bichromatum, Kalium carbonicum, Kalium iodatum, Kreosotum, Lachesis muta, Lycopodium clavatum, Mercurius iodatus ruber, Mercurius solubilis, Morphinum, Natrum silicofluoricum, Nitricum acidum, Phosphorus, Scirrhinum, Silicea terra, Sulphur, Terebinthinae, Thuja occidentalis, Vitrum antimonii, Vitrum coroni.*

Clinical Tips from My Practice

Anorexia, complete loss of appetite in cancer: *Chloropromazine, Iodium.*

Bladder cancer with past history of tobacco use: *Aniline*.

Bladder cancer with tormenting pains: *Naphthoquinone.*

Breast cancer, ulceration with, especially left mammae: *Asterias Rubens.*

Breast cancer, ulcerating: *Ubiquinone.*

Breast cancer, badly infected with dark, black discolouration of skin and offensiveness: *Gun powder*.

Breast cancer, with swelling of axillary glands: *Asterias rubens.*

Cachexia of cancer: *Thuja occidentalis.*

Caecum cancer: *Ornithogalum.*

Cancer detoxification: *Aqua Marina.*

Cancer in general: *Arsenicum iodatum, Calcarea carbonica, Cadmium iodatum, Hydrocyanicum Acidum, Morgan Bach., Phytolacca decandra, RNA.*

Cancer pain: *Anthracinum, Arsenicum album, Citric acid, Crotalus horridus, Cubensis, Echinacea, Lupulin* (local application), *Tarentula, Hypericum, Vipera* (open cancer).

Cancer ulcerated and painful: *Rajania subsamarata.*

Cancerous ulceration: *Asterias rubens.*

Cancerous ulcers, bleeding: *Phosphorus*.

Cervical cancer with swelling of legs: *Natrum phosphoricum.*

Cheek cancer: *Lachesis muta, Mercurius cyanatus.*

Epithelial cancer: *Aceticum acidum.*

Eye cancer, malignant growths: *Phosphorus.*

Glands, cancerous: *Scrophularia Nodosa* (local application), *Sempervivum tectorum* (local application).

Intestinal cancer: *Plumbum metallicum, Naphthoquinone, Succinic acid.*

Jaw bone cancer: *Hecla Lava.*

Larynx cancer: *Calcarea carbonica*

Lips cancer from pressure of a pipe: *Conium maculatum, Sepia officinalis*.

Lips cancer: *Arsenicum album, Aurum muriaticum, Carbo animalis, Cicuta virosa, Cistus canadensis, Cundurango, Conium maculatum, Kreosotum, Lachesis muta, Sepia officinalis, Silicea terra.*

Lips, lower lip cancer: *Antimonium Muriaticum, Arsenicum album, Cistus canadensis, Clematis erecta, Conium maculatum, Dulcamara, Lycopodium clavatum, Phosphorus, Sepia officinalis, Silicea terra.*

Liver cancer: *Adenocarcinoma Stomach, Carcinosinum, Carduus Marinus, Hydrastis canadensis, Kali mur, Lycopodium clavatum, Podophyllum,*

Solidago, Vipera.

Lungs cancer with progressive dyspnoea: *Hydroquinone.*

Melanoma Malignant: *Arsenicum album, Bacillinum, Kali phos., Lachesis muta, Proteus bach, Secale cor, Tuberculinum.*

Mouth cancer fetor: *Citricum acidum* (mouth wash), *Kali permanganatum* (mouth wash), *Oxalis acetosella, Sepia officinalis* (in pipe smokers).

Mouth cancer: *Kali cyanatum, Merurius cyanatum*.

Obscure malignancy: *Arsenicum album, Hydrastis canadensis*.

Oesophagus cancer: *Aceticum acidum, Ornithogalum*.

Oesophagus cancer, contraction; the food just swallowed runs into mouth: *Phosphorus*.

Osteosarcoma: *Syphilinum*.

Paint, on cancer or for gargling: *Hydrastis canadensis*.

Pancreatic cancer: *Colocynthis, Calarea arsenicosum, Iris versicolour, Phosphorus.*

Piles, turning into cancer: *Paeonia.*

Prostate cancer: *Baryta Oxalsuccinica, Naphthoquinone, Sulphonamide, Thymol.*

Pylorus cancer: *Graphites, Iris versicolour, Ornithogalum*.

Rectum and anus cancer: *Carduus marinus, Hydrastis canadensis, Kali muriaticum, Phytolaccin, Polgonum, Ruta graveolens.*

Rectum cancer bleeding with diarrhoea: *Carduus marinus.*

Rectum cancer bleeding: *Arsenicum album, Arsenicum iodatum, Gaertner bach.*

Renal cancer or failure, associated ear affections and nausea, vomiting with: *Cisplatin.*

Sarcoma inoperable: *Cuprum sulph* (local application).

Skin cancer: *Ranunculus bulbosus.*

Spleen cancer: *Arsenicum album, Borax, Ceanothus*.

Stomach cancer: *Aceticum acidum, Bismuth subnitricum, Cadmium sulph, Carbo animalis, Conium maculatum, Nepenthes.*

Stomach and caecum cancer: *Glonoine, Iris tenax*.

Stomach and colon cancer: *Cundurango, Hydrastis canadensis, Kalium muriaticum, Kali permanganatum, Lobelia erinus, Ornithogallum, Polygonum, Uva ursi.*

Stomach cancer, excessive vomiting, exhaustion and coldness of body with: *Cadmium sulph*.

Stomach cancer, increased hunger with: *Hydrastis canadensis.*

Throat cancer: *Ammonium carbonicum, Phytolacca decandra.*

Throat cancer, of glottis, epiglottis: *Apis mellifica, Vipera.*

Tongue cancer: *Aparine, Aurum muriaticum, Citricum acidum* (local mouth wash - one drachm to 8 oz water), *Galium, Guiacum, Hydrastis canadensis* (gargle), *Kali cyanatum, Sempervivum tectorum.*

Tongue cancer, tumours hard or ulcers, bleeding easily with soreness and stabbing pains: *Sempervivum tectorum*.

Tumours in relaxed elastic fibre: *Calcarea fluorica.*

Tumours malignant: *Arsenicum iodatum, Calcarea fluorica, Calcarea iodide, Hecla lava, Kalium Cyanatum, Selenium, Scrophularia, Symphytum, Thiosinaminum, Vanadium.*

Uterine cancer: *Amorphophallus rivieri, Cadmium iodatum, Caltha palustris, Herpes simplex nosode, Herpes zoster nosode, Paronychia illecebrum.*

Repertory of Cancer

A wealth of data pertaining to the management of tumours lies scattered in various books. This chapter is presented as a repertory of neoplasia. It is a compilation of rubrics from the following repertories:

1. Kent’s Repertory
2. Boger’s Boenninghausen’s Characteristics and Repertory
3. Boger’s Synoptic Key
4. Boericke’s Repertory
5. Synthetic Repertory
6. Phatak’s Repertory

The rubrics are arranged under the following locations:

1. Mind
2. Head
3. Eye
4. Ear
5. Nose
6. Face
7. Mouth
8. Throat
9. Stomach
10. Abdomen
11. Rectum
12. Bladder
13. Kidneys
14. Urethra
15. Urinary organs
16. Prostate gland
17. Genitalia-Male/sex
18. Genitalia-Female/sex
19. Larynx and Trachea

20. Chest
21. Back
22. Extremities
23. Dreams
24. Skin
25. Generalities

The rubrics that have been selected are those that pertain directly to new growths – both benign and malignant, as well as those that indicate neoplastic process, especially malignancy. The rubrics that indirectly indicate neoplasia are:

1. Caries (inclusive of necrosis)
2. Hypertrophy
3. Induration
4. Swelling-hard
5. Ulcers - indurated
6. Ulcers - malignant

The rubrics also cover certain symptoms associated with malignancy, like cancer cachexia, cancer pains (listed under Generalities); Convulsions due to brain tumours (listed under Nervous system); Vomiting due to brain tumours and gastric, hepatic or uterine cancer (Listed under stomach chapter).
Another rubric included under Generalities is Burns and Scalds–from radium and X-ray. This can be made use of when a patient presents with the ill-effects of radiotherapy.

The gradation of rubrics is according to Kent's Repertory. The drugs, which are not marked numerically, are of the first order. The conversion of rubrics from Boenninghausen's Repertory is as follows:

Drugs graded as 4, 5 = 3

As 3 = 2

As 2, 1 = 1

The conversion of rubrics from synthetic repertory is as follows:

Drugs graded as 3, 4 = 3

As 2 = 2

As 1 =1

While combining the rubrics from these repertories, the gradation of the highest order is given to a drug, which is graded differently in different repertories. The abbreviations used are the same as those in Kent's Repertory. The names of those drugs that are not listed in Kent's Repertory are self - explanatory.

MIND

Cancer Rubrics

MIND - ANXIETY - pains from the - cancer; of: carc.

MIND - DELUSIONS - cancer has a: carc. ruta. sabad. spect. verat.

MIND - DELUSIONS - disease –deaf dumb and has cancer; he is: verat.

MIND - DESPAIR - cancer from: uran-n.

MIND - DISCOURAGED - cancer;in: hydr.

MIND - FEAR - cancer; of (MIND - FEAR - disease of impending - cancer): AGAR. am-caust. am-f. arg-n. **ARS.** aster. aur-m-n. bac. bamb-a. bar-c. beryl. beryl-m. bor-pur. cadm-met. calc. calc-f. calc-p. carc. carc-cupr. chinin-ar. clem. cupr. falco-pe. ferr-n. fl-ac. fl-pur. graph. ign. kali-ar. lac-c. lac-e. lac-h. lith-c. lith-f. lith-met. **Lob.** luf-op. lyc. mag-m. mag-n. **MANC.** mang-n. med. miml-g. nat-ar. nat-m. **Nit-ac.** nitro. oncor-t. oxyg. phos. **PLAT.** plut-n. **Positr. PSOR.** ruta**.** scol. sep. spect. stann. streptoc. sulph. tax. verat. zinc-n.

MIND - FEAR - cancer; of - brain tumor: bamb-a. ruta.

MIND - FEAR - cancer; of – Mammae: aster.

MIND - FEAR - death of - cancer; of: carc.

MIND - HELPLESSS; feeling of - cancer;in: uran-n.

MIND - SADNESS - cancer; with (GENERALS - CANCEROUS affections - sadness; with): ars. carc. con. graph. iod.

Tumor Rubrics

MIND - FEAR - cancer; of - brain tumor: bamb-a. ruta.

MIND - MANNISH - women - ovaries; with tumors in:

HEAD

Cancer Rubrics

HEAD - CANCER - Brain; of: BAR-C. BAR-I. Plb. PLB-I. sil.

HEAD - CANCER - Skull; of: cadm-met. hippoz.

HEAD - CANCER - Skull; of – sarcoma: cadm-met.

Tumor Rubrics

HEAD - TUMORS - Scalp; on – painful: kali-c.

HEAD - TUMORS - Scalp; on – encysted: bar-c.

HEAD - TUMORS - Scalp; on - cystic – hairless: Calc. Graph.

HEAD - TUMORS - Scalp; on: anac. anan. arg-n. ars. aur-m. bar-c. **Calc-f.** calc. carb-an. caust. cupr. daph. fl-ac. **Graph. Hecla.** hell. **Hep.** kali-c. **Kali-i.** merc-p. merc. nux-v. petr. ph-ac. puls. rhus-t. rutasep. sil. still.

HEAD - TUMORS - Brain - growing rapidly: naphthoq.

HEAD - TUMORS - Brain - glioma - glioblastoma multiformae: lach.

HEAD - TUMORS - Brain - glioma - glioblastoma multiformae: lach.

HEAD - TUMORS - Brain – glioma: bar-c. carc. caust. plb-i.

HEAD - TUMORS - Brain – ependymoma: calc. gels. plb. zinc.

HEAD - TUMORS - Brain – astrocytoma: aeth. **Bar-c.** carc. plb-i. syph.

HEAD - TUMORS - Brain - adenoma – pituitary: calc-caust. calc-f. naja. nat-m. pall. phos. thuj.

HEAD - TUMORS - Brain - accompanied by - tension in head: ap-d. apis.

apom. hed. hell.

HEAD - TUMORS - Brain - accompanied by - convulsions – epileptic: plb.

HEAD - TUMORS – Brain: aeth. ap-d. apis. apom. arn. aur-i. **Bar-c.** bell. calc. carc. caust. cham. **Con.** gels. glon. graph. hed. hell. hydr. **Kali-i.** naphthoq. **PLB-I. Plb.** sep. staph. sulph. syph. **Thuj.** zinc-s. zinc.

HEAD - TUMORS – Bones: AUR. calc-p. **Daph.** merc. **Phos.** sars. **Sil.**

HEAD - TUMORS - swellings; tumorous - Scalp and skull; between - thick sticky fluid; filled with a: sil.

HEAD - TUMORS - swellings; timorous: psor. sil.

HEAD - TUMORS - perforating the skull: lach.

HEAD - TUMORS – angiosarcoma: calc-f. rad-br. sec. vip.

HEAD - PAIN - Forehead - pressing pain - outward - tumor; as from a: prun.

Nodule Rubrics

HEAD - NODULES in scalp: anac. ant-c. ant-t. **Ars.** aur. **Calc.** caust. daph. graph. hell. **Hep.** kali-bi. kali-c. **Kali-i.** led. m-arct. mag-m. nat-m. nux-v. petr. ph-ac. phos. puls. ran-b. ran-s. ruta. sep. sil. thuj.

HEAD - NODULES in scalp - headache; during: kali-i. phos. sil.

HEAD - NODULES in scalp – painful: anac. caust. hep. kali-bi. kali-c. kali-i. ph-ac. puls.ruta.sil.

Sarcoma Rubrics

HEAD - CANCER - Skull; of – sarcoma: cadm-met.

EYE

Cancer Rubrics

EYE – CANCER: apisars. aur-m-n. **Bell. CALC.** carb-an. con. cund. euphr. hep. hydr. **Lach. LAUR. Lyc. Petr. PHOS.** physala-p. phyt. ran-b. sel. **Sep. Sil.** syph. thuj.

EYE - CANCER – epithelioma: apis. con. cund. hep. hydr. **Lach.** physala-p. phyt. ran-b. sep. thuj.

EYE - CANCER - epithelioma - Cornea of: hep. physala-p.

EYE - CANCER - epithelioma - Lids; of: apis. con. cund. hydr. lach. phyt. ran-b. sep. thuj.

EYE - CANCER - epithelioma - Lids; of – Lower: apis. cund. thuj.

EYE - CANCER – fungus (EYE - FUNGUS oculi): bell. **CALC. Lyc. PHOS. Sep. Sil.** syph. thuj.

EYE - CANCER - fungus haematodes: Carb-an. Thuj.

EYE - CANCER - fungus medullaris: bell. **CALC. Lyc. Sil.**

EYE - CANCER – Canthi: carb-an.**Petr. Phos. Sil.**

EYE - CANCER - Lachrymal glands: Carb-an.

Tumor Rubrics

EYE - TUMORS - Canthi - Outer canthus – polypus (EYE - POLYPUS): Lyc.

EYE - TUMORS - Conjunctiva – polypus: Kali-bi. Staph. thuj.

EYE - TUMORS - Conjunctiva – sarcoma (EYE - SARCOMA): iod.

EYE - TUMORS – Eyeballs: symph.

EYE - TUMORS - Eyeballs – Behind: thuj.

EYE - TUMORS - Eyeballs - Behind - accompanied by – exophthalmos (EYE - PROTRUSION - exophthalmos - accompanied by - tumor behind eyeball): thuj.

EYE - TUMORS - Iris – cystic: syph.

EYE - TUMORS – Lids: Alum. ant-t. arg-n. aur. bad. **Bar-c. Benz-ac. Calc-f. Calc.**caust. chion. **Con.** ferr-p. ferr-py. graph. **Hep.** hydr. hydrc. iod. kali-bi. kali-c. **Kali-i.** kreos. lol. lyc. **Merc.** morg-g. morg-p. **Nat-m.** nat-s. **Nit-ac. Phos. PLATAN-OC.** prot. **Puls.** sanic. **SEP. Sil. Staph.** staphycoc. sulph. syc. teucr. **Thuj.** tub. **ZINC.**

EYE - TUMORS - Lids - right – Lower: zinc.

EYE - TUMORS - Lids - right – Upper: zinc.

EYE - TUMORS - Lids – cystic: Benz-ac. calc-f. **Calc. .**con. ferr-p. ferr-py. **Graph.** iod. kali-c. kali-i. **Merc.** morg-g. morg-p. platan-oc. prot. **Sil.** staph. ulph. syc. thuj. zinc.

EYE - TUMORS - Lids - cystic - tarsal cysts: ferr-p. ferr-py. kali-i. morg-p. syc. zinc.

EYE - TUMORS - Lids – epithelioma: con. sep.

EYE - TUMORS - Lids - nodules in the lids (EYE - CHALAZAE), (EYE - NODULES in lids): Alum. ant-t. aur. calc. caust. **Con.** ferr-py. graph. hep. **Kali-i. PLATAN-OC.** puls. **Sep. Sil. STAPH.** sulph. **Thuj.** tub. zinc.

EYE - TUMORS - Lids - nodules in the lids - styes; after: con. staph. thuj.

EYE - TUMORS - Lids - nodules in the lids - Lower lids: aur. **Calc.** thuj.

EYE - TUMORS - Lids - nodules in the lids – Margins: aur.**Calc. Con. Sep.** sil.**STAPH.** thuj.

EYE - TUMORS - Lids - polypus - Lid; under surface of upper: Kali-bi.

EYE - TUMORS - Lids – sarcoma: iod.**Phos.**

EYE - TUMORS - Lids – sensitive: staph.

EYE - TUMORS - Lids - tarsal tumors: ant-t. arg-n. bar-c. calc. caust. **Con.** ferr-py. hep. hydr. **Kali-i.** nat-s. **Platan-oc. Puls.** sanic. **Sep. Sil. Staph.** sulph. teucr. **Thuj. ZINC.**

EYE - TUMORS - Lids - tarsal tumors - children; in: platan-oc.

EYE - TUMORS - Lids - tarsal tumors – recurrent (GENERALS - HISTORY; personal - lids; of recurrent tarsal tumors on the): CALC-

F.Puls.Staph.

EYE - TUMORS - Lids - tarsal tumors - repeated styes; after: SEP.

EYE - TUMORS - Lids – wens: Graph.

EYE - TUMORS - Lids - Meibomian glands: alum. bad. **Benz-ac. Calc-f.** calc. graph. hep. iod. **Kali-i.** kreos. lol. merc. platan-oc. prot. **STAPH.** staphycoc. **Thuj.**

EYE - TUMORS - Lids - Meibomian glands – cysts: Benz-ac. calc. **Calc-f.** graph. hep. iod. **Kali-i.** kreos. merc. platan-oc. prot. staph. staphycoc. thuj.

EYE - TUMORS - Lids - Meibomian glands – inflamed: lol.

EYE - TUMORS – Orbits: kali-i.

Sarcoma Rubrics

EYE - TUMORS - Conjunctiva – sarcoma: iod.

EYE - TUMORS - Lids – sarcoma: iod. **Phos.**

Excrescences Rubrics

EYE – EXCRESCENCES (EYE – WARTS): arg-n. **Ars.** arund. **Calc.** cinnb. dulc. **Lyc. Merc. Nit-ac.** phos. psor. sil. staph. **THUJ.**

EAR

Cancer Rubrics

EAR - CANCEROUS affections (EAR - MELANOMA): ars. calc-sil. calc. graph. hep. hydr. kali-sil. mez. sil. staph. thuj.

EAR - CANCEROUS affections - Nerve; auditory: calc. calc-sil. kali-sil. sil. staph.

Tumor Rubrics

EAR - TUMORS – cystic: Nit-ac. ribo.

EAR - TUMORS - cystic – Lobes: nit-ac.

EAR - TUMORS - small tumors - Behind the ears: berb. bry. caust. **Con.** nux-v.

EAR - TUMORS – steatoma (EAR - STEATOMA): calc. **Calc-f.** hippoz. nit-ac. phos.

EAR - TUMORS - steatoma – Lobes: Nit-ac.

EAR - TUMORS - wens - Behind the ears: merc-i-r. verb.

EAR - TUMORS - wens – Lobe; on: nit-ac.

EAR - TUMORS - Behind the ears: berb. olnd.

EAR - TUMORS - Front of ears; in: bry.**Calc.**

EAR - TUMORS - Lobes – Below: Calc.

EAR - TUMORS - Lobes – On: merc. **Nit-ac.**

Excrescences Rubrics

EAR - FUNGOUS excrescences: Calc. Merc. sep.

NOSE

Cancer Rubrics

NOSE – CANCER: alumn. apis. ars-i. **Ars. Aur-m.** aur-s. **AUR. Calc.** carb-ac. **Carb-an.** caust. con. cund. eucal. euphr. gal-met. hecla. **Hydr. JUG-C.** kali-bi. **Kali-c. KALI-S. Kreos.** med. merc. nat-m. **Nit-ac. Phos. Phyt. Sep.Sil.** sulph. symph. syph. tab. thuj. **Zinc.**

NOSE - CANCER – bleeding: phos.

NOSE - CANCER – epithelioma: ars-i. **Ars.** aur. **Carb-ac.** con. cund. **Hydr.** kali-bi. **KALI-S. Kreos.** med. nit-ac.

NOSE - CANCER - epithelioma – Wings: med.

NOSE - CANCER – flat: euphr.

NOSE - CANCER - flat - right side; on: euphr.

NOSE - CANCER – Antrum: aur. symph.

NOSE - CANCER - Antrum – right: symph.

NOSE - CANCER - Posterior nares: chr-ac.

NOSE - ODORS; imaginary and real - cancer; like: cadm-s.lyc. sulph.

Tumor Rubrics

NOSE - TUMOR – epithelioma: ars. nit-ac. phos.

NOSE - TUMOR - left side: merc-i-r.

NOSE - TUMOR – hard: ars.

NOSE - TUMOR - malicious sarcoma - Maxilla – right: symph.

NOSE - TUMOR – Inside: ars. kali-bi. thuj.

NOSE - TUMOR - Nostrils – left: graph.

NOSE - TUMOR - Nostrils – lardaceous: graph.

NOSE - TUMOR – Postnasal: chr-ac. osm.

NOSE - TUMOR – Root: bell.

NOSE - TUMOR – Tip: anan. carb-an. sulph.

Sarcoma Rubrics

NOSE - TUMOR - malicious sarcoma - Maxilla – right: symph.

FACE

Cancer Rubrics

FACE – CANCER: acet-ac. alum. alumn. anan. **Ant-c.** ant-m. **ApisArg-n.** ars-i. ars-s-f. **ARS.** aur-ar. aur-m-n. **Aur-m.** aur-s. **Aur.** bac. **Bell.** bry. calc. camph. carb-ac. **Carb-an. Carb-v.** caust. **Cic.** cist. **Clem.** com. **Con. Cund.**

Dulc. fl-ac. **Graph.** hecla. **Hep. Hydr. HYDRC. JUG-C. Kali-ar. Kali-bi.** kali-c. kali-chl. kali-cy. kali-i. kali-m. **KALI-S. Kreos.** lach. lap-a. lob-e. **Lyc.** mag-c. med. **Merci-f.** merc. mez. morg-g. nat-c. nat-m. nit-ac. ph-ac. **Phos.** phyt. **Psor.** ran-b. rhus-t. rumx-act. sabad. **Sep.** sil. staph. stront-c. sulph. symph. syph. tab. thuj. zinc.

FACE - CANCER – epithelioma: acet-ac. ars-s-f. **ARS.** aur-ar. aur-s. **Aur.** cic. clem. com. con. **Cund. Dulc.** hydr. kali-ar. kali-m. **KALI-S. Kreos. Lach.** lap-a. lob-e. med. **Merc-i-f.** morg-g. nit-ac. **Phos.** ran-b. rumx-act. **Sep.** sil. thuj.

FACE - CANCER - epithelioma - accompanied by – crusts: kali-s.

FACE - CANCER - epithelioma – Forehead: morg-g.

FACE - CANCER –epithetlioma – Lips: acet-ac. ars-s-f. **Ars.** aur-ar. aur-s. aur. **Cic.** clem. com. **Con. Dulc. Hydr.** kali-m. **Kreos.** lap-a. med. **Merc-i-f.** nit-ac. **PHOS.** sep. **Sil.** thuj.

FACE - CANCER - epithelioma - Lips – Lower: Ars. clem. **Dulc. Merc-i-f.** nit-ac. **Phos. Sep. Sil.** thuj.

FACE - CANCER - epithelioma - Nose; near wing of: Aur. sep.

FACE - CANCER – lupoid: Hep. kali-m.

FACE - CANCER – lupus (FACE - LUPUS): alum. alumn. anan. **Arg-n. ARS.** aur-m. bac. carb-ac. **Carb-v.** cist. graph. **HYDRC.** kali-ar. **Kali-bi.** kali-chl. kreos. lach. mag-c. nat-c. phos. **Psor. Sep. Sil.** staph. sulph. syph.

FACE - CANCER - lupus – Eyebrows (EYE - LUPUS – Eyebrows): alum.alumn. anan.

FACE - CANCER - lupus - Upper jaw; left: bac.

FACE - CANCER - noli me tangere: bry. cist. graph. jug-c. kali-bi. phyt. thuj.

FACE - CANCER - noli me tangere - Nose; on: bry. cist. graph. jug-c. kali-bi. phyt. thuj.

FACE - CANCER – scirrhus: Bell. Carb-an. sil.

FACE - CANCER - scirrhus – Lips: Bell. Sil.

FACE - CANCER – Cheek: con.

FACE - CANCER - Jaws – right: Ant-c. arg-n. ars. aur. calc. fl-ac. graph. rhus-t.

FACE - CANCER - Jaws – left: Ars. hecla. hep. lap-a. merc. phos. sil. symph.

FACE - CANCER - Jaws - Bones; of: hecla. symph.

FACE - CANCER – Lips: acet-ac. ant-c. ant-m. **Apis.** ars-i. **Ars.** aur-m-n. **Aur-m.** aur. **Bell.** bry. calc. camph. **Carb-an.** caust. **Cic. Cist.** clem. com. **CON.** cund. **Dulc. Hydr.** kali-bi. kali-chl. kali-cy. kali-s. **Kreos. Lach. Lyc.** mez. nat-m. nit-ac. ph-ac. phos. phyt. sabad. **Sep. Sil.** stront-c. sulph. **.**tab. thuj.

FACE - CANCER - Lips - pressure of pipe: aur-m-n. **Con.** sep. $_{k}$thuj.

FACE - CANCER - Lips - tobacco; from: con.

FACE - CANCER - Lips – Lower: ant-m. **Ars.** aur-m-n. aur. caust. **Cist. Clem. Con. Dulc.** hydr. kreos. **Lyc.** nat-m. nit-ac. **Phos.** sabad. **Sep. Sil.** thuj.

FACE - CANCER - Lips - Lower - Middle of: hydr. nat-m.

FACE - CANCER - Lips – Upper: ant-c. calc. ph-ac. sabad. sil. stront-c.

FACE - CANCER - Malar bone – right: syph.

FACE - CANCER - Mouth; corners of: ars.

FACE - CANCER - Parotid glands: Phyt.

FACE - CANCER - Submaxillary glands: Anthraci. calc-s. carb-an. ferr-i. tub-m.

FACE - ERUPTIONS – cancerous: Rhus-t.

FACE - ULCERS - Lips – cancerous: Ars. aur. **Aur-m.** carb-an. **Clem. CON.** cund. **Kali-bi.** lyc. **Phos.** phyt.

FACE - ULCERS - Lips - cancerous - bleeding freely: hir. tela

Tumor Rubrics

FACE - TUMOR - cystic tumor: Calc. Fl-ac. Graph. thuj.

FACE - TUMOR - cystic tumor - Cheek; on: graph. thuj.

FACE - TUMOR - cystic tumor - Lips; on: ars. **Con.** kreos. sep. sil.

FACE - TUMOR - cystic tumor - Lips; on – Lower: ars. phos. sil.

FACE - TUMOR - cystic tumor - Malar bones: mag-c.

FACE - TUMOR - cystic tumor - Parotid gland – right: bar-c. bar-m. calc. calc-f. con.

FACE - TUMOR - hard - walnut; as a – Chee: hep.

FACE - TUMOR - Cheek; on: thuj.

FACE - TUMOR - Jaw; on: astra-e. hecla

FACE - TUMOR - Jaw; on - Upper jaw: hecla

FACE - TUMOR - Maxillary bones; on: astra-e. mag-c.

Nodule Rubrics

FACE - ERUPTIONS – nodular: ars. bar-m. bry. caust. **Chel.** cic. **Cocc.** irid-met. kali-ar. nat-m. rhus-t.

FACE - ERUPTIONS - nodular – Forehead: ars. caust. **Cocc.** rhus-t.

FACE - ERUPTIONS - nodular – Nose: bar-m. nat-m.

FACE - NODULES – Glandular: Bry.

FACE - NODULES – Subcutaneous: psor.

FACE - SWELLING – nodular: alum.

MOUTH

Cancer Rubrics

MOUTH – CANCER: alum. **Alumn. Apis**arg-cy. ars-h. ars-met. **Ars.** aur-m-n. **AUR-M. Aur.** benz-ac. beryl. **Calc-f.** calc. carb-ac. **Carb-an.** carc. caust. chr-ac. cic. cit-ac. cit-l. cob. **Con.** crot-h. cund. kreos. gali. graph. guaj. hecla. **HYDR.** iod. kali-chl. **Kali-cy. Kali-i.** kreos. **Lach.** lyc. merc-c. **Merc. Mur-ac. Nit-ac. Phos. Phyt.** rad-br. sang. scolo-v. semp. sep. **Sil.** staph. **Strych-g.** sulph. syph. tarent. **Thuj. Vib-p.**

MOUTH - CANCER – Gums: beryl. cob. graph. hecla. hydr. iod. kreos. merc. phos. staph. syph. thuj.

MOUTH - CANCER – Palate: arab. aur. hydr. arab-ac. scolo-v.

MOUTH - CANCER - Palate – hard: arab. scolo-v.

MOUTH - CANCER – Tongue: alum. **Alumn. Apis.** arg-cy. ars-h. ars-met. **Ars.**aur-m-n. **Aur-m. Aur.** benz-ac. **Calc-f.** calc. carb-ac. **Carb-an.** carc. caust. chr-ac. cit-ac. cit-l. cob. **Con.** crot-h. cund. kreos. gali. guaj. **Hydr.** iod. kali-chl. kali-cy. **Kali-i. Lach.** lyc. maland. **Merc. Mur-ac. Nit-ac. Phos. Phyt.** rad-br. sang. semp. sep. **Sil.** staph. **Strych-g.** sulph. tarent. thuj. **Vib-p.**

MOUTH - CANCER - Tongue – left: maland. **Mur-ac.**

MOUTH - CANCER - Tongue - accompanied by - atrophy of tongue (MOUTH - ATROPHY - Tongue - accompanied by - cancer of tongue and speaking with a thick hoarse voice) (LARYNX AND

TRACHEA - VOICE - hoarseness - accompanied by - Tongue; cancer and atrophy of): merc. **Mur-ac.**

MOUTH - CANCER - Tongue - accompanied by - atrophy of tongue and speaking with a thick hoarse voice: Mur-ac.

MOUTH - CANCER - Tongue - accompanied by - blue discoloration (MOUTH - DISCOLORATION - Tongue - blue - accompanied by - cancer of tongue): Mur-ac.

MOUTH - CANCER - Tongue - accompanied by - hemorrhage; tendency to (MOUTH - BLEEDING - Tongue - accompanied by - cancer of tongue), (GENERALS - HEMORRHAGE - accompanied by - Tongue - cancer): crot-h. hir. Tela

MOUTH - CANCER - Tongue – epithelioma: Ars. carb-ac. chr-ac.

HYDR. kali-chl. **Kali-cy.** kali-i. mur-ac. nit-ac. **Thuj.**

MOUTH - CANCER - Tongue - hard indurated ulcerated warty growths: Mur-ac.

MOUTH - CANCER - Tongue – painful: cit-ac. cit-l.

MOUTH - CANCER - Tongue - scirrhus carcinoma: alum. alumn. cob. iod. kali-cy. semp. staph.

MOUTH - ODOR - offensive - accompanied by – cancer (GENERALS - CANCEROUS affections - accompanied by - Mouth; offensive odor of): cit-ac. kali-perm. oxal-a. sep.

Tumor Rubrics

MOUTH – TUMORS: benz-ac. calc-f. calc. canth. castm. gali. kali-m. **Lyc.** merc-c. merc. morg-g. nat-s. **Nit-ac.** phos. **SIL.** staph. **Sulph.** tax-br. thuj.

MOUTH - TUMORS - left side - Last molar; behind: benz-ac.

MOUTH - TUMORS – malignant: calc.

MOUTH - TUMORS – painless: calc.**Nit-ac.**

MOUTH - TUMORS – small: lyc.

MOUTH - TUMORS – spongy: calc. thuj.

MOUTH - TUMORS – ulcerated: benz-ac.

MOUTH - TUMORS - Gums – inflamed: calc-f. canth. merc. merc-c. morg-g. phos. thuj.

MOUTH - TUMORS - Gums - painless movable lower Gums: nat-s.

MOUTH - TUMORS - Gums – spongy: Sulph.

MOUTH - TUMORS - Gums - walnut; size of a: Nit-ac. SIL. staph.

MOUTH - TUMORS - Gums - walnut; size of a - place of two bicuspids; in: SIL.

MOUTH - TUMORS - Lip; inside right side of: calc.

MOUTH - TUMORS - Palate – hard: canth. hydr.

MOUTH - TUMORS - Palate - soft and tender tumors: tax-br.

MOUTH - TUMORS – Tongue: castm. gali. kali-m. phos.

MOUTH - TUMORS - Tongue - Centre size of pea sensitive to touch; rounded elevation in: castm.

MOUTH - TUMORS - Tongue - Centre size of pea sensitive to touch; rounded elevation in - drawing sensation; with - string were pulling the centre of tongue toward the hyoid bone; as if a: castm.

MOUTH - TUMORS - Tongue - Under – cystic: ambr.

Excrescences Rubrics

MOUTH – EXCRESCENCES: Ambr. calc. caust. dros. merc-c. nat-m. ph-ac. plb. **STAPH. Sulph.**

MOUTH - EXCRESCENCES – painful: staph.

MOUTH - EXCRESCENCES – Gums: calc. caust. nat-m. ph-ac. plb. **Staph.Sulph.**

MOUTH - EXCRESCENCES - Gums - fungus haematodes: Sulph.

MOUTH - EXCRESCENCES - Tongue – Below: Ambr. dros. staph.

THROAT

Cancer Rubrics

THROAT – CANCER: aur. bar-i. **Carb-an.** cist. **Lach.** led. **Phos.** tarent. zing.

THROAT - CANCER – Esophagus: all-s. carb-v. **Con. Cund.** hydr. lyc. phos. plat-m. rumx-ab. zing.

THROAT - CANCER – Nasopharynx: chr-ac. cist.

THROAT - CANCER – Pharynx: arab-ac

Excrescences Rubrics

THROAT - WART like excrescences (THROAT – CONDYLOMATA): Arg-n. cupre-l. **Merc-c.** nat-s. **Nit-ac. Thuj.**

EXTERNAL THROAT

Cancer Rubrics

EXTERNAL THROAT - CANCER - thyroid gland: calc-f. carc. fl-ac. flor-p. iod. phyt. spong.

EXTERNAL THROAT - CANCER - parathyroid gland: am-m. ambr. brom. calc. calc-sil. caust. ferr-i. iod. kali-chl. kali-i. lach. lyc. merc-cy. sil. tab.

EXTERNAL THROAT - GOITRE - exophthalmic - accompanied by - Intestines; cancer of:

Tumor Rubrics

EXTERNAL THROAT – TUMORS: ars. bar-c. brom. **CALC.** graph. nat-c. **Sil.**

EXTERNAL THROAT - TUMORS - one side: Brom. nat-c.

EXTERNAL THROAT - TUMORS – cystic: Brom.

EXTERNAL THROAT - TUMORS - cystic - Thyroid gland: apis.

EXTERNAL THROAT - TUMORS – fatty: Bar-c.

EXTERNAL THROAT - TUMORS - fibroid recurrent (GENERALS – HISTORY; personal – external throat; of recurrent fibroids on): Sil.

Nodule Rubrics

EXTERNAL THROAT - DISCOLORATION - brown – nodules: Thuj.

EXTERNAL THROAT - GOITRE – nodular: graph. phyt.

STOMACH

Cancer Rubrics

STOMACH - APPETITE - capricious appetite - accompanied by - cancerous affections: cina. phos. sulph.

STOMACH - APPETITE - diminished - cancer; in: iod. phyll-e

STOMACH - APPETITE - wanting - cancer in: ange. hydr. phyll-e

STOMACH – CANCER: Acet-ac. act-sp. all-s. am-m. ant-s-aur. arg-n. **ARS. Ars-i.** ars-s-f. ars-s-r. aur. aur-m-n. bar-c. bell. **BISM.** bism-sn. brom. bry. bufo. cadm-act. cadm-ar. cadm-br. cadm-chl. cadm-f. cadm-gl. cadm-i. cadm-m. cadm-met. cadm-n. cadm-o. cadm-p. **Cadm-s.** cadm-sel. calc-f. calen. **Caps. CARB-AC. CARBAN. Carb-v.** carc-st. carc-st-ad. carc-st-sc. **Cari-p. Chel.** coloc. **CON. Crot-h. CUND.** dulc. form-ac. ger. graph. helic-p. **Hydr. Iris.** kali-bi. kali-c. kali-m. kali-perm. kali-s. **Kreos. Lach.** lob-e. **LYC.** mag-p. **Merc-c. Mez. Nat-m.** nep. nux-v. orni. **PHOS.** plat. plat-m. plb. polyg-h. sacch. sec.**Sep. Sil. Staph. Sulph. Thuj. Uran-n.** uva. verat. zing.

STOMACH - CANCER - accompanied by – hiccough (STOMACH - HICCOUGH - accompanied by - cancer in stomach): Carb-an.

STOMACH - CANCER - accompanied by - vomiting blood (STOMACH - VOMITING; TYPE OF - blood - accompanied by - cancer; stomach): calen. hir. tela

STOMACH - CANCER - accompanied by - vomiting; persistent (STOMACH - VOMITING - carcinoma of stomach; in): cadm-s. carb-ac. kreos.

STOMACH - CANCER - aluminium poisoning; from: CADM-MET.

STOMACH - CANCER – Pylorus: acet-ac. bry. **Carb-an.** graph. iris. orni. **Sulph. Uran-n.**

STOMACH - PAIN - cancer of stomach; in: cund.

STOMACH - VOMITING - cancer; from: cadm-s. carb-ac. carc. kreos.

STOMACH - VOMITING; TYPE OF - coffee grounds like - gastric

cancer in: phos.

Tumor Rubrics

STOMACH - TUMOR – Epigastrium: hydr.

STOMACH - VOMITING - brain tumors; from: aml-ns. apis. apom. bell. coc-c. cocc. glon. hell. merc. zinc.

STOMACH - VOMITING - cerebral tumors; from: apom. bell. glon. plb.

ABDOMEN

Cancer Rubrics

ABDOMEN - CANCER - accompanied by - appetite; wanting of: lyc.

ABDOMEN - CANCER - accompanied by – vomiting: lyc.

ABDOMEN - CANCER - aluminium poisoning; from: cadm-met. **CADM-O.**

ABDOMEN - CANCER - bowel of: sacch.

ABDOMEN - CANCER – Cecum: Orni.

ABDOMEN - CANCER – Colon: all-s. **ALOE.** anthraq. cadm-i. carc-col-ad. **Cari-p.** cund. cupr. germ-met. hydr. kali-bi. kali-m. kali-perm. lob-e. **Lyc.** merc-c. orni. polyg-h. **Sed-ac.** sulph. **Thuj.** uva

ABDOMEN - CANCER - Colon – Transverse: anthraq. cadm-i. carc-col-ad. cund. germ-met. hydr. kali-m. kali-perm. lob-e. orni. polyg-h. uva

ABDOMEN - CANCER - Gall ducts: card-m. **Chel.** mag-p. mag-s. nat-m. nat-s. phos.

ABDOMEN - CANCER – Gallbladder: card-m. **CHEL.** chion. chol. phos.

ABDOMEN - CANCER - Glands; inguinal: syph.

ABDOMEN - CANCER - Glands; inguinal – chronic: syph.

ABDOMEN - CANCER – Intestines: all-s. cadm-act. cadm-ar. cadm-br.

cadm-chl. cadm-f. cadm-gl. cadm-i. cadm-m. **Cadm-met.** cadm-n. cadm-o. cadm-p. cadm-s. cadm-sel. euph-c. graph. **HYDR.** kreos. methyl. naphthoq. orni. phos. ruta. succ-ac.

ABDOMEN - CANCER - Intestines - accompanied by - goitre; toxic: cadm-met.

ABDOMEN - CANCER - Intestines - accompanied by - Heart complaints (CHEST - HEART; complaints of the - accompanied by - Intestines; cancer in): cadm-met.

ABDOMEN - CANCER – Liver: all-s. ars. cadm-act. **Cadm-ar.** cadm-br. cadm-chl. cadm-f. cadm-gl. cadm-i. cadm-m. **Cadm-met.** cadm-n. cadm-o. **Cadm-p. Cadm-s.** cadm-sel. **Calc-ar.** calen. carc. card-m. **CEAN. CHEL.** chion. chol. **Con.** euph. hydr. kali-m. lach. **Lyc.** myric. nit-ac. phos. podo. **Scir.** senec. solid. ther.

ABDOMEN - CANCER - Liver - accompanied by – jaundice: myric.

ABDOMEN - CANCER - Liver – early: carc. senec.

ABDOMEN - CANCER - Liver – metastasis: calen.

ABDOMEN - CANCER – Omentum: lob-e.

ABDOMEN - CANCER – Pancreas: cadm-i. **CADM-S.** calc-ar. **CEAN. HYDR.**

ABDOMEN - CANCER - Sigmoid flexure: spig.

ABDOMEN - CANCER – Spleen: ars. borx. cadm-i. cadm-met. **CEAN.**

ABDOMEN - INFLAMMATION - Colon – cancerous: mag-c. mag-m. mag-s. phos. **Zing.**

ABDOMEN - PAIN - cancer in: calc-ar.

ABDOMEN - PAIN - cancer in – burning: calc-ar.

ABDOMEN - PAIN - Gallbladder – cancer: chol. hydr.

ABDOMEN - PAIN - Liver - cancer in: chol. hydr.

Tumor Rubrics

ABDOMEN - PAIN - Umbilicus - Region of umbilicus - tumor; as from a: spig.

ABDOMEN – TUMORS: Abrot. Cadm-s. Calc. calc-ar. calc-i. calc-p. **Con. Merc.** nat-m. staph.

ABDOMEN - TUMORS - Sides - right - sensation as if: med.

ABDOMEN - ERUPTIONS – nodules: nat-c. ruta

Excrescences Rubrics

ABDOMEN - EXCRESCENCE at umbilicus; moist: Calc. morg-p.

RECTUM

Cancer Rubrics

RECTUM – CANCER: aesc. **ALOE. Alum.** alumn. ancis-p. **ARS-I.** ars. calc-caust. carb-an. carb-v. card-m. cham. coll. germ-met.graph. grat. hep. hura. hydr. iod. **Kali-c.** kali-m. laur. lyc. merc-c. **Merc.** mur-ac. **Nat-s. Nit-ac.** nux-v. orni. paeon. phyt. polyg-h. puls. rat. ruta. salv. sang. **Scir.** scroph-n. **Sed-ac. Sed-r. Sed-t.** sem-t. sep. sil. sol-t-ae. spig. staph. stilboest. sulph. syc. thiosin. **Thuj.** tub. ur-ac. vario. **Zing.**

RECTUM - CANCER - accompanied by - respiration; asthmatic (RESPIRATION - ASTHMATIC - accompanied by - Rectum - cancer of): nat-s.

RECTUM - CANCER - extending to – Sigmoid: alumn. phyt. spig.

RECTUM - CANCER - Anal sac: aesc. nit-ac. stilboest.

RECTUM - CANCER – Anus: Alum. Ars. nux-v. sulph.

RECTUM - CONSTIPATION - cancer of rectum uterus: alumn.

RECTUM - CONSTRICTION - uterine cancer from: kreos.

RECTUM - DIARRHEA - cancer of rectum; due to: card-m.

RECTUM - PAIN - cancer due to: laur.

Nodule Rubrics

RECTUM - NODULES – Perineum: Ant-c.

Excrescences Rubrics

RECTUM - CAULIFLOWER excrescence: Thuj.

BLADDER

Cancer Rubrics

BLADDER – CANCER: Anil. arg-n. ars. blatta-o. chim. clem. con. congo-r. crot-h. equis-h. gamb. hydr. mal-ac. naphthoq. puls. sabal. sars. staph. tarax. **TER.** thuj. tor. **Uva**

BLADDER - CANCER – haematuria: canth. ter. uva

BLADDER - CANCER - painful; tormenting: naphthoq.

Tumor Rubrics

BLADDER – TUMORS: Anil. Calc. tarax. thuj.

KIDNEYS

Cancer Rubrics

KIDNEYS – CANCER: calc. chim. form. sars. solid.

Tumor Rubrics

KIDNEYS - TUMORS – Ureters: Anil.

URETHRA

Tumor Rubrics

URETHRA - CARUNCLE - vascular bleeding tumor of: cann-s. **Eucal.** eup-pur. teucr. thuj.

URETHRA – TUMOR: Anil. lach.

Excrescences Rubrics

URETHRA – EXCRESCENCES: teucr.

URINARY ORGANS

Tumor Rubrics

URINARY ORGANS – TUMORS: anil.

PROSTATE GLAND

Cancer Rubrics

PROSTATE GLAND - CANCER of prostate (PROSTATE GLAND - INDURATION - accompanied by - cancer of prostate), (PROSTATE GLAND - SWELLING - cancerous): bar-c. bar-ox-suc. calc. carc. chim. **CON. Cop.** crot-h. **Iod.** kali-cy. **Lappa. Lyc.** med. naphthoq. plb. **Psor. SABAL. Scir. Sel.** senec. **Sil.** staph. sulfonam. **Sulph. THUJ.** thymol.

PROSTATE GLAND - CANCER of prostate - pain; with: crot-h.

PROSTATE GLAND - PAIN - cancer in: cadm-f. carc. crot-h.

MALE GENITALIA/SEX

Cancer Rubrics

MALE GENITALIA/SEX – CANCER: alum. arg-met. arg-n. ars. aur-m. aur. bell. brom. **Carb-an.** carbn-s. chion. **Clem. CON.**fuli. med. merc. ox-ac. ph-ac. phos. phyt. plat. psor. puls. sil. spong. stigm. still. sulph. syph. thuj. zinc-s.

MALE GENITALIA/SEX - CANCER – Penis: arg-n. ars. carbn-s. chion.

con. ox-ac. phos. phyt. sil. spong. stigm. still. thuj. zinc-s.

MALE GENITALIA/SEX - CANCER - Penis – Glans: arg-n. ars. con. thuj.

MALE GENITALIA/SEX - CANCER – Scrotum: alum. ars. aur-m. aur. carb-an. **Clem.** fuli. merc. ph-ac. spong. thuj.

MALE GENITALIA/SEX - CANCER - Scrotum – scirrhus (MALE GENITALIA/SEX - SCIRRHUS): alum. carb-an. **Clem.**

MALE GENITALIA/SEX - CANCER – Testes: arg-met. arg-n. ars. aur. bell. brom. **Carb-an. Clem. CON.** med. ox-ac. phyt. plat. psor. puls. sil. spong. syph. thuj.

MALE GENITALIA/SEX - ULCERS - cancer-like: arg-n.

Tumor Rubrics

MALE GENITALIA/SEX - TUMOR – Testes: Apis. arg-met. con. **Graph.** sep. staph. sulph. tarent.

MALE GENITALIA/SEX - TUMOR - Testes – cysts: Apis. con. **Graph.** sep. sulph.

MALE GENITALIA/SEX - TUMOR - Testes – indolent: staph. tarent.

Nodule Rubrics

MALE GENITALIA/SEX - ERUPTIONS - Penis - nodules hard painful suppurating: bov.

MALE GENITALIA/SEX - NODULES – Penis: Ars. bell. bov. sabin. **Thuj.**

MALE GENITALIA/SEX - NODULES - Penis – blue: Ars.

MALE GENITALIA/SEX - NODULES - Penis – Glans: bell.

MALE GENITALIA/SEX - NODULES - Penis – Prepuce: Thuj.

MALE GENITALIA/SEX - NODULES – Scrotum: arn. nit-ac. syph.

MALE GENITALIA/SEX - NODULES - Scrotum - hard brown: Nit-ac. syph.

MALE GENITALIA/SEX - NODULES - Spermatic cords: syph.

MALE GENITALIA/SEX - NODULES – Testes: calc-f. **Psor.** syph.

Excrescences Rubrics

MALE GENITALIA/SEX – EXCRESCENCES: bar-c. **Bell.** coloc. **Kali-c.** mill. **Plat. Sep.** staph. **Sulph.**

MALE GENITALIA/SEX - EXCRESCENCES - Penis – Glans: staph. **Sulph.**

MALE GENITALIA/SEX - EXCRESCENCES – Testes: bar-c. mill.

FEMALE GENITALIA/SEX

Cancer Rubrics

FEMALE GENITALIA/SEX - CANCER of: carc.

FEMALE GENITALIA/SEX - CANCER of – Ovaries: Apis. ars. aur-m. aur-m-n. bov. carb-an. **Con.** graph. kreos. **LACH. LIL-T.** med. phos. plat. psor. **Puls. Sep. Thuj.** vib.

FEMALE GENITALIA/SEX - CANCER of - Ovaries – right: Lil-t.

FEMALE GENITALIA/SEX - CANCER of - Ovaries – left: Lach.

FEMALE GENITALIA/SEX - CANCER of – Uterus: alum-sil. alum. alumn. amor-r. anan. apis. **Arg-met.Arg-n. ARS-I. ARS.** asaf. aur-ar. aur-m-n. aur-s. aur. bar-c. bell. benzq. bomh. bov. brom. bry. **Bufo.** cadm-i. cadm-met. cadm-o. cadm-s. calc-ar. calc-f. calc-o-t. calc-sil. **Calc.** calen. calth. canth. **Carb-an. Carb-v.** carbn-s. carc. cham. chin. cic. cinnb. clem. cocc. **CON. Crot-h.** cund. elaps. equis-h. erod. fuli. goss. **GRAPH.** helon. **HYDR. Iod.** irid-met. kali-ar. **Kali-bi.** kali-c. kali-p. kali-s. kali-t. **KREOS. LACH. Lap-a. LIL-T. LYC.** mag-c. mag-m. mag-p. med. menth-pu. merc-c. **Merci-f.** merc. methyl. moni. **MURX. Nat-c. Nat-m. Nit-ac.** nux-v. ol-an. paro-i. pers. **PHOS. Phyt.** plat. plb-i. psor. psoral. **Puls.** rheum. rhus-t. sabad. sabin.

sang. sars. scir. scroph-n. **Sec.** sed-ac. **SEP. SIL.** spig. **Staph.** sul-i. sulph. syph. tarent. thiosin. thlas. **THUJ.** thymol. tril-p. ust. vario. xan. **Zinc.**

FEMALE GENITALIA/SEX - CANCER of - Uterus - accompanied by - discharge; offensive (FEMALE GENITALIA/SEX - LEUKORRHEA - offensive - accompanied by - Uterus; cancer of): carc.

FEMALE GENITALIA/SEX - CANCER of - Uterus - accompanied by – haemorrhage (FEMALE GENITALIA/SEX - METRORRHAGIA - accompanied by - Uterus - cancer of): carc. fuli. med. phos. thlas. ust.

FEMALE GENITALIA/SEX - CANCER of – Uterus - accompanied by – pain: carc.

FEMALE GENITALIA/SEX - CANCER of - Uterus – epithelioma: arg-met. **HYDR.**

FEMALE GENITALIA/SEX - CANCER of - Uterus - growing rapidly: cadm-met.

FEMALE GENITALIA/SEX - CANCER of - Uterus - precancerous stage: moni.

FEMALE GENITALIA/SEX - CANCER of - Uterus – scirrhus: Alumn. anan.**Arg-met. Ars.** aur. aur-m-n. clem. **CON.** kreos. lyc. mag-m. phos. **Phyt.** rhus-t. sep. taph.

FEMALE GENITALIA/SEX - CANCER of - Uterus – Cervix (FEMALE GENITALIA/SEX - CANCER of - Cervix): Arg-n. ars-i. **AUR-M-N.** bomh. carb-an. carc. g. **HYDR.** hydrc. iod. kreos. **LACH. LIL-T. Nat-m.** phos. **Puls. Sep.** tarent. thuj. thymol.

FEMALE GENITALIA/SEX - CANCER of - Uterus - Cervix - offensive odor; with: kreos.

FEMALE GENITALIA/SEX - CANCER of - Uterus - Cervix – painful: goss.

FEMALE GENITALIA/SEX - CANCER of – Vagina: Ars. calen. con. **KREOS.** nit-ac. phos. plat. thuj.

FEMALE GENITALIA/SEX - INDURATION - Uterus - Cervix – cancerous: aur. carb-an. con. nat-c. sep.

FEMALE GENITALIA/SEX - MENSES - suppressed menses - cancer from: Lyc.

FEMALE GENITALIA/SEX - METRORRHAGIA - cancerous affections in: bell. crot-h. kreos. lach. phos. sabin. **Thlas.** ust.

FEMALE GENITALIA/SEX - METRORRHAGIA - dark blood - cancer; in: cadm-met.

FEMALE GENITALIA/SEX - PAIN - cancer; in: lap-a.

FEMALE GENITALIA/SEX - PAIN - cancer; in – burning: lap-a.

FEMALE GENITALIA/SEX - PAIN - cancer; in – stinging: lap-a.

FEMALE GENITALIA/SEX - PAIN - cancer; in - stitching pain: lap-a.

FEMALE GENITALIA/SEX - ULCERS - Uterus - Cervix – cancerous: arg-n. bufomed. mez.

FEMALE GENITALIA/SEX - ULCERS - Uterus - Cervix - cancerous - accompanied by - prolapse of uterus: arg-n.

Tumor Rubrics

FEMALE GENITALIA/SEX – TUMORS: abel. am-c. am-i. amm. **APIS.** apoc. arb. arg-met. arg-n. **Arn.** ars-i. **Ars. Aur-i. AUR-M-N.** aur-m. aur. bar-c. bar-i. **Bar-m. Bell.** berb. **Bov. Brom.** bry. **Bufo.** cadm-met. **CALC-F. Calc-i.** calc-n. **Calc-p. Calc-s. Calc. Calen.** canth. **Carb-an. Carb-v.** carbn-s. carc. cham. chin. chol. chr-s. cimic. coc-c. cocc. coenz-q. **Coloc. Con. Crot-h.** erod. ferr-i. ferr. fl-ac. foll. form. frax. **Graph.** grat. ham. helon. hep. hydr. **Hydrc. Hydrin-m. Hydrinin-m. Iod.** ip. irid-met. **Kali-bi. Kali-br. Kali-c. Kali-i.** kreos. lac-c. **LACH. Lap-a. Led.** lil-t. **LYC.** mag-c. mag-i. mag-m. med. **Merc-c.** merc-i-r. merc. morg-p. murx. najanat-m. **Nit-ac.** nux-v. **Oncor-t.** ov. ozone**Pall.** parathyr. **PHOS.** phyt. **Plat.** plb. **Podo.** prun. **Puls.** rhod. **Rhus-t.** sabal. **Sabin.** sang. sanic. **Sec.** sep. **SIL.** solid. staph. stram. sul-ac. sulph. syc. syph. tarent. **TER.** teucr. thiosin. thlas. **Thuj.** thyr. tril-p. tub. ust. vac. vinc. viol-o. x-ray. xan. xanth. zinc.

FEMALE GENITALIA/SEX - TUMORS – encysted: apis. bar-c. calc. carbn-s. **Graph. Kali-br.** kali-c. lyc. nit-ac. rhod. **Sabin.** sep. **Sil.** sulph.

Thuj.

FEMALE GENITALIA/SEX - TUMORS – erectile: arn. ars. calc. **Carb-an. Carb-v.** coc-c. graph. kali-bi. kreos. **Lach.** lyc. naja. **Nit-ac. Phos.** plat. puls. sep. sil. sulph. **Thuj.** vac.

FEMALE GENITALIA/SEX - TUMORS - erectile – bleeding: arn. coc-c. kreos. lach. **Phos.** puls. thuj. vac.

FEMALE GENITALIA/SEX - TUMORS - erectile – blue: Carb-v.

FEMALE GENITALIA/SEX - TUMORS - erectile – burning: calc. **Carb-an. Thuj.**

FEMALE GENITALIA/SEX - TUMORS - erectile – itching: graph. naja. **Nit-ac.**

FEMALE GENITALIA/SEX - TUMORS - erectile – pricking: Carb-v.

FEMALE GENITALIA/SEX - TUMORS - erectile – sticking: Nit-ac.

FEMALE GENITALIA/SEX - TUMORS – hard: Carb-v.

FEMALE GENITALIA/SEX - TUMORS – Labia: ozone

FEMALE GENITALIA/SEX - TUMORS - Labia – pointed: ozone

FEMALE GENITALIA/SEX - TUMORS - Labia - sensitive to touch; not: ozone

FEMALE GENITALIA/SEX - TUMORS – Ovaries: am-c. am-i. am-m. **APIS.** apoc. arg-met. arg-n. arn. ars-i. **Ars.** aur-i. aur-m-n. aur. bar-c. bar-i. **Bar-m. Bell.** bov. **Brom.** bry. **Bufo.** calc-f. calc-i. calc-s. **Calc.** canth. carb-an. carc. chin. **Coloc.** con. ferr-i. fl-ac. foll. form. graph. grat. hep. **Iod.** kali-bi. kali-br. kali-c. lac-c. **LACH.** lil-t. **LYC.** mag-i. mag-m. med. merc. murx. naja. nat-m. nit-ac. **Oncor-t.** ov. **Pall.** phos. **Plat. Podo.** prun. puls. rhod. **Rhus-t.** sabin. **Sec.** sep. sil. staph. stram. sulph. syc. syph. tarent. ter. thuj. xan. zinc.

FEMALE GENITALIA/SEX - TUMORS - Ovaries – right: Apis. Ars. fl-ac. **Iod. LYC. Pall. Podo.**rhod. xan.

FEMALE GENITALIA/SEX - TUMORS - Ovaries – left: apis. arg-met.

Ars. brom. grat. kali-bi. **LACH.** phos. **Podo.**

FEMALE GENITALIA/SEX - TUMORS - Ovaries – cysts (FEMALE GENITALIA/SEX - CYSTS - Ovaries): am-c. am-i. am-m. **Apis.** apoc. arg-met. arg-n. arn. ars. aur. aur-i. **Aur-m-n.** bar-c. bar-i. bell. **Bov.** brom. bry. **Bufo.** calc. calc-f. calc-i. calc-s. canth. carb-an. carc. carc-cupr. chin. **Coloc.** con. ferr-i. foll. form. graph. **Iod.** kali-bi. **Kali-br.** kali-c. lac-c. **Lach.** lil-t. lyc. mag-i. mag-m. med. merc. murx. naja. nat-m. nit-ac. **Oncor-t.** ov. **Pall. Phos. Plat.** podo. prun. puls. rhod. **Rhus-t.** abin. sec. sep. sil. staph. sulph. syc. syph. ter. thuj. zinc.

FEMALE GENITALIA/SEX - TUMORS - Ovaries - cysts - right side: Apis. Bell. lyc. pall. podo.

FEMALE GENITALIA/SEX - TUMORS - Ovaries - cysts - left side: kali-bi. lach. naja. pall. phos. plat. thuj.

FEMALE GENITALIA/SEX - TUMORS - Ovaries - cysts – painful: syc.

FEMALE GENITALIA/SEX - TUMORS - Ovaries – fibroids: apis. calc. coloc. fl-ac. hep. iod. lach. merc. plat. **Podo.** puls. sabin. staph. tarent. thuj. xan.

FEMALE GENITALIA/SEX - TUMORS – Uterus: abel. **Apis.** arb. **Arn.** ars-i. ars. **Aur-i. AUR-M-N.** aur-m. aur. bell. berb. brom. bry. bufo. cadm-met. **CALC-F. Calc-i.** calc-n. **Calc-p. Calc-s. Calc. Calen.** carc. carc-cupr. cham. chin. chol. chr-s. cimic. cocc. coenz-q. **Con. Crot-h.** erod. ferr. fl-ac. foll. frax. graph. ham. helon. hydr. **Hydrc. Hydrin-m. Hydrinin-m. Iod.** ip. irid-met. **Kali-bi.** kali-br. **Kali-c. Kali-i. Lach. Lap-a. Led.** lil-t. lyc. mag-c. mag-m. med. **Merc-c.** merc-i-r. merc. morg-p. nat-m. nit-ac. nux-v. parathyr. **PHOS.** phyt. plat. plb. puls. rhus-t. sabal. sabin. sang. sanic. **Sec.** sep. **SIL.** solid. staph. sul-ac. sulph. tarent. **TER.** teucr. thiosin. thlas. thuj. thyr. tril-p. tub. ust. vinc. viol-o. x-ray. xan. xanth.

FEMALE GENITALIA/SEX - TUMORS - Uterus – cysts: mag-c. sabin.

FEMALE GENITALIA/SEX - TUMORS - Uterus – myoma: abel. **Apis.** arb. **Arn.** ars. ars-i. aur. **Aur-i.** aur-m. **Aur-m-n.** bell. berb. brom. bry. bufo. **CALC. CALC-F. Calc-i.** calc-n. **Calc-p. Calc-s. Calen.** carc. cham. chin. chol. chr-s. cimic. coenz-q. **Con.** erod. ferr. fl-ac. foll. frax. graph. ham. helon. hydr. **Hydrc. Hydrin-m. Hydrinin-m. Iod.** ip. irid-met. **Kali-bi.** kali-

br. **Kali-c. Kali-i. Lach.** lap-a. **Led.** lil-t. lyc. mag-m. med. merc. **Merc-c.** merc-i-r. morg-p. nat-m. nit-ac. nux-v. parathyr. **PHOS.** phyt. plat. plb. puls. rhus-t. sabal. sabin. sang. **Sec.** sep. **SIL.** solid. staph. sul-ac. sulph. tarent. ter. teucr. thiosin. thlas. thuj. thyr. tril-p. tub. ust.vinc. viol-o. x-ray. xan. xanth.

FEMALE GENITALIA/SEX - TUMORS - Uterus - myoma - accompanied by - pain; burning: Lap-a.

FEMALE GENITALIA/SEX - TUMORS - Uterus - myoma - accompanied by - Head; pain in (HEAD – PAIN – accompanied by – myoma; uterine): til.

FEMALE GENITALIA/SEX - TUMORS - Uterus - myoma – hard: Calc-f. merc-i-r. sil.

FEMALE GENITALIA/SEX - TUMORS - Uterus - myoma - hemorrhage; with (FEMALE GENITALIA/SEX - METRORRHAGIA - fibroids, from) (FEMALE GENITALIA/SEX - TUMORS - Uterus - myoma - accompanied by - hemorrhage): aur-m-n.**Calc.**calc-f.calc-p.calc-st-s.foll.**Ham.Hydr. Hydrin-m.Kali-c.**kali-fcy.**Kali-i.**lap-a.led.lyc.merc.nit-ac.**PHOS. Plat.Sabin.**sec.sil.sul-ac.**Sulph.Thlas.Tril-p.**tub.ust.**Vinc.**

FEMALE GENITALIA/SEX - TUMORS - Uterus - myoma – large: Calc-f.

FEMALE GENITALIA/SEX - TUMORS - Uterus - myoma – painful: viol-o.

FEMALE GENITALIA/SEX - TUMORS - Vagina – cysts (FEMALE GENITALIA/SEX - CYSTS - Vagina) (FEMALE GENITALIA/SEX - BARTHOLIN'S Cysts): Lyc. Puls. rhod. **SIL.** thuj.

FEMALE GENITALIA/SEX - TUMORS - Vagina - cysts – serous (FEMALE GENITALIA/SEX - SEROUS cysts in vagina): rhod.

Papilloma Rubrics

FEMALE GENITALIA/SEX - HUMAN PAPILLOMA VIRUS: arg-n. aur-m-n. carb-an. carc. cinnb. cub. hydr. kreos. lil-t. med. nat-s. nit-ac. phos. sabin. sep. staph. tarent. thuj.

Excrescences Rubrics

FEMALE GENITALIA/SEX – EXCRESCENCES: arg-n. ars. calc. cinnb. crot-h. cub. falco-pe. graph. kali-ar. **Kreos.** lac-c. merc. nat-s. **NIT-AC.** phos. sabin. sec. **Sep.** staph. sulph. tarent. **THUJ.**

FEMALE GENITALIA/SEX - EXCRESCENCES – bleeding: calc.

FEMALE GENITALIA/SEX - EXCRESCENCES - Uterus – Cervix: crot-h. cub. **Graph.** kali-ar. **Kreos.** lac-c. merc. nat-s. **NIT-AC. Phos.** sabin. sec. tarent. **THUJ.**

FEMALE GENITALIA/SEX - EXCRESCENCES - Uterus - Cervix – bleeding: merc. thuj.

FEMALE GENITALIA/SEX - EXCRESCENCES - Uterus - Cervix – cauliflower (FEMALE GENITALIA/SEX - CAULIFLOWER): crot-h. **Graph.** kali-ar. **Kreos.** lac-c. nat-s. **Phos. THUJ.**

FEMALE GENITALIA/SEX - EXCRESCENCES - Uterus - Cervix - wart-shaped: sabin. **Thuj.**

FEMALE GENITALIA/SEX - EXCRESCENCES - Uterus - Cervix – watery: sec.thuj.

FEMALE GENITALIA/SEX – WARTS (FEMALE GENITALIA/SEX – EXCRESCENCES): arg-n.ars.calc.cinnb. crot-h.cub.falcope.graph.kali-ar.**Kreos.**lac-c.merc.nat-s.**NIT-AC.**phos.sabin.sec. **Sep.**staph.sulph.tarent.**THUJ.**

FEMALE GENITALIA/SEX – CONDYLOMATA: arg-n. aur-m. calc-s. **Calc. Calen.** cinnb. cub. cypra-eg. euphr. graph. kali-ar. **Kreos. Lyc.** med. **Merc. NAT-S.** neon. **NIT-AC.** phos. **Sabin.** sanic. **Sars.** sec. sel. **Sep. Staph.** sulph. syc. tarent. **THUJ.**

Nodule Rubrics

FEMALE GENITALIA/SEX – NODULES: Agar. calc. kreos.**Lac-c.** merc. phos. rhus-t. syph.

FEMALE GENITALIA/SEX - NODULES - Uterus - Os uteri: kreos.

FEMALE GENITALIA/SEX - NODULES - Vagina in: Agar.syph.

LARYNX AND TRACHEA

Cancer Rubrics

LARYNX AND TRACHEA – CANCER: Arab. arg-cy. ars. con. hydr. iod. lap-a. nit-ac. phos. phyt. sang. sil. thuj.

LARYNX AND TRACHEA - CANCER – Larynx: arg-cy. ars. hydr. lap-a. nit-ac. phos. sang. sil. thuj.

Tumor Rubrics

LARYNX AND TRACHEA - TUMORS – benign: caust. kali-bi. sang. thuj.

LARYNX AND TRACHEA - TUMORS – malignant: Ars. ars-i. bell. carb-an. clem. **Con.** hydr. iod. kreos. lach. morph. **Phyt.** sang. thuj.

CHEST

Cancer Rubrics

CHEST - CANCER – Axillae: Ars. Aster.

CHEST - CANCER - Clavicles - fungus haematodes: sep.

CHEST - CANCER – Heart: cact. kreos.

CHEST - CANCER – Lungs: acal. **Anthraci. Arab-ac.** aran. arg-met. ars. ars-i. **Aspar.** bry. cadm-bi. **Cassia-f.** cob-m. con. crot-h. germ-met. guaj. hydr. kali-bi. kali-c. **LYC.** methyl. phos. **Sang. Scir.** ther. thuj.

CHEST - CANCER - Lungs - accompanied by – hemorrhage: acal. aran.

CHEST - CANCER - Lungs - accompanied by - Joints; inflammation of (CHEST - CANCER - Lungs - accompanied by - arthritis) (EXTREMITIES - INFLAMMATION - Joints - accompanied by - Lung; cancer of): guaj.

CHEST - CANCER – Mammae: acon. aids. alum-sil. alum. alumn. **Androg-p. Apis. Arg-n.** arn. **Ars-i.** ars-s-f. **Ars. Aspar. Aster. Aur-ar.** aur-

m-n. aur-m. aur-n-f. bac. **Bad.** apt. bar-i. **Bell-p. Bell. Brom.** bry. **BUFO.** cadm-calc-f. cadm-met. calc-f. calc-i. calc-p. calc-sil. calc. calen. **Carb-ac.Carb-an.** carb-v. carbn-s. carc. caust. cham. **Chim.** cic. cist. **Clem.** coenz-q. coloc. **CON.** congo-r. **Cund.** cupr. cypr. durb. elaps. ferr-i. ferr. form-ac. formal. gaert. **Gali.** goss. **GRAPH. Hep.** hip-ac. hippoz. **Hydr.** hyper. ign. iod. kali-br. kali-c. **Kali-i.** kreos. lac-c. **Lach.** lap-a. lob-e. **Lyc.** mag-c. **Merc-d. Merci-f. MERC.** naja. nat-c. nat-tmcy. **Nit-ac.** ol-an. **Ox-ac.** ph-ac. **Phos. Phyt. Plb-i.** plb. **Psor. Puls.** rad-br. rhus-t. ruta. **Sang.** sars. scir. scroph-n. sed-r. semp. **Sep. SIL.** streptom. strych-g. sul-i. **Sulph.** tarent. thuj. tub. zinc.

CHEST - CANCER - Mammae – right: ars-i. bac. **Con.** ferr-i. gaert. **GRAPH. HYDR. PHYT.** sars. **Sil.**

CHEST - CANCER - Mammae – left: aids. ars-i. aster. **Caust.** clem. **CON. Hydr.** ign. lach. nit-ac. puls. scroph-n. **Sil.** thuj.

CHEST - CANCER - Mammae - nightly pains: Aster.

CHEST - CANCER - Mammae - accompanied by - discharge – offensive (GENERALS - DISCHARGES - offensive fetid - accompanied by - Mammae; cancer of the): carb-an.

CHEST - CANCER - Mammae - accompanied by –haemorrhage (CHEST - HEMORRHAGE of lungs - accompanied by - Lung; cancer in): bell. durb. elaps. kreos. lach. **Phos.** plb. **Psor.** sang. strych-g. thuj.

CHEST - CANCER - Mammae - accompanied by - hemorrhage - bright red blood (CHEST - HEMORRHAGE of lungs - bright red blood - accompanied by - Mammae; cancer in): bell.

CHEST - CANCER - Mammae - accompanied by - hemorrhage - copious with serum and blood (CHEST - HEMORRHAGE of lungs - copious - serum and blood; with - accompanied by - Mammae; cancer in): plb.

CHEST - CANCER - Mammae - accompanied by - hemorrhage - dark thick clots (CHEST - HEMORRHAGE of lungs - dark thick clots - accompanied by - Mammae; cancer in): elaps

CHEST - CANCER - Mammae - accompanied by - hemorrhage - pain; with: durb.

CHEST - CANCER - Mammae - accompanied by - induration of the mammae (CHEST - INDURATION - Mammae - accompanied by - cancer of mammae): alum-sil. aur-n-f. cadm-calc-f. carc. **CON.**

CHEST - CANCER - Mammae - accompanied by – itching (CHEST - ITCHING - Mammae - accompanied by - cancer of mammae): sil.

CHEST - CANCER - Mammae - accompanied by – pain: cadm-met. carb-an. carc. hippoz. lap-a. lob-e. nat-tmcy. ol-an. phyt. streptom.

CHEST - CANCER - Mammae - accompanied by - pain - burning pains (CHEST - PAIN - burning - accompanied by - Mammae; cancer in) (CHEST - PAIN - Mammae - burning - accompanied by - cancer of mammae): carb-an. lap-a. ol-an.

CHEST - CANCER - Mammae - accompanied by - pain - operation; after surgical: hippoz. streptom.

CHEST - CANCER - Mammae - accompanied by - pain - radiation; after: hippoz. streptom.

CHEST - CANCER - Mammae - accompanied by - pain - stitching pains (CHEST - PAIN - stitching pain - accompanied by - Mammae; cancer in), (CHEST - PAIN - Mammae - stitching pain - accompanied by - cancer of mammae): con. lap-a. ol-an.

CHEST - CANCER - Mammae - accompanied by - pain - violent pain: nat-tmcy.

CHEST - CANCER - Mammae - accompanied by - swelling of mammae (CHEST - SWELLING - Mammae - accompanied by - cancer in mammae): cadm-calc-f.

CHEST - CANCER - Mammae - accompanied by – ulcers (CHEST - ULCERS - Mammae - accompanied by - cancer of mammae): alum-sil. aur-m-n. aur-n-f. bell-p. carb-an. coenz-q.

CHEST - CANCER - Mammae - accompanied by - ulcers - small ulcers: alum-sil. aur-n-f.

CHEST - CANCER - Mammae - accompanied by - ulcers - tubercular ulcers: bell-p.

CHEST - CANCER - Mammae - accompanied by - Axillary gland; enlarged (CHEST - SWELLING - Axillae - Glands - accompanied by - Mammae - cancer in): alum-sil. **Aster.** aur-n-f. carb-an. **CON.** goss.

CHEST - CANCER - Mammae - accompanied by - Uterus and shoulders; stitching pain in (FEMALE GENITALIA/SEX - PAIN - Uterus - stitching pain - accompanied by - Mammae; cancer in) (EXTREMITIES - PAIN - Shoulders - stitching pain - accompanied by - Mammae; cancer of): clem.

CHEST - CANCER - Mammae - cicatrices in old: GRAPH.

CHEST - CANCER - Mammae - contusion; from: arn. **Bell-p.** calen. carb-an. **Con.** hyper. ruta

CHEST - CANCER - Mammae - contusion; from - gangrene; with: carb-an.

CHEST - CANCER - Mammae – epithelioma: Arg-n. Ars. Ars-i. brom. **BUFO.** calc. calc-p. **Clem. CON. Hydr. Kreos. Lach.** merc. **Merc-i-f. Phos. Phyt. Sep. Sil.** sulph. thuj.

CHEST - CANCER - Mammae – fungous: CARB-AN. THUJ.

CHEST - CANCER - Mammae - injuries; after: bell-p. hyper.

CHEST - CANCER - Mammae - last stage: carb-an. lac-c.

CHEST - CANCER - Mammae - last stage - mastectomy of opposite cancerous mamma; after: lac-c.

CHEST - CANCER - Mammae - metastasis - Bones; to: androg-p. aster. calc. carb-ac. carb-an. con. lach. merc. nit-ac. phos.

CHEST - CANCER - Mammae - metastasis – Liver: Androg-p.

CHEST - CANCER - Mammae - metastasis - Resistant to chemotherapy: androg-p.

CHEST - CANCER - Mammae - old people: carb-an.

CHEST - CANCER - Mammae – scirrhus: ars. brom. carb-an. **CON.** cund. **GRAPH. Hydr.** kreos. lap-a. phyt. sars. **Scir. Sil.**

CHEST - CANCER - Mammae - scirrhus - accompanied by - menses; absent (FEMALE GENITALIA/SEX - MENSES - absent - accompanied by - Mammae; scirrhus of): brom.

CHEST - CANCER – Sternum: ars-s-r. sulph.

CHEST - ULCERS - Mammae – cancerous: ars-i. calc-sil. hydr. scroph-n. sil.

CHEST - WEAKNESS - Heart - accompanied by - Lungs - cancer – dyspnoea (RESPIRATION - DIFFICULT - accompanied by - Lungs; cancer of the - Heart; weakness of): hydroq.

Tumor Rubrics

CHEST - TUMORS – Axillae: ars-i. **Bar-c.** petr. tell.

CHEST - TUMORS - Axillae – encysted: bar-c.

CHEST - TUMORS – Mammae: aids. arn. ars-br. ars-i. aster. **Bell.** berb-a. brom. bry. **Calc-f.** calc-i. **Calc-p.** calc. calen. **Carb-an.** cham. chim. clem. **CON. Cund.** ferr-i. gnaph. **Graph.** hecla. **Hydr. Hyos.** iod. kali-i. **Lach.** lap-a. lyc. merc-i-f. merc. murx. nit-ac. osm. ph-ac. phel. **Phos.Phyt.** plat. **Plb-i.** psor. **Puls.** sabin. sang. **Scir. Scroph-n.** sec. **Sil.** skook. tep. thuj. thyr. tub.

CHEST - TUMORS - Mammae – left: Calc-p.

CHEST - TUMORS - Mammae - accompanied by - perspiration; hot (PERSPIRATION - HOT - accompanied by - Mammae; tumors of the): merc-i-f.

CHEST - TUMORS - Mammae - accompanied by - Stomach; complaints of (STOMACH - COMPLAINTS of the stomach - accompanied by - Mammae; tumors of the): merc-i-f.

CHEST - TUMORS - Mammae – fibrocystic: phos. phyt. puls. sil.

CHEST - TUMORS - Mammae – fibroid: Thyr.

CHEST - TUMORS - Mammae - hard scirrhus-like: con. kreos.

CHEST - TUMORS - Mammae - injury from: arn. con.

CHEST - TUMORS - Mammae – painful: hydr. phyt.

CHEST - TUMORS - Mammary gland; male – right: thuj.

CHEST - TUMORS - Mammary gland; male - left - walnut; like a: bar-c. calc-p.

CHEST - TUMORS - Mammary gland; male - walnut; like a: bar-c. calc-p.

Nodule Rubrics

CHEST - ERUPTIONS – nodules: Bar-c. Carb-an. hippoz. hydr. **Merc-c.** nat-c. **Nat-s.** ruta.

CHEST - NODULES sensitive: agn. aids. arn. **ARS. Arum-t.** aster. aur. bar-c. **Bell-p. Bell. Bry. Bufo**calc-f. calc-i. **Calc-p. CARB-AN. Carb-v.** caust. cham. **Chim.** chin. cist. clem. **Coloc. CON.** croc. crot-t. cund. cupr. **Dulc. Graph. Iod.** kali-c. kreos. **Lac-c.** lac-h. **LYC.** mag-c. mang. **Merc-d.** merc. nat-m. **Nit-ac. Phos. PHYT.** pitu-a. **Puls.** rhus-t. rutasang. scir. scroph-n. sep. **SIL. Sulph.** thuj. tub. vanil.

CHEST - NODULES sensitive – Axillae: lyc. mag-c. nit-ac. phos.

CHEST - NODULES sensitive – Mammae: agn. aids. arn. **ARS. Arum-t.** aster. aur. bar-c. **Bell-p. Bell. Bry. Bufo.**calc-f. calc-i. calc-p. **CARB-AN. Carb-v.** cham. **Chim.** chin. cist. clem. **Coloc. CON.** croc. crot-t. cund. cupr. dulc. **Graph. Iod.** kali-c. kreos. **Lac-c.** lac-h. **Lyc.** mang. **Merc-d.** merc. nat-m. **Nit-ac. Phos. PHYT.** pitu-a. **Puls.** rhus-t. ruta.sang. scir. scroph-n. sep. **SIL. Sulph.** thuj. tub. vanil.

CHEST - NODULES sensitive - Mammae – right: carb-an. pitu-a. sang. **Sil.**

CHEST - NODULES sensitive - Mammae – left: Arum-t. Calc-p. LYC.

CHEST - NODULES sensitive - Mammae - arm; moving: calc-i.

CHEST - NODULES sensitive - Mammae - children; in – newborns: cham.

CHEST - NODULES sensitive - Mammae - excitement agg.: phyt.

CHEST - NODULES sensitive - Mammae - girls before puberty: puls.

CHEST - NODULES sensitive - Mammae – hard: aster. nit-ac.

CHEST - NODULES sensitive - Mammae - menses; during: Lac-c.

CHEST - NODULES sensitive - Mammae - milk flow; from suppressed: agn. bell. cham. **Dulc.** rhus-t.

CHEST - NODULES sensitive - Mammae – painful: bar-c. bell. bufo.calc-f. carb-an. carb-v. con. graph. iod. kreos. lac-c.lyc. nit-ac. phos. phyt. rhus-t. sil.

CHEST - NODULES sensitive - Mammae - painful - old fat men; in: bar-c.

CHEST - NODULES sensitive - Mammae - points at tip; dry black: Iod.

CHEST - NODULES sensitive - Mammae - pregnancy agg. – during: Fl-ac.

CHEST - NODULES sensitive - Mammae - pregnancy agg. - imaginary pregnancy; during and after: lyc. puls. sep.

CHEST - NODULES sensitive - Mammae – purple: Carb-an.

CHEST - NODULES sensitive - Mammae - weather agg. ; cold wet: phyt.

BACK

Cancer Rubrics

BACK - CANCER - Cervical region: hydrc.

BACK - CANCER - Spine – metastasis: tell.

BACK - PAIN - Cervical region - cancer; from: hydrc.

Tumor Rubrics

BACK - TUMORS - Vertebra – cysts: lach. tarent.

BACK - TUMORS – cysts: Phos.

BACK - TUMORS - pediculated bluish as large as a cherry: Con. thuj.

BACK - TUMORS – sarcoma: Bar-c. calc-p. **Cund.** nit-ac. sil. thuj.

BACK - TUMORS - steatoma - Cervical region - Nape of neck: apisbar-c. **Bell.** merc. **Merc-c.** mez. **Puls.**

BACK - TUMORS – Cervical: bacls-. **BAR-C.** brom. calc-p. calc. carb-v. caust. cist. con. dros. **Thuj.**

BACK - TUMORS - Cervical - accompanied by – cough: cist.

BACK - TUMORS - Cervical – cystic: brom.

BACK - TUMORS - Cervical – fatty: bacls-. **BAR-C.** calc.**Thuj.**

BACK - TUMORS - Cervical – malignant: calc-p.

BACK - TUMORS - Cervical – Glands: dros.

BACK - TUMORS - Cervical - Nape of neck – fatty: bar-c.calc.

BACK - TUMORS – Spine: tarent.

Nodule Rubrics

BACK - ERUPTIONS - nodules – itching: sil.

BACK - ERUPTIONS - nodules - painless - Cervical region: Graph. psor.

BACK - ERUPTIONS - nodules - painless - Cervical region – subcutaneous: psor.

BACK - ERUPTIONS - nodules - painless - Cervical region - subcutaneous – chronic: psor.

BACK - ERUPTIONS - nodules – red: petr.

BACK - NODULES - Dorsal region - Shoulders; between: mag-s.

Sarcoma Rubrics

BACK - TUMORS – sarcoma: Bar-c. calc-p. **Cund.** nit-ac. sil. thuj.

EXTREMITIES

Cancer Rubrics

EXTREMITIES - CANCER – Bones: ancis-p. beryl. cadm-met. calc-f. euph. graph. **Hecla.** merc-k-i. methyl. symph. syph.

EXTREMITIES - CANCER - Bones – osteosarcoma (GENERALS - CANCEROUS affections - osteosarcoma), (GENERALS - CANCEROUS affections - sarcoma - Bones) (GENERALS - CANCEROUS affections - sarcoma - Bones): beryl. calc-f. euph. graph. **Hecla.** merc-k-i. symph. syph. **Zing.**

EXTREMITIES - CANCER - Bones – Fibula: ancis-p.

EXTREMITIES - CANCER - Bones - Thighs – Femur: methyl.

EXTREMITIES - CANCER - Bones - Tibia - right – osteosarcoma: syph.

EXTREMITIES - CANCER - Bones - Tibia – osteosarcoma (EXTREMITIES - TUMORS - Legs - Tibia - osteosarcoma), (GENERALS - CANCEROUS affections - sarcoma – Tibia) (EXTREMITIES - TUMORS - Legs - Tibia – osteosarcoma), (GENERALS - CANCEROUS affections - sarcoma - Tibia): ancis-p. syph.

EXTREMITIES - CANCER - Bones - Upper arms: cadm-met.

Tumor Rubrics

EXTREMITIES - ERUPTIONS - Wrists - pustules - pustular tumors: cupr-ar.

EXTREMITIES - TUMORS – Ankles: cupr-ar.

EXTREMITIES - TUMORS - Elbow – cystic: hep.

EXTREMITIES - TUMORS - Elbow – painful: puls.

EXTREMITIES - TUMORS - Elbow - Point of – steatoma: hep.

EXTREMITIES - TUMORS - Feet – benign: hecla

EXTREMITIES - TUMORS - Fingers – enchondroma: sil.

EXTREMITIES - TUMORS - Hands – wen: ph-ac. plb. sil.

EXTREMITIES - TUMORS - Hands - Between metacarpal bones: ph-ac. sang. tarent.

EXTREMITIES - TUMORS – Knees: ant-c. calc-f. phos. sil.

EXTREMITIES - TUMORS - Knees - Hollow of knees: calc-f. phos. sil.

EXTREMITIES - TUMORS - Knees - Hollow of knees – fibroid: calc-f.

EXTREMITIES - TUMORS – Legs: arn. kali-br. **Sulph.** tarent.

EXTREMITIES - TUMORS - Legs – varicose: arn.

EXTREMITIES - TUMORS - Legs – Calves: kali-br. **Sulph.**

EXTREMITIES - TUMORS – Shoulders: am-m. cund.

EXTREMITIES - TUMORS - Shoulders – fatty: am-m. cund.

EXTREMITIES - TUMORS – Thighs: merc. phos. sil.

EXTREMITIES - TUMORS - Thighs - Between thigh and vulva: goss.

EXTREMITIES - TUMORS - Toes – enchondroma: sil.

EXTREMITIES - TUMORS – Wrists: Cupr-ar. Led.

Nodule Rubrics

EXTREMITIES - ERUPTIONS – nodules: olib-sac. petr. sep.

EXTREMITIES - ERUPTIONS - Elbows – nodules: eupi. mur-ac.

EXTREMITIES - ERUPTIONS - Feet - Back of feet – nodules: carb-an. petr.

EXTREMITIES - ERUPTIONS - Feet - Ball nodule: zinc.

EXTREMITIES - ERUPTIONS - Fingers - painful nodules: Calc.

EXTREMITIES - ERUPTIONS - Forearms - nodules - red itching: nat-m.

EXTREMITIES - ERUPTIONS - Forearms - nodules - Flexors; on: hippoz.

EXTREMITIES - ERUPTIONS - Hands – nodules: Petr. sep.

EXTREMITIES - ERUPTIONS - Legs – nodules: agar. **Merc.** psor.

EXTREMITIES - ERUPTIONS - Legs - nodules – subcutaneous: psor.

EXTREMITIES - ERUPTIONS - Legs - nodules - subcutaneous - long time; persisting: psor.

EXTREMITIES - ERUPTIONS - Lower limbs – nodules: petr. ther. thuj.

EXTREMITIES - ERUPTIONS - Upper limbs – nodules: hippoz. petr. sep.

EXTREMITIES - ITCHING - Thighs - nodules after scratching: mag-m.

EXTREMITIES - NODULES - injuries; after: ruta.

EXTREMITIES - NODULES – Ankles: agath-a.

EXTREMITIES - NODULES – Elbows: agath-a. caust. mur-ac.

EXTREMITIES - NODULES - Elbows – left: agath-a.

EXTREMITIES - NODULES – Feet: colch. sel.

EXTREMITIES - NODULES – Fingers: agn. anac. cocc. con. lach. led. lyc. mag-c. morg-p. rhus-t. staph. syc. verat.

EXTREMITIES - NODULES - Fingers - First - Flexor surface: con.

EXTREMITIES - NODULES – Forearms: calc. mez. mur-ac. nat-m.zinc.

EXTREMITIES - NODULES – Hands: ars. caust.cocc. nat-m. nit-ac. ruta.**Spig.** stram. sul-ac.

EXTREMITIES - NODULES - Hands – Palms: caust.ruta

EXTREMITIES - NODULES - Hands - Palms – dupytrens: ruta

EXTREMITIES - NODULES – Joints: acet-ac. form.

EXTREMITIES - NODULES - Joints - About joints: form. ruta

EXTREMITIES - NODULES - Joints - In joints: acet-ac.

EXTREMITIES - NODULES – Knees: chin.

EXTREMITIES - NODULES – Legs: merc. nit-ac. sel.

EXTREMITIES - NODULES - Legs – Calves: merc. nit-ac.

EXTREMITIES - NODULES - Lower limbs: Agar. am-m. ant-c. apis.**Aur.** carb-an. carb-v. **Caust.** chin. dulc. hep. kali-c. led. mag-m. mang. meny. merc. mez. **Nat-c.** petr. rhod. stront-c. thuj.

EXTREMITIES - NODULES - Lower limbs - pressing and tearing: kali-c.

EXTREMITIES - NODULES - Lower limbs – Joints: apis. led.

EXTREMITIES - NODULES – Muscles: hippoz. syph.

EXTREMITIES - NODULES - Muscles - Upper limbs: hippoz.

EXTREMITIES - NODULES – Shoulders: Calc. Sil.

EXTREMITIES - NODULES – Thighs: aesc. chin. ferr. lach. staph.

EXTREMITIES - NODULES - Thighs – Femur: aesc. ferr.

EXTREMITIES - NODULES - Upper arms: ars. **Bar-c.** nat-m. puls. zinc.

EXTREMITIES - NODULES - Upper limbs: agar. ant-c. ant-t. apis.ars. **Brom.** calc. carb-an. caust. cocc. dulc. hippoz. led. lyc. mag-c. mag-m. mang. merc. mez. mur-ac. nat-m. nit-ac. ph-ac. sil. spig. stann. staph. sulph. valer. zinc.

EXTREMITIES - NODULES - Upper limbs – Joints: apisled.

EXTREMITIES - NODULES – Wrists: stann.

EXTREMITIES - SWELLING - Fingers - nodular swellings: anac.**Lyc.** mag-c. syc.

EXTREMITIES - SWELLING - Forearms - nodular swellings: eupi. mez. mur-ac. nat-m. zinc.

EXTREMITIES - SWELLING - Hands - nodular swellings: ars. nat-m.

nit-ac. sul-ac.

EXTREMITIES - SWELLING - Upper arms - nodular swellings: ars. nat-m. zinc.

EXTREMITIES - SWELLING - Upper limbs - nodular swellings: Agar. Ars. carb-an. **Caust.** dulc. lyc. **Mag-c.** mag-m. mang. **Mez.** mur-ac. nat-m. nit-ac. sil. stann. zinc.

EXTREMITIES - SWELLING - Wrists - nodular swellings: spect. stann

Excrescences Rubrics

EXTREMITIES - ERUPTIONS - Fingers – excrescences: ars. thuj.

EXTREMITIES - ERUPTIONS - Fingers - excrescences – greenish: ars.

EXTREMITIES - ERUPTIONS - Fingers - excrescences - wart-like: thuj.

EXTREMITIES - ERUPTIONS - Hands - Back of hands - excrescences; wart-like: THUJ.

EXTREMITIES - ERUPTIONS - Toes – spikey (EXTREMITIES - EXCRESCENCES - horny - Toes - spikes; with): androc.

EXTREMITIES - ERUPTIONS - Upper limbs – excrescences: Ars. Lach. Thuj.

EXTREMITIES – EXCRESCENCES: androc. **ANT-C.** arn. ars. chel. con. **Graph. Iod.** lach. **Led.** pop-cand. **Puls.** ruta**Sil. SPONG. Sulph.** thuj. tritic-vg. **Zinc.**

EXTREMITIES - EXCRESCENCES - fungous – Elbows: chel.

EXTREMITIES - EXCRESCENCES - fungous – Knees: Ant-c. arn. **Ars.** con. **Iod. Led. Puls. Sil. SPONG. Sulph. Zinc.**

EXTREMITIES - EXCRESCENCES - fungous - Upper limbs: Ars.

EXTREMITIES - EXCRESCENCES – horny: (EXTREMITIES - HORNY excrescences): androc. **ANT-C. Graph.** pop-cand. ruta. thuj. tritic-vg.

EXTREMITIES - EXCRESCENCES - horny - Feet – Soles: ANT-C. Graph.

EXTREMITIES - EXCRESCENCES - horny - Fingers – Tips: Ant-c. pop-cand.

EXTREMITIES - EXCRESCENCES - horny - Hands - cracked at base: thuj.

EXTREMITIES - EXCRESCENCES - horny - Nails; under (EXTREMITIES - NAILS; complaints of - excrescences - horny excrescences under nails): Ant-c. graph.

EXTREMITIES - EXCRESCENCES - horny – Toes: androc. **Ant-c.** ruta

EXTREMITIES - EXCRESCENCES - horny - Toes - spikes; with: androc.

EXTREMITIES - EXCRESCENCES – Fingers: ant-c.

EXTREMITIES - EXCRESCENCES – Hands: lach.

DREAMS

Cancer Rubrics

DREAMS – CANCER: aster.halo. kola. lac-h. rad-br. tritic-vg.

DREAMS - CANCER – mammae: aster.

DREAMS - ABDOMEN - cut in; a big - tumor; under which grows a: ozone

Tumor Rubrics

DREAMS – TUMOR: musca-d.

Excrescences Rubrics

DREAMS – EXCRESCENCES: hydrog. mez.

SKIN

Cancer Rubrics

SKIN – CANCER: acet-ac. **ARS-BR. ARS-I.** ars. carc. cund. des-ac. graph. hydr. kali-ar. kali-s. kreos. lap-a. merc. rad-br. ran-b. sep. sil. thuj. x-ray

SKIN - CANCER – cicatrices: graph.

SKIN - CANCER - cicatrices - operation; from: graph.

SKIN - CANCER – epithelioma: acet-ac. ars. carc. cund. des-ac. hydr. kali-s. kreos. lap-a. merc. ran-b. sep. sil. thuj.

SKIN - CANCER – melanoma: carc.

SKIN - CANCER - sunlight agg. ; from: carc.

SKIN - ULCERS – cancerous (GENERALS - CANCEROUS affections - ulcers - Skin of): Ambr. ant-c. **Anthraci.** apis. **ARAN. ARS. Ars-i. ARS-S-F. Aster.** aur. aur-ar. aur-i. aur-m-n. **AUR-S.** bell. **BROM. BUFO.** calc. **Calc-s.** calc-sil. **Carb-ac. Carb-an. Carb-v. Carbn-s.** caust. chel. chim. chinin-s. clem. **Cob-n.** coenz-q. **Con. Crot-c.** cund. dor. dulc. **Ferr.** fl-ac. fuli. **Gali. Graph. HEP. Hippoz.** hydr. **Jug-c.** kali-ar. kali-bi. kali-c. **Kali-i. Kreos. Lach. LYC. Lyss.** mang. **Merc. Mill.** mur-ac. **Nit-ac. Petr. Ph-ac. Phos. Phyt. Rhus-t.** rumx. sabin. **Sang.** sars. **Sep. SIL.** spong.squil. **Staph.** stram. sul-i. **SULPH.** tarent-c. **Thuj. Zinc.**

Tumor Rubrics

SKIN – TUMORS (SKIN – EXCRESCENCES): abr. abrot. acet-ac. alum. alumn. anac. **Ant-c.** ant-t. **Apis. Arg-n.** ars. ars-br. **ARS-I.** aur. **Aur-m.** aur-m-n. aur-s. bar-c. bell. benz-ac. bry. **CALC.** calc-ar. calc-s. calc-sil. **Carb-an. Carb-v. Carbns.** carc. **CAUST.** cham. **Cinnb.** clem. cocc. **Con.** cory. **DULC.** euph. **Euphr.** ferr-pic. **Flac. GRAPH. Hep.** hydr. iod. kali-br. **Kali-chl. Kali-i. Kreos.** lac-c. lach. **LYC.** m-aust. mag-s. **Manc.** med. **MERC. MERC-C.** merc-d. merc-n. mez. **Nat-c.** nat-m. **NAT-S. NIT-AC.** nux-v. petr. ph-ac. phos. phyt. pic-ac. plan. plat-m. plb. plut-n. psor. puls. ran-b. rhus-t. ruta. sabin. sang. sanic. **Sars.** scrophn. sec. sel. **Sep. Sil.** sinus. **STAPH.** sul-ac. sul-i. **Sulph.** syph. **Teucr. THUJ.** tub. vario.

SKIN - ULCERS - tumor; after removal: hydr.

Nodule Rubrics

SKIN - CICATRICES – nodules: fl-ac. sil.

SKIN - DISCOLORATION - red - spots - bluish red – nodules: lyss.

SKIN - ERUPTIONS - urticaria – nodular: Agar. ail. alum-p. alum-sil. **Alum.** am-c. am-m. anac. **Ant-c.** ant-t. antho. antip. **APIS.** arn. ars-s-f. ars. aur. bar-c. bar-m. bar-s. bell. berb. beryl. borx. bov. brom. **Bry.** calc-sil. **CALC.** cann-s. canth. caps. **Carb-an.Carb-v.** carbn-s. **Caul. CAUST. Chel.** chin.**Chlol.** chlor. cic. clem. coca. cocc. con.**Cop.** crot-h. crot-t. dig. dros. **DULC.** euph.gels. graph. hell. **Hep.** hydr. ign. **Iod.** ip. iris**Jug-c.** kali-ar. **Kali-bi.Kali-br.** kali-c. kali-i.kali-n. kali-s. kali-sil. kreos. **LACH. Led. Lyc.**m-ambo. m-arct. **Mag-c.** mag-m. **Mang.**merc-i-f. merc-i-r. merc. **MEZ.** mur-ac. nat-ar. nat-c. **Nat-m.** nat-p. nat-s. nit-ac. nux-v. olnd. op. pall. **Petr.** ph-ac. phos. phyt. **Puls. RHOD. RHUS-T.** rhus-v. **Ruta.** sabin. **Sars. Sec.**sel. **Sep. Sil.** spig. spong. squil. stann. **Staph.** stram. sul-ac. **Sulph.** tarax. ter. thuj. **Urt-u.** valer. **Verat.** verb. viol-t. zinc-s. zinc.

SKIN - ERUPTIONS - urticaria - nodular – rosy: antip. **Bell. Bry. Chlol. Chlor.** coca.cop. crot-t.gels. jug-c. kali-br. kali-i. merc. **Nat-c.** nat-m. petr. phos. phyt. **RHUS-T.** sil. **STRAM.** ter.

SKIN - INDURATIONS nodules etc.: aeth. **Agar.** ail. alum. alumn. am-c. am-m. anac. **ANT-C. Ant-t.** antho. **Apis**arg-met. arg-n. ars. **Ars-i.** ars-s-f. aur. bacls-7. **Bar-c.** bell. berb. borx. bov. brom. **Bry.** bufo.**CALC.** calc-sil. camph. cann-s. canth. caps. **Carb-an.**carb-v. carbn-s. **Caul.** caust. **Chel.** chin. chlol. cic. cinnb. **Clem.**cocc. **Coloc. CON.** cortiso. crot-h. crot-t. dig. dros. **Dulc.** euph. **Graph.** guaj. hell. **Hep.**hydr. ign. **Iod.** ip. iris.**Kali-bi.** kali-br. **Kali-c.** kali-i. kali-n. kali-s. kali-sil. kreos. lach. **Led.** loxo-recl. **LYC.** mag-c. mag-m. maland. **Mang.** med. **Merc.** merc-i-f. merc-i-r. mez. **Mur-ac.** nat-c. **Nat-m.** nat-s. nit-ac. nux-v. olnd. op. par. petr. ph-ac. **PHOS.** phyt. psor. **PULS. Ran-b. RHOD. RHUS-T. Ruta.**sabad. sabin. sars. **Sec.** sel. **SEP. SIL.** spig. spong. squil. stann. **Staph.** stram.sul-ac. **SULPH.** tarax.ther. **Thuj.** toxo-g. tritic-vg. tub. urt-u. valer. verat. verb. viol-t. x-rayzinc.zinc-s.

SKIN - INDURATIONS nodules etc. - bathing; after: cortiso.

SKIN - INDURATIONS nodules etc. – bluish: Mang. mur-ac. **Phos. Sars.**

SKIN - INDURATIONS nodules etc. - bluish – spots: Phos. Sars. SKIN - INDURATIONS nodules etc. – burning: Hep. staph.

SKIN - INDURATIONS nodules etc. - burning - scratching agg. ; after: staph.

SKIN - INDURATIONS nodules etc. - children; in – newborn: camph.

SKIN - INDURATIONS nodules etc. – hard: kali-i. mag-c. nat-s. sil.

SKIN - INDURATIONS nodules etc. – horny: Ant-c. aur. graph. tritic-vg. x-ray

SKIN - INDURATIONS nodules etc. – itching: staph.

SKIN - INDURATIONS nodules etc. - moist after scratching: staph.

SKIN - INDURATIONS nodules etc. - mortification; after (SKIN - INDURATIONS nodules etc. - chagrin; after): Coloc

SKIN - INDURATIONS nodules etc. – painful: phyt.

SKIN - INDURATIONS nodules etc. – purple: lach. sep.

SKIN - INDURATIONS nodules etc. – red: med. petr. sabad. toxo-g.

SKIN - INDURATIONS nodules etc. - red - hard and tender: petr.

SKIN - INDURATIONS nodules etc. – rheumatic: bacls-7.

SKIN - INDURATIONS nodules etc. - scratching; after: cortiso. kali-c.

SKIN - INDURATIONS nodules etc. – sensitive: staph.

SKIN - INDURATIONS nodules etc. – stitching: caust.

SKIN - INDURATIONS nodules etc. - vaccination; after: lyc.

SKIN - INDURATIONS nodules etc. - warm applications agg.: cortiso.

SKIN - INDURATIONS nodules etc. - white nodules: agar. **Ars.** bov. bry. crot-h. ip. sulph.

SKIN - INDURATIONS nodules etc. - white nodules - scratching; after:

agar. **Ars.** bov. bry. crot-h. ip. sulph.

SKIN - INDURATIONS nodules etc. - Under skin: alum. kali-ar. mag-c.

Sarcoma Rubrics

SKIN - ULCERS – sarcomatous: ant-c. **Apis. Ars. HEP.** kreos. **Merc. NIT-AC. Phos.** sabin. sulph. thuj.

Excrescences Rubrics

SKIN – EXCRESCENCES (SKIN – TUMORS): abr. abrot. acet-ac. alum. alumn. anac. **Ant-c.** ant-t. **Apis. Arg-n.** ars.ars-br. **ARS-I.** aur. **Aur-m.** aur-m-n. aur-s. bar-c. bell. benz-ac. bry. **CALC.** calc-ar. calc-s. calc-sil. **Carb-an. Carb-v. Carbn-s.** carc. **CAUST.** cham. **Cinnb.** clem. cocc. **Con.** cory. **DULC.** euph. **Euphr.** ferr-pic. **Flac. GRAPH. Hep.** hydr. iod. kali-br. **Kali-chl. Kali-i. Kreos.** lac-c. lach. **LYC.** m-aust. mag-s. **Manc.** med. **MERC. MERC-C.** merc-d. merc-n. mez. **Nat-c.** nat-m. **NAT-S. NIT-AC.** nux-v. petr. ph-ac. phos. phyt. pic-ac. plan. plat-m. plb. plut-n. psor. puls. ran-b. rhus-t. rutasabin. sang. sanic. **Sars.** scroph-n. sec. sel. **Sep. Sil.** **de**sinus. **STAPH.** sul-ac. sul-i. **Sulph.** syph. **Teucr. THUJ.** tub. vario.

SKIN - EXCRESCENCES – benign: med.

SKIN - EXCRESCENCES – condylomata (SKIN – CONDYLOMATA) (GENERALS – CONDYLOMATA): acet-ac. alumn. anac. ant-c. ant-t. **Apis.** arg-n. ars. **Aur. Aur-m.** aur-m-n. bar-c. bell. benz-ac. bry. **Calc. Carb-an.** caust. cham. **Cinnb.** clem. cory. **DULC.** euph. **Euphr.** graph. **Hep.** iod. **Kali-chl. Kali-i.** lac-c. **LACH. Lyc.** m-aust. **MED. Merc. MERC-C.** merc-d. merc-n. mez. nat-c. **NAT-S. NIT-AC.** nux-v. petr. **PH-AC.Phos.** phyt. pic-ac. plat-m. plut-n. psor. ran-b. rhus-t. **Sabin.** sang. sanic. **Sars.** sec. sel. **Sep.** sil. **Staph. Sulph. Teucr. THUJ.**

SKIN - EXCRESCENCES - condylomata – bleeding: Cinnb. Med. NIT-AC. phos. sulph. **THUJ.**

SKIN - EXCRESCENCES - condylomata – broad: nit-ac. **Thuj.**

SKIN - EXCRESCENCES - condylomata – burning: apis.**Cinnb. Nit-ac.**

ph-ac.sabin. **Thuj.**

SKIN - EXCRESCENCES - condylomata - burning – itching: Sabin.

SKIN - EXCRESCENCES - condylomata – dry: lyc. merc. merc-c. nit-ac. sars. **Staph.** sulph. thuj.

SKIN - EXCRESCENCES - condylomata - fan-shaped: Cinnb. sulph. **Thuj.**

SKIN - EXCRESCENCES - condylomata – flat: acet-ac.

SKIN - EXCRESCENCES - condylomata – horny: thuj.

SKIN - EXCRESCENCES - condylomata – inflamed: plut-n.

SKIN - EXCRESCENCES - condylomata – itching: lyc. med. psor. **Sabin.** sep. staph. thuj.

SKIN - EXCRESCENCES - condylomata – moist: Apis. caust. euphr. med. merc.merc-c. **NIT-AC.** psor. sabin. staph. sulph. **THUJ.**

SKIN - EXCRESCENCES - condylomata – offensive: calc. hep. med. **Nit-ac.** thuj.

SKIN - EXCRESCENCES - condylomata – pediculated: caust. lyc. med. nit-ac. ph-ac. **Staph.** thuj.

SKIN - EXCRESCENCES - condylomata - rapid growing: Thuj.

SKIN - EXCRESCENCES - condylomata – sensitive: staph.

SKIN - EXCRESCENCES - condylomata - sticking pain: NIT-AC.

SKIN - EXCRESCENCES - condylomata – stubborn: merc.

SKIN - EXCRESCENCES - condylomata – suppressed (GENERALS - SUPPRESSED COMPLAINTS; ailments from - condylomata): med. merc. nit-ac. staph. **Thuj.**

SKIN - EXCRESCENCES - condylomata – suppurating: Thuj.

SKIN - EXCRESCENCES - condylomata – syphilitic: aur. aur-m. aur-m-n.**Cinnb.** cory. kali-i. **Merc. NIT-AC.** staph. **Thuj.**

SKIN - EXCRESCENCES – conical: ant-c. ant-t. **Ars.** hydr. puls. **Sil.** syph.

SKIN - EXCRESCENCES – epithelioma: abr. ferr-pic. mag-s. scroph-n.

SKIN - EXCRESCENCES – fibromatous: calc-ar. calc-s. **Con. Iod.** kali-br. lyc. sec. thuj. vario.

SKIN - EXCRESCENCES - fibromatous – bleeding: vario.

SKIN - EXCRESCENCES – fleshy: ars. calc. merc. nat-s. nit-ac. **Staph. Thuj.**

SKIN - EXCRESCENCES – fungus (GENERALS - FUNGOID GROWTH): alum. **ANT-C.** ant-t. **Ars. ARS-I.** aur. aur-m. aur-m-n. bell. calc. **CARB-AN.** carb-v. caust. cham. clem. **Con.** cory. dulc. graph. hep. iod.**Kreos.**lac-c. **LACH.**lyc. manc. merc. **MERC-C.** mez.**Nit-ac.** nux-v.petr. ph-ac. phos.rhus-t. sabin. sang. **Sep. SIL. Staph.** sulph. **THUJ.**

SKIN - EXCRESCENCES - fungus – medullary: bell. **Carb-an. Phos.** sil. sulph. **Thuj.**

SKIN - EXCRESCENCES - fungus – syphilitic: Ars. ARS-I. aur. aur-m. aur-m-n. cory. **Iod. LACH. Manc. MERC. MERC-C. NIT-AC. SIL.** staph. thuj.

SKIN - EXCRESCENCES - fungus haematodes (SKIN - FUNGUS HAEMATODES)

(GENERALS - CANCEROUS affections - fungus haematodes): abrot. ant-c. ant-t. **ARS.** aur. bar-c. bell. calc. **CARB-AN. Carb-v. Caust.** clem. **Dulc.** hydr. **Kreos. Lach. LYC.** manc. med. **Merc.** merc-c. nat-c. **Nat-m. Nat-s. Nit-ac.** nux-v. petr. **Ph-ac. PHOS.** phyt. plan. ran-b. **Rhus-t. Sabin.** sang. sep. **SIL.** staph. **SUL-AC. Sulph. THUJ.**

SKIN - EXCRESCENCES – hard: ant-c. ran-b.

SKIN - EXCRESCENCES – horny: ANT-C. mez. **Ran-b.** ruta. sep. sil. sulph. thuj.

SKIN - EXCRESCENCES – humid: merc-c. **Nit-ac.** psor. **Sabin.** staph. sulph. **THUJ.**

SKIN - EXCRESCENCES – malignant: nat-c.

SKIN - EXCRESCENCES – painful: staph.

SKIN - EXCRESCENCES – pedunculated: lyc. **Nit-ac. Sabin.** staph. thuj.

SKIN - EXCRESCENCES – red: NAT-S. thuj.

SKIN - EXCRESCENCES - sarcoid excrescences: ars. aur. calc. caust. lyc. nit-ac. nux-v. sabin. sulph. thuj. tub.

SKIN - EXCRESCENCES – sensitive: staph.

SKIN - EXCRESCENCES – smooth: nat-s. sars. sulph. **Thuj.**

SKIN - EXCRESCENCES - swelling inflamed puffy bunches: ars. carb-an. graph. hep. **Nat-c. Phos. Sil.** sulph.

SKIN - EXCRESCENCES – syphilitic: ars-br.

GENERALS

Cancer Rubrics

GENERALS – ADENOPATHY (Abscesses – glands / Cancerous – glands / Indurations – glands / Inflammation – glands / Swelling - glands)
GENERALS - CACHEXIA - cancer; from: alum. ars. bar-c. calc. carb-v. carc. caust. con. cory. cund. graph. hydr. iod. kali-chl. kali-i. **Kreos.** lyc. nit-ac. phyt. rad-br. sil. sulph. thuj.

GENERALS - CANCEROUS affections: abr. **ABROT.** acet-ac. acon. agar. alum. alum-sil. alumn. am-m. **Ambr. Anac.** anan. ancis-p. anil. ant-ar. ant-c. ant-i. **Ant-m. Apis.** apoc. arg-met. arg-n. arn. **ARS.** ars-br. **Ars-i.** ars-s-f. ars-s-r. asaf. **Aster. Aur.** aur-ar. aur-i. **Aur-m.** aur-m-n. aur-s. **Bapt.** bar-c. bar-i. bar-m. bar-met. bar-p. bar-s. bell. bell-p. benzq. bism. borx. **Both. Both-ax.** both-jaca. both-n-ur. **BROM. Bry. Bufo.** buni-o. cadm-act. cadm-ar. cadm-br. cadm-calc-f. cadm-chl. cadm-chr. cadm-f. cadm-gl. cadm-i. cadm-m. cadm-met. cadm-n. cadm-o. **Cadm-s.** cadm-sel. **Calc. Calc-f. Calc-i.** calc-ox. **Calc-p. Calc-s.** calc-sil. **Calen.** calth. **Carb-ac. CARB-AN. Carb-v. Carbn-s.** carc. **Card-m.** caust. cean. **Cham.** chel. chlam-tr. cholin. **Cic.** cinnm. **Cist. Cit-ac.** cit-l. clem. **CON.** cory. $_{st}$crot-h. **Cund.** cupr. cupr-act. cupr-f. cupr-s. cur. dulc. elapseos. epiph. eucal. euph. euph-he. euph-re. ferr-f. ferr-i. ferr-p. ferr-pic. **Fl-ac.** form. form-ac. formal. fuli. **Gaert. Gali.** gent-

l. germ-met. **Graph.** gua. guaj. hafn-met. **Ham. HECLA.** hell. hep. **Hippoz. Hydr. Hydrc.** hydrin-m. hyos. **Iod. Jug-c. Kali-ar. Kali-bi.** kali-c. **Kali-chl. Kali-cy. Kali-i. Kali-m. Kali-p. Kali-s.** kali-tcy. **Kreos.** kres. **Lach.** lanth-met. **Lap-a. Lappa.** lob. lob-e. **LYC.** mag-m. mag-s. maland. matth. med. **Merc.** merc-c. **Merc-i-f.** merc-k-i. methyl. **Mill. Morph.** morph-act. mur-ac. myric. myris. nat-act. nat-c. nat-m. nat-s. nat-sil-f. nectrin. nicc-met. **NIT-AC.** nux-m. nux-v. **Ol-an.** olib-sac. **Op.** orni. oxyg. parathyr. petr. ph-ac. **PHOS. PHYT.** pic-ac. plat. plb. pneu. polonmet. psor. puls. rad-br.rad-met. raja-s. ran-b. ran-s. **Rhus-t.** phyllerumx-act. rutasacch. **Sang.** sarcol-ac. saroth. sars. scand-met. **Scir.** scroph-n. **Sec.** sed-r. **Semp.** sep. spieg.**SIL.** silphu. sol. spong. squil. staph. stront-c. **Strych-g.** sul-ac. sul-i. **Sulph.** symph. syph. tarax. tax. **Ter.** thiosin. **Thuj.** titan. toxo-g. trif-p. tub. uncar-tom. uran-n. v-a-b. viol-o. visc. **X-ray.** yttr-met. zinc.

GENERALS - CANCEROUS affections - accompanied by - Liver; complaints of (ABDOMEN - LIVER and region of liver; complaints of - accompanied by - cancer): scir.

GENERALS - CANCEROUS affections - advanced stage: alumsil. anan. ant-ar. ant-i. arg-met. bell-p. benzq. cadm-act. cadm-ar. cadm-br. cadm-chl. cadm-chr. cadm-f. cadm-gl. cadm-i. cadm-m. cadm-met. cadm-n. cadm-o. cadm-s. cadm-sel. calc-f. con. hydr. kali-tcy. lap-a. oxyg. phos. phyt. scir. scroph-n. symph.

GENERALS - CANCEROUS affections - beginning stage: parathyr. toxo-g.

GENERALS - CANCEROUS affections - cachectic emaciation; with: acon. **Caes-m.** carb-an. carc. **Card-m.** cory. **Hydr.** pic-ac. thuj.

GENERALS - CANCEROUS affections - cachectic emaciation; with – pronounced: cory.

GENERALS - CANCEROUS affections - cicatrices in old: graph. sil.

GENERALS - CANCEROUS affections - colloid cancer: carb-ac. carb-an. hydr. **Lach.** lob-e. **Phos.**

GENERALS - CANCEROUS affections - contusions after: arn. bell-p. **Con.** ruta

GENERALS - CANCEROUS affections – epithelioma: abr. acet-ac. alum. alumn. ant-m. arg-met. arg-n. **Ars. ARS-I.** ars-s-f. ars-s-r. aur. aur-ar. **Bell.** brom. bufo. cadm-met. calc. calc-p. calc-sil. carb-ac. carb-an. carc. cic. clem. **CON. Cund.** epiph. euph. ferr-pic. formal. fuli. hippoz. **Hydr. Hydrc.** kali-ar. kali-bi. kali-chl. kali-m. **Kali-s.** kali-tcy. **Kreos.** lach. **Lap-a.** lob. **LYC.** mag-m. mag-s. merc. merc-c. methyl. nat-c. nat-m. nectrin. nit-ac. phos. **Phyt.** puls. rad-br. radmet. raja-s. **Ran-b.** ran-s. scroph-n. sep. **Sil.** sol. **Strych-g.** sulph. thuj. uran-n. x-ray

GENERALS - CANCEROUS affections - epithelioma - accompanied by - Tongue - indented tongue (MOUTH - INDENTED - Tongue - accompanied by - epithelioma): Kali-m.

GENERALS - CANCEROUS affections - epithelioma - accompanied by - Tongue - purple discoloration of the tongue (MOUTH - DISCOLORATION - Tongue - purple - accompanied by - epithelioma): Kali-m.

GENERALS - CANCEROUS affections - epithelioma – flat: cund.

GENERALS - CANCEROUS affections - fungus haematodes (SKIN - EXCRESCENCES - fungus haematodes): abrot.ant-c. ant-t.**ARS.**aur.bar-c.bell.calc. **CARB-AN.Carb-v.Caust.**clem.**Dulc.** hydr.**Kreos.Lach.LYC.**manc.med. **Merc.**merc-c.nat-c.**Nat-m.Nat-s. Nit-ac.**nux-v.petr.**Ph-ac.PHOS.**phyt.plan.ran-b.**Rhus-t.Sabin.**sang. sep. **SIL.**staph.**SUL-AC.Sulph.THUJ.**

GENERALS - CANCEROUS affections - Hodgkin's disease (GENERALS - HODGKIN'S disease): Acon.acon-l.**Ars.**ars-br. ars-i.bar-c.bar-i.bufo.buni-o.calc.**Calc-f.** carc.**Cean.** cist.con.ferrpic.iod.kali-bi.**Kali-chl.Kali-m.**lap-a.**Nat-m.**phos.saroth. scroph-n. syph.tub.

GENERALS - CANCEROUS affections - intercurrent remedy: calen. carc. psor. scir.

GENERALS - CANCEROUS affections – irritability: alum.

GENERALS - CANCEROUS affections - lupus; carcinomatous: agar. alum. alumn. ant-c. arg-n. **ARS. Ars-i.** ars-s-f. aur-ar. aur-m. **Bar-c.** calc. calc-sil. **Carb-ac. Carb-v. Carbn-s.** caust. **Cist.** con. graph. hep. hippoz. **Hydrc.** kali-ar. **Kali-bi.** kali-c. **Kali-chl.** kali-s. **Kreos.**lach. **LYC.** merc. nat-

m. **Nit-ac. Phyt. Psor.** rhus-t. sep. **Sil.** sol. spong. staph. sulph. thiosin. **THUJ.** titan.

GENERALS - CANCEROUS affections - lupus; carcinomatous - rings; in: Sep.

GENERALS - CANCEROUS affections – lymphoma (GENERALS - LYMPHOMA): ars. ars-i. aur-m. **Bar-c.** bar-i. calc. **Calc-f.** carb-an. carc. cist. con. **Iod.** kali-m. mur-ac. nat-m. ph-ac. phos. phyt. rad-br. **Epst-b-v**saroth. scroph-n. sec. sil. syph. **Thuj.** tub.

GENERALS - CANCEROUS affections – melanoma: Arg-n. ars-br. brom. bry. **Calc.** carc. card-m. hydr. hyos. **Lach.** merc-c. ph-ac. plb. sil. sulph.

GENERALS - CANCEROUS affections - melanoma - sunlight agg. ; from: carc.

GENERALS - CANCEROUS affections – myeloma: aur. calc-f. **Hecla.** lach. nit-ac. phos. syph.

GENERALS - CANCEROUS affections - myeloma – multiple: aur. calc-f. lach. nit-ac. phos. syph.

GENERALS - CANCEROUS affections – rhabdomyosarcoma: phos. tub.

GENERALS - CANCEROUS affections – sarcoma (GENERALS – SARCOMA) (GENERALS - TUMORS - sarcoma): agar. ars. **Aspar. Aur.** bar-c. cadm-met. calc. calc-f. carb-ac. carb-an. carb-v. carc. **Crot-h.** cupr-s. **Euph.** fl-ac. graph. **Hecla**hydr. **Kali-chl. Kali-m. Lach. Lap-a.** med. nat-act. nat-c. nat-m. **Nit-ac.** ph-ac. **Phos.** rad-br. sil. **Symph.** syph. **THUJ.** visc. x-ray

GENERALS - CANCEROUS affections - sarcoma - accompanied by - pain; burning: bar-c.

GENERALS - CANCEROUS affections - sarcoma – inoperable: cupr-s.

GENERALS - CANCEROUS affections - sarcoma - Kaposi sarcoma (GENERALS - CANCEROUS affections - endotheliosarcoma): aur. calc-f. fl-ac. hydroph. med. nat-sil-f. nit-ac. phos. syph. thuj. vitr-an.

GENERALS - CANCEROUS affections - sarcoma - spindle-cell: carc.

syph.

GENERALS - CANCEROUS affections – scirrhus: alumn. **Anac.** apis. arg-met. arn. **Ars.** ars-s-f. **Aster. Bell.** bell-p. borx. **Calc-s.** calen. **CARB-AN. Carb-v. Carbn-s.** clem. **CON.** cund. ferr-i. **Graph. Hydr. Lap-a.** nux-v. petr. **Phos. Phyt.** sep. **SIL.** squil. staph. **Sulph.**

GENERALS - CANCEROUS affections - scirrhus – painful: apis. con.

GENERALS - CANCEROUS affections - smoking; from: con.

GENERALS - CANCEROUS affections - surgery; after: carc.

GENERALS - CANCEROUS affections – syphilitic: kali-i.

GENERALS - CANCEROUS affections - terminal stages: ant-m. ars. ars-i. aster. bapt. benzo. both-a. cadm-met. cadm-s. calen. carb-an. card-m. cist. cit-ac. con. dig. euph. gali. hecla. hydr. kali-chl. kreos. lappamerc-k-i. nit-ac. phos. phyt. plb. saroth. sec. strych-g. ter. thuj. uran-n.

GENERALS - CANCEROUS affections - tubercular base; on: kali-i.

GENERALS - CANCEROUS affections - ulceration; before: hydr. lap-a.

GENERALS - CANCEROUS affections – ulcers: arn. **ARS.** ars-i. aur. **Bell. BUFO**calc. carb-an. carb-v. caust. clem. **Cob-n. CON.** cupr. dulc. **Hep.** kali-ar. kali-c. **Kreos.** lyc. merc. merc-i-f. nit-ac. ph-ac. phos. raja-s. rhus-t. **Sep. Sil.** squil. sul-ac. **SULPH.** trif-p. zinc.

GENERALS - CANCEROUS affections - ulcers – painful: raja-s.

GENERALS - CANCEROUS affections - ulcers – Glands: arn. **ARS.** ars-i. aur. **Bell. BUFO.** calc. carb-an. carb-v. caust. clem. **CON.** cupr. dulc. **Hep.** kali-ar. kali-c. **Kreos.** lyc. merc. merc-i-f. nit-ac. ph-ac. phos. rhus-t. **Sep. Sil.** squil. sul-ac. **SULPH.** zinc.

GENERALS - CANCEROUS affections - extending to - Bones; metastasis in: Con. Hecla. Symph.

GENERALS - CANCEROUS affections - extending to - Lungs; metastasis in: Lyc.

GENERALS - CANCEROUS affections - Blood vessels: bell-p.

GENERALS - CANCEROUS affections - Bones of: ancis-p. asaf. aur. aur-ar. aur-i. aur-m-n. **Bry.** cadm-calc-f. cadm-met. calc-f. calc-p. calc-sil. carc. con. euph. euph-re. graph. **HECLA.** hippoz. lap-a. merc-k-i. methyl. **Phos. Rhus-t.** ruta. sil. stront-c. **SYMPH.** syph.

GENERALS - CANCEROUS affections - Bones of – Periosteum: Symph.

GENERALS - CANCEROUS affections – Glands (GENERALS – ADENOPATHY): am-m. arg-met. ars. ars-br. aur-ar. **Aur-m.** aur-m-n. **BAR-C. BAR-I.** bar-m. bar-p. bar-s. brom. buni-o. **CARB-AN. Carc.** cean. cist. **CON.** ferr-i. hippoz. iod. lap-a. med. merc-k-i. myris. nat-sil-f. phos. sars. scroph-n. sec. semp. sieg. sil. strych-g. sul-i. syph. thiosin. toxo-g. v-a-b.

GENERALS - CANCEROUS affections - Glands - children; in: med.

GENERALS - EMACIATION - cancerous affections; in: brom. carc. cory.

GENERALS - FAMILY HISTORY of – cancer: aur. aur-m-n. brom. calc-ar. calc-f. carb-an. **CARC. Carc-cupr.** con. cund. cupr. lach. mag-c. mag-m. mag-s. med. merc. **PHOS. Scir.** sep. syphil. thuj. **Trif-p.**

GENERALS - HEMORRHAGE - cancer; in: mill. **PHOS. SANG.** strych-g. uran-n.

GENERALS - HISTORY; personal - cancer; of: Anthraci. carc. **Con.** med. morb. **Trif-p.**

GENERALS - HISTORY; personal - cancer; of - mammae; of: CON.

GENERALS - INDURATIONS – cancerous: aur-ar.

GENERALS - MUCOUS MEMBRANES; complaints of - cancer of: eucal.

GENERALS - ODOR OF THE BODY - offensive - cancerous affections; in (GENERALS - CANCEROUS affections - offensive smell) (GENERALS - CANCEROUS affections - smell; offensive): bufo. cinnm. strych-g.

GENERALS - PAIN - cancerous affections in (GENERALS - CANCEROUS affections - pains of; to relief): acon. alco. anthraci. **Apis.** arn. **Ars.** aster. bell. bism-o. bry. bufo. cadm-ar. cadm-o. **Calc. Calc-act.**

calc-ar. **Calc-ox.** carb-an. carc. cedr. cham. chel. **Chir-fl.** cinnm. **Cit-ac.** cod-p. coloc. con. crot-h. cund. **DIP.** echi. **Euph.** euph-he. ferr-p. germ-met. **Hydr.** kali-p. kreos. lupin. mag-p. merc. morph. najanit-ac. op. ovi-p. ox-ac. **Ph-ac.** phyt. rham-cal. rutasil. tarent-c.

GENERALS - PAIN - cancerous affections in – burning: calc-ar. euph-he.

GENERALS - ULCERS - Glands – cancerous: ARS. aur. **Bell. BROM.** calc. carb-an. carb-v. caust. clem. cob-n. **CON.** dulc. **Hep.** kali-c. lyc. merc. nit-ac. ph-ac. phos. **Sep. Sil. SULPH.** zinc.

GENERALS - WEAKNESS - cancer; in: cadm-calc-f. cadm-i. **Caes-m.** carb-an. carb-v. nat-c. phyll-e

GENERALS - WEAKNESS - operation from - cancer surgery: kali-p.

GENERALS - WOUNDS - bleeding freely – cancerous: hir. tela

GENERALS - WOUNDS - heal; tendency to - slowly - cancer; in: coenz-q.

GENERALS - WOUNDS - heal; tendency to - slowly - cancer; in - suppuration; with: coenz-q.

Tumor Rubrics

GENERALS - BROWN-SÉGUARD syndrome - spinal tumours from: ergot.

GENERALS - CANCEROUS affections - sarcoma - Kaposi sarcoma: aur. calc-f. fl-ac. hydroph. med. nat-sil-f. nit-ac. phos. syph. thuj. vitr-an.

GENERALS - CONVULSIONS - epileptic - after epileptic convulsions; complaints – tumors: arg-n. cic.

GENERALS - CONVULSIONS - epileptic - tumor; from brain: hell.

GENERALS - HISTORY; personal - lids; of recurrent tarsal tumors on the: CALC-F. Puls. taph.

GENERALS – TUMORS: abrot. acet-ac. acon. **Agar. All-c.** am-c. **Am-m.** anan. **Ant-c.** ant-t. anthraci. apisapoc. aran. arg-n. arn. ars. **Ars-i.** art-v. asaf.

astac. astra-e. aur. aur-i. aur-m. aur-m-n. bacls-. **Bar-c.** bar-i. bar-m. bell. bell-p. **Benz-ac.** berb. berb-a. beryl. both. both-ax. bov. brom. cact. cadm-m. **Calc. Calc-ar.** calc-f. calc-p. calc-s. calen. caps. carb-ac. carb-an. carb-v. carc. caust. chel. chol. **Cist.** clem. coloc. con. conch. cory. crat. croc. crot-h. cund. cupre-l. dulc. eucal. eupi. ferr-i. ferr-ma. ferr-pic. **Fl-ac.** form-ac. formal. gali. g. graph. **Guare.** hecla**Hep.** hippoz. hydr. **Iod. Kali-bi. Kali-br. Kali-c.** kali-i. kali-m. kreos. lac-ac. lach. lap-a. laur. lec. lepr. **Lob. Lob-e. Lyc.** m-arct. mag-c. mag-p. maland. manc. mand. med. **Merc.** merc-d. merc-i-r. merl. **Mez.** nat-c. **Nat-m.** nat-sil. nat-sil-f. **Nit-ac.** nux-v. **Ph-ac.** phos. phyt. platan. plb. **Plb-i.** psor. **Puls.** rad-br. ran-b. **Rhus-t. Ruta.** sabal. **Sabin.** sang. **Scir.** sec. **Semp.** seneg. sep. sil. sol-t. **Spong.** staph. stict. **Still.** sul-i. sulfa. sulph. syph. tarent. thiosin. thuj. **Thyr.** tub. tub-a. **Ur-ac.** ureavac. vanad. verb. vip. zinc.

GENERALS - TUMORS – angioma (GENERALS - CANCEROUS affections - angioma) (GENERALS - CANCEROUS affections - hemangioma) (GENERALS - CANCEROUS affections - hemangioma): abrot. ant-t. anthraci. arg-n. **ARS.** bar-c. bell. bell-p. benz-ac. brom. cact. **Calc.** calc-f. **CARB-AN. Carb-v.** caust. clem. con. **Fl-ac.** kali-br. kali-i. **Kreos. LACH. Lyc.** m-arct. **Merc.** mez. **Nat-m. Nit-ac.** nux-v. **PHOS.** phyt. **Puls. Rhus-t.** sabal. sep. **SIL.** staph. **Sulph. THUJ.** vanad.

GENERALS - TUMORS - angioma – angiocholitis (GENERALS - CANCEROUS affections - angioma): guat. ser-a-c.

GENERALS - TUMORS - atheroma steatoma (GENERALS – ATHEROMA) (GENERALS - TUMORS - steatoma): Agar. ant-c. anthraci. arg-n. **Bar-c. Bell.** benz-ac. brom. **Calc.** caps. **Carb-v.** caust. clem. **Con.** crat. **GRAPH. Guare. Hep.** kali-br. **Kali-c.** kali-i. lac-ac. lach. **Lob.** lyc. m-arct. mez. nat-c. **Nit-ac. Ph-ac. Phyt.** plb. rhus-t. **Sabin. Sil.** spong. staph. **Sulph.** thuj. vanad.

GENERALS - TUMORS - atheroma steatoma - reappearing every four week: Calc.

GENERALS - TUMORS - atheroma steatoma – suppurating: Calc. Carb-v. Sulph.

GENERALS - TUMORS – benign (GENERALS - Polypus) GENERALS – POLYPUS: all-c.alum.alumn.ambr.ant-c.**Aur.**bell. bell-p.berb.cadm-

s.**CALC.**calc-i.**CALC-P.Calc-s.Carb-an.**carc. coc-c.**CON.**dros.**Form.**graph.**Hep.**iod.**Kali-bi.**kali-i.kali-m.kali-n.kali-s.lem-m.lyc.**Med.Merc.**merc-i-r.**Mez.**nat-m.nat-s.nit-ac.petr.ph-ac.**PHOS.Psor.**puls.sang.**Sangin-n.**sep.**Sil.STAPH.**sul-ac.sulph.**TEUCR.Thuj.**tub.

GENERALS - TUMORS – colloid: carb-ac. carb-an. hydr. phos.

GENERALS - TUMORS – congestive: bell-p.

GENERALS - TUMORS – cystic: (GENERALS - CYSTS) (SKIN - CYSTS): agar. ant-c. **Apis.** apoc. ars. **Aur.** aur-m-n. **BAR-C. Bell-p.** benz-ac. bov. **Brom. CALC.** calc-f. calc-p. **Calc-s.**carc. **Caust. Con.** cory. form-ac. **GRAPH. Hep.** hydr. **Iod. Kali-br.**kali-c. lyc. m-arct. **Med.** merc-d. mez. nit-ac. **PHOS.** platan. **Sabin.** sil. pong. staph. sulph. syph. **Thuj.**

GENERALS - TUMORS - cystic - Bones of: mez. syph.

GENERALS - TUMORS – encephaloma (GENERALS - CANCEROUS affections - encephaloma) (GENERALS - CANCEROUS affections - encephaloma): acet-ac. arn. **Ars. Ars-i.** art-v. aur-i. bell. **Calc.** carb-ac. **Carb-an.** caust. **Croc.** hippoz. hydr. kali-i. **eos. Lach.**merc. nit-ac. nux-v. **PHOS.** plb. **Sil.** sulfa. sulph. **Thuj.**

GENERALS - TUMORS – enchondroma: aran. brom. **Calc.**calc-f. carb-v. conch. fl-ac. lap-a. **Sil.** thuj.

GENERALS - TUMORS – erectile: Lyc. Nit-ac. Phos. taph.

GENERALS - TUMORS – fatty: agar. calc. thuj. ur-ac.

GENERALS - TUMORS – fibroid: (FEMALE GENITALIA/SEX - TUMORS - Uterus – myoma: abel. **Apis.** arb. **Arn.** ars. ars-i. aur. **Aur-i.** aur-m. **Aur-m-.** bell. berb. brom. bry. bufo. **CALC. CALC-F. Calc-i.** calc-n. **Calc-p. Calc-s. Calen.** carc. cham. chin. chol. chr-s. cimic. coenz-q. **Con.** erod. ferr. fl-ac. foll. frax. graph. ham. helon. hydr. **Hydrc. Hydrin-m. Hydrinin-m. Iod.** ip. irid-met. **Kali-bi.** kali-br. **Kali-c. Kali-i. Lach.** lap-a. **Led.** lil-t. lyc. mag-m. med. merc. **Merc-c.** merc-i-r. morg-p. nat-m. nit-ac. nux-v. parathyr. **PHOS.** phyt. plat. plb. puls. rhus-t. sabal. sabin. sang. **Sec.** sep. **SIL.** solid. staph. sul- ac. sulph. tarent. ter. teucr. thiosin. thlas. thuj. thyr. tril-p. tub. ust. vinc. viol-o. x-ray. xan. xanth.

GENERALS - TUMORS – fibrosarcoma: aur. cadm-m. calc-f. calc-p. sil. tub.

GENERALS - TUMORS – ganglion: acon. am-c. ant-c. apis. arn. ars-i. aur-m. bell. **Benz-ac.** bov. **Calc.** calc-f. calc-p. **Carb-v.** carc. ferr-ma. hep. iod. kali-m. mag-p. ph-ac. **Phos.** plb. rhus-t. **Ruta**eneg. sil. tict. sul-i. sulph. thuj. tub-a. zinc.

GENERALS - TUMORS – gummata: asaf. **Aur.** berb-a. **Calc-f.** carb-an. cory. cund. **Fl-ac.** iod. **Kali-bi.** kali-i. merc. mez. nit-ac. **Phyt.** sil. staph. **Still.** sulph. thuj.

GENERALS - TUMORS – hard: calc-f. **Con. Hecla**lap-a. maland. ruta**Scir.** sil. verb.

GENERALS - TUMORS – hemangioma: abrot. agar. ant-c. crot-h. **Fl-ac.** lach. vanad. vip.

GENERALS - TUMORS – keloid (SKIN – Keloid): alum. ars. aur-m-n. bell-p. calc. calc-f. calen. carb-v. carc. caust. crot-h. cupre-l. diphtox. dros. **Fl-ac.** gast. **GRAPH.** hyper. **Iod.** junc-e. kali-bi. lach. loxo-lae. lyss. maland. merc. **NIT-AC.** nux-v. phos. phyt. psor. rhus-t. sabin. sep. **SIL.** sul-ac. **Sulph.** thiosin. thuj. tub. vac. **Vip.** x-ray

GENERALS - TUMORS – lipoma: agar. **Am-m.** aur. bacls-. **BAR-C. BELL. Calc.** calc-ar. carc. croc. graph. **Kali-br. Lap-a.** lyc. med. merc. phos. **Phyt.** sil. **Spong. Sulph. Thuj.** ur-ac.

GENERALS - TUMORS – liposarcoma: carc.

GENERALS - TUMORS – lymphangioma: bar-c. rad-br. sec. vip.

GENERALS - TUMORS – myeloma: Hecla

GENERALS - TUMORS - neurofibroma: astra-e. calc. calc-f. lepr. phos.

GENERALS - TUMORS – neuroma: All-c. Calc. calen. rutastaph.

GENERALS - TUMORS – nevi (SKIN – NEVI): abrot. **ACET-AC.** arn. ars. bell-p. **Calc.** calc-f. carb-an. **Carb-v.** carc. con. cund. **Ferr-p. FL-AC. Graph. Ham.** lach. **Lyc.** med. mur-ac. nit-ac. **Nux-v. Petr. Ph-ac. PHOS.** plat. rad-br. **Rumx. Sep. Sil.** sul-ac. **Sulph. Thuj.** ust. vac. vanil.

GENERALS - TUMORS – noma (MOUTH – Stomatitis - gangrenous): alum. alumn. **Ars.** calc. **Carb-v. Con.** elat. **Guare. Kali-chl. Kali-p.** merc. **Merc-c.** sil. sol-t-ae. sul-ac. sulph. tarent. tarent-c.

GENERALS - TUMORS – osteoma: calc-f. fl-ac. kali-i. **Mez.**

GENERALS - TUMORS – papillomata: ant-c. arg-n. beryl. **Calc.** nit-ac. staph. **Thuj.**

GENERALS - TUMORS – rhabdomyosarcoma: con. med. syph. thuj.

GENERALS - TUMORS – schwannoma: calc.

GENERALS - TUMORS – scrofulous: mand.

GENERALS - TUMORS – spongy: thuj.

Nodule Rubrics

GENERALS - PAIN - red hard nodules: petr.

GENERALS - PAIN - red hard nodules – sore: petr.

Sarcoma Rubrics

GENERALS - CANCEROUS affections – sarcoma (GENERALS - SARCOMA) (GENERALS - TUMORS - sarcoma): agar. ars. **Aspar. Aur.** bar-c. cadm-met. calc. calc-f. carb-ac. carb-an. carb-v. carc. **Crot-h.** cupr-s. **Euph.** fl-ac. graph. **Hecla.** hydr. **Kali-chl. Kali-m. Lach. Lap-a.** med. nat-act. nat-c. nat-m. **Nit-ac.** ph-ac. **Phos.** rad-br. sil. **Symph.** syph. **THUJ.** visc. x-ray

GENERALS - CANCEROUS affections - sarcoma - accompanied by - pain; burning: bar-c.

GENERALS - CANCEROUS affections - sarcoma – inoperable: cupr-s.

GENERALS - CANCEROUS affections - sarcoma - Kaposi sarcoma (GENERALS - CANCEROUS affections - endotheliosarcoma): aur. calc-f. fl-ac. hydroph. med. nat-sil-f. nit-ac. phos. syph. thuj. vitr-an.

GENERALS - CANCEROUS affections - sarcoma - spindle-cell: carc.

syph.

Lymphoma Rubrics

GENERALS - CANCEROUS affections – lymphoma (GENERALS - LYMPHOMA): ars. ars-i. aur-m. **Bar-c.** bar-i. calc. **Calc-f.** carb-an. carc. cist. con. **Iod.** kali-m. mur-ac. nat-m. ph-ac. phos. phyt. rad-br. **Epst-b-v**saroth. scroph-n. sec. sil. syph. **Thuj.** tub.

Hodgkins Rubrics

GENERALS - HODGKIN'S disease (GENERALS - CANCEROUS affections - Hodgkin's disease): Acon. acon-l. **Ars.** ars-br. ars-i. bar-c. bar-i. bufobuni-o. calc. **Calc-f.** carc. **Cean.** cist. con. ferr-pic. iod. kali-bi. **Kali-chl. Kali-m.** lap-a. **Nat-m.** phos. saroth. scroph-n. syph. tub.

CLINICAL - PATHOLOGIES - Hematological disorders - Hodgkin's disease: abies-c. abies-n. abr. abrom-a. **Abrot.** absin. acal. **Acet-ac.** acetan. achy. achy-a. acok-op. **ACON.** acon-a. acon-c. acon-f. acon-l. aconin. act-sp. adam. adeps-s. adlu. adon. adox. adren. aegop-p. **Aesc.** aesc-g. **Aeth.** aether**AGAR.** agar-cpn. agar-em. agar-pa. agar-ph. agar-pr. agar-st. agarin. agath-a. agav-t. **Agn. Aids. Ail.** alco. alet. alf. **All-c. All-s.** allox. aln. **Aloe**alst. alst-s. **ALUM. Alum-p. Alum-sil.** alumin-p. alumin-s. **Alumn.** am-act. am-br. **AM-C.** am-caust. am-f. **AM-M.** am-p. am-pic. am-s. **AMBR.** ambro. aml-ns. ammc. amor-r. amph. amyg. **Anac.** anac-oc. anag. **Anan.** ancis-p. anders. **Androc. Ang.** ange-s. ango. anh. anil. anis. ant-ar. **ANT-C.** ant-i. ant-m. ant-met. ant-o. ant-s-aur. **ANT-T.** anth. **Anthraci.** anthraco. anthraq. antip. ap-g. aphis**APISApoc.** apoc-a. apom. aq-mar. aq-pet. ara-maca. arag. aral. **Aran.** aran-ix. aran-sc. arg-cy. **ARG-MET. ARG-N.** arg-p. arge-pl. arist-cl. arizon-l. **ARN. ARS.** ars-br. ars-h. **ARS-I.** ars-met. **Ars-s-f.** ars-s-r. art-v. arum-d. arum-i. arum-m. **Arum-t.** arund. **ASAF. Asar.** asc-c. **Asc-t.** asim. aspar. **Astac.** aster. astra-e. astra-m. atha. atis. atp. atra-r. **Atro. AUR. Aur-ar.** aur-fu. **Aur-i. AUR-M. Aur-m-n. Aur-s.** aven. aza. bac. bacls-. **Bad.** bals-p. **Bamb-a. Bapt.** bar-act. **BAR-C.** bar-f. **Bar-i. Bar-m.** bar-ox-suc. bar-p. **Bar-s.** barbit. bart. **BELL.** bell-p. bell-p-sp. ben. ben-d. ben-n. **Benz-ac.** benzol. **BERB.** berbin. beryl. beryl-m. **Bism.** bism-o. bit-ar. blatta-a. blatta-o. boerh-d. **Bol-la.** bol-s. bomb-chr. bomb-pr. bond. bor-ac. **Borx. Both.** both-ax. botul. **Bov.** brach. **Brass-n-o. Brom.** bros-gau. bruc.

brucel. brucin. **BRY.** bry-la. **Bufo**bufo-s. bung-fa. buni-o. but-ac. buteo-j. buth-a. **Cact.** cadm-i. cadm-m. cadm-met. **Cadm-s.** caesal-b. cain. caj. **Calad. CALC.** calc-act. **Calc-ar.** calc-br. calc-caust. calc-chln. **Calc-f.** calc-hp. **Calc-i.** calc-lac. calc-m. calc-met. calc-ox. **CALC-P. CALC-S. Calc-sil.** calen. calo. **Camph.** camph-ac. camph-br. canch. cand. **Cann-i. Cann-s.** cann-xyz. **CANTH.** canthin. **CAPS.** car. **Carb-ac. CARB-AN. CARB-V.** carbn. carbn-chl. carbn-h. carbn-o. **CARBN-S. Carc.** card-b. **Card-m.** cardios-h. **Carl.** carneg-g. cartl-s. cas-s. casc. cass. cassia-s. castm. castn-v. castor-eq. caul. **CAUST.** cean. **Cedr.** celt. cem. **Cench.** cent. cephd-i. cere-b. cerev-lg. cerv. cetr. **CHAM.** chap. cheir. **CHEL.** chelo. chen-a. chen-v. chim. chim-m. **CHIN.** chin-b. **CHININ-AR.** chinin-brh. chinin-fcit. chinin-m. chinin-pur. **CHININ-S. Chion.** chir-fl. chlam-tr. chlf. **Chlol.** chlor. chloram. chlorpr. **Choc.** chol. chord-umb. chr-ac. chr-s. chrysan. chrysar. **Cic.** cich. **Cimic.** cimx. **Cina**cinch. **Cinnb.** cinnm. **Cist.** cit-ac. cit-l. cit-v. cladon. **CLEM. Cob.** cob-m. cob-n. cob-p. **Coc-c. Coca**coca-c. cocain. **COCC.** coch. cod. **Coff.** coff-t. **COLCH.** colchin. coli. coll. **COLOC.** colocin. colum-p. com. **CON.** conch. conin. conin-br. conv. convo-s. **Cop.** cor-r. cor. cori-r. corian-s. **Corn.** corn-a. corn-f. cortico. cortiso. cory. cot. cotocrass-o. crat. **Croc. Crot-c. CROT-H. Crot-t.** cub. culx. cund. **CUPR.** cupr-act. cupr-ar. cupr-c. cupr-f. cupr-s. **Cur. Cycl.** cyclosp. cygn-be. cyn-d. cypr. cypra-eg. cystein-l. cyt-l. dam. **Daph.** dendr-pol. der. des-ac. diaz. dicha. **DIG.** digin. digox. **Dios.** diosm. dioxi. dip. diph. diph-t-tpt. diphtox. dirc. **Dol.** dor. dream-p. **Dros.** dub. dubo-m. **DULC.** dys. eberth. echi. echit. elae. **Elaps.** elat. ephe-si. epil. epiph. equis-h. erig. erio. ery-a. ery-m. eryt-j. esch. esin. eucal. eug. eup-a. **Eup-per.** eup-pur. **Euph.** euph-a. euph-c. euph-hy. euph-ip. euph-l. **Euphr. Eupi.** fab. fago. fagu. falco-ch. falco-pe. fel. **FERR.** ferr-act. **Ferr-ar.** ferr-c. **FERR-I. Ferr-m.** ferr-ma. **Ferr-p.** ferr-pic. ferr-sil. ferul. fic-m. fic-r. fil. **FL-AC.** fl-pur. flav. flor-p. foll. **Form.** frag. franc. franz. frax. fuc. fum. fuma-ac. gabagad. gaert. gal-ac. gal-s. galeg. galeoc-c-h. galin. galla-q-r. **Gamb.** gard-j. gast. gaul. **GELS.** gent-l. gent-q. ger-ro. **Germ-met.** get. gink-b. gins. **Glon.** glyc. glycyr-g. gnaph. goss. gran. **Granit-m. GRAPH. Grat.** grin. gua. **Guaj.** guan. guar. guare. guat. gymno. haem. haliae-lc. hallhalo. **Ham.** hecla. **Hed.** hedeo. helia. helin. **HELL.** hell-o. helm. helo. helo-s. helodr-cal. helon. helx. **HEP.** hera. **Heroin.** hier-p. hip-ac. hipp. hippoc-k. **Hippoz.** hir. hist. hom-xyz. home. hura.**Hydr.** hydr-ac. **Hydrc. Hydrog.** hydroph. **Hyos.** hyosin. hyosin-hbr. **Hyper.** iber. ichth. ictod. **IGN.** ignis-alc. ilx-a. ina-i. ind. indg. influ. ins. inul. **IOD.** iodof. **IP.**

irid-met. **Iris**iris-foe. iris-t. ituix. jab. jac-c. jac-g. jal. jasm. jatr-c. jug-c. jug-r. juni-v. just. kali-act. **KALI-AR. KALI-BI. Kali-br. KALI-C. Kali-chl.** kali-cy. kali-f. kali-fcy. kali-hp. **KALI-I. Kali-m. Kali-n.** kali-ox. **KALI-P.** kali-perm. kali-pic. **Kali-s. Kali-sil.** kali-sula. kali-t. **Kalm.** keroso. ketogl-ac. kinokiss. **Kola**kou. **Kreos.** kres. **Lac-ac. Lac-c.** lac-cp. **Lac-d.** lac-del. lac-e. lac-h. lac-leo. lac-loxod-a. lac-lup. lac-mat. **LACH. Lachn. Lact.** lact-v. lam. lap-a. **Lap-la.** lapa. lappalat-h. lat-k. **Lat-m.** lath. **Laur.** lavand-a. **Lec. LED.** lepi. lept. leptos-ih. leucas-a. lev. levo. lil-s. **Lil-t.** lim. limen-b-c. limest-b. lina. linu-c. lipp. **Lith-c.** lith-chl. lith-f. lith-m. lith-met. lith-p. lith-s. **Lob.** lob-c. lob-e. lob-p. lob-s. lobin. lol. lon-x. loxo-lae. **Loxo-recl.** luf-b. luf-op. lunalup. **LYC.** lycpr. **Lycps-v.** lys. **Lyss.** m-ambo. **M-arct.** m-aust. macro. macroz. mag-br. **Mag-c.** mag-f. mag-lac. **MAG-M. Mag-p. Mag-s.** mag-sil. magn-gl. magn-gr. maias-l. maland. **Malar. Manc.** mand. **Mang.** mang-act. mang-m. mang-o. mang-p. mang-sil. marb-w. **MED.** medul-os-si. mela. melal-alt. meli. menis. menth. menth-pu. mentho. **Meny.** meph. **MERC.** merc-br. **MERC-C.** merc-cy. **Merc-d. Merc-i-f. Merci-r.** merc-k-i. merc-meth. merc-n. merc-ns. merc-p. merc-pr-r. **Merc-sul.** merl. methyl. methys. **MEZ.** mill. mim-h. mim-p. mit. moly-met. mom-b. **Moni.** morb. morg-p. **Morph. Mosch.** mucormucs-nas. **MUR-AC.** muru. murx. musamusca-d. mygal. myos-a. myos-s. **Myric.** myrt-c. nabal. **Naja**napht. naphtin. narc-ps. narcin. narz. **Nat-ar. NAT-C.** nat-caust. nat-ch. nat-chl. nat-f. nat-hchls. nat-lac. **NAT-M.** nat-n. nat-ox. **Nat-p.** nat-pyru. **NAT-S.** nat-sal. **Nat-sil.** nat-sula. nauf-helv-li. neonnep. nept-m. **Nicc.** nicc-met. nicc-s. nicot. nicotam. nid. nig-s. **NIT-AC.** nit-m-ac. nit-s-d. nitro-o. nuph. **Nux-m. NUX-V.** nyct. oci. oci-sa. oena. okou. **Ol-an.** ol-eur. **Ol-j.** ol-sant. **Olib-sac. Olnd. Oncor-t. Onos. OP.** opun-s. opun-v. orch. oreo. orig. orni. orot-ac. oscilloc. osm. ost. osteo-a. **Ox-ac.** oxal-a. oxyd. oxyg. oxyurn-sc. **Ozone**p-benzq. paeon. pall. palo. pambt. pana. pant-ac. **Par.** paraf. parathyr. parth. paull. ped. penic. perh. pern-c. pers. pert. pert-vc. peti. **PETR. Petr-ra.** petros. **PH-AC.** phal. phasco-ci. phase. phase-vg. phase-xyz. **Phel.** phlor. phor-t. **PHOS. Phys.** physal-al. physala-p. **PHYT. Pic-ac.** pieri-b. pilo. pimp. pin-con. pin-s. pip-m. pip-n. pisc. pitu. pitu-gl. pitu-p. pixplac. plac-s. **Plan. Plat.** plat-m. **PLB.** plb-act. plb-chr. plb-i. plb-m. plb-xyz. plect. plumbg. **Plut-n.** pneu. **Podo.** polyg-h. polym. polyp-p. polys. pop. pop-cand. **Positr.** pot-e. prim-o. prim-v. prop. propl. propr. prot. prun. prun-p. pseuts-m. psil. **PSOR. Ptel. PULS.** puls-n. pulx. **Pycnop-sa.** pyre-p. pyrid. **Pyrog.** pyrusquas. querc. querc-r. querc-r-g-s. quill. rad-br. ran-a. **Ran-b.** ran-g. ran-r. **Ran-s. Raph. Rat.** ratt-

norv-s. rauw. reser. rham-cal. rham-f. **Rheum. Rhod.** rhodi. rhus-d. rhus-g. rhus-r. **RHUS-T. Rhus-v.** ribo. ric. rob. **Ros-d.** rosm. rub-t. rubu-c. **Rumx.** rumx-act. **Ruta. Sabad.** sabal. **Sabin.** sacch. sacch-a. sal-ac. sal-al. sal-fr. sal-mar. salin. salv. **Samb.** samb-c. **Sang.** sangin-n. sanic. santin. sapin. sarcol-ac. saroth. sarr. **SARS.** scarl. scir. scol. scop. scor. scroph-n. scut. **SEC. Sel.** senec. **Seneg.** senn. **SEP.** seq-s. serp. sieg. **SIL.** sil-mar. sil-met. silphu. simul. sin-n. sinus. siumsol-a. sol-ecl. sol-mm. sol-ni. sol-o. sol-t. sol-t-ae. solid. solin. spartin-s. **Spect.** sphing. **Spig.** spira. spirae. **SPONG. Squil.** stach. **STANN.** stann-i. **STAPH.** staphycoc. stel. stict. still. **Stram.** strept-ent. streptoc. streptom-s. **Stront-c.** stront-m. stront-met. stroph-h. stroph-s. **Stry.** stry-n. stry-p. strych-g. succ. succ-ac. suis-em. suis-hep. suis-pan. **SUL-AC.** sul-h. **Sul-i.** sulfa. sulfon. sulfonam. **SULPH. Sumb.** suprar. syc. symph. **Syph.** syzyg. **Tab.** tanac. tang. tann-ac. taosc. **Tarax. TARENT.** tarent-c. tart-ac. **Tax.** techn. tela**Tell.** temp. tep. **Ter.** tere-ch. tere-la. tet. tetox. **Teucr.** thal. thal-met. thal-xyz. thea**Ther.** thiam. thioc-ac. thiop. thiosin. thlas. thres-a. **THUJ.** thuj-l. thymol. thymu. thyr. **Til.** tinas. titan-s. **Toxo-g.** trach. trif-p. tril-p. trinit. **Trios.** trom. **TUB.** tub-a. tub-d. tub-k. tub-m. tub-r. tub-sp. tung-met. tus-p. tyl-i. ulm-c. ultras. uncar-tom. upa. uran-met. uran-n. ureaurin. urol-h. **Urt-u.** ust. uvav-a-b. vac. **Valer.** vanad. vario. ven-m. **VERAT. Verat-v.** verb. verbe-o. verin. vero-o. vesp. vib. vibh. vichy-g. vinc. viol-o. **Viol-t. Vip.** vip-a. vip-a-c. vip-d. vip-l-f. visc. vitr-an. voes. wies. wildb. wye. x-rayxan. xanrhi. xero. yers. yuc. **ZINC.** zinc-act. zinc-ar. zinc-i. zinc-m. zinc-n. zinc-o. **Zinc-p.** zinc-pic. zinc-s. zinc-val. zing. ziz.

Cases from Author's Practice

The following is the summary of a few of the cancer cases from my practice (Table 6.1). Based on the symptoms and the status of the disease at the time of presentation, constitutional and/or acute remedies were prescribed to these patients. The cases that presented with very advanced malignancy, palliative treatment was given to relieve the symptoms. In rest of the cases, there was no recurrence for the next five years. See Table 6.1

Progress Notes of the Cases

1. The dyspnoea, cough, and chest pain responded to *Bryonia* and *Mercurius iodatus ruber*. The constitutional remedy was *Calcarea fluorica*, and *Syphilinum* was used as the intercurrent. Subsequently the patient expired.
2. The severe backache was much better with *Colocynth* and *Calcarea oxalica*. The constitutional remedy *Lycopodium* kept the myeloma under control. After 10 months, the patient developed pulmonary metastasis and succumbed.
3. The retrosternal burning, eructations, nausea and vomiting were treated with *Carbo vegetabilis* and *Borax*. The dryness of mouth responded to *Arsenic album*. After 2 months, the patient developed massive ascites with renal complications and expired.
4. The vaginal bleeding was controlled by *Kreosote* and *Thlaspi bursa pastoris*, used individually. *Arsenic album* and *Pyrogen* helped to control the fever. *Calcarea fluorica* was given as the constitutional remedy. Eventually, patient succumbed to the disease.
5. *Magnesium phosphoricum* was selected as the constitutional remedy, chiefly on the basis of mental symptoms. It helped to check the disease initially so that the leucorrhoea and bleeding per vagina were controlled. Later she succumbed to the disease.
6. The gastro-intestinal symptoms, i.e. heartburn and eructations, were

better with *Nux vomica* 30 and 200. The constitutional remedy was *Lycopodium*. For 8 months patient remained asymptomatic. Then she developed bone metastasis which did not respond to Homoeopathy and patient succumbed.

7. The recurrent diarrhoea and chronic constipation improved with *Phosphorus* as the constitutional remedy, and *China* and *Alstonia scholaris* during the acute phase. Later he developed tingling numbness in the extremities which was treated with *China*. For 3 years he was purely on Homoeopathic treatment - infrequent doses of *Phosphorus*, to which he responded well. Then he developed extensive hepatic metastasis and expired.
8. The cough and breathlessness responded well to *Senega* and *Antimonium arsenicosum* used individually. *Podophyllum* controlled the diarrhoea. Eventually patient developed pulmonary complications and expired.
9. The bone pains were much better with *Mercurius iodatus ruber* and *Calcarea fluorica*. The knee pains were better with *Bryonia*. The patient had been asymptomatic for one year, reported for follow-up and was well, till the next five years.
10. *Crocus sativus* was used as the acute remedy and *Magnesium muriaticum* as the constitutional remedy. The chocolate cyst of the ovary regressed completely within 6 months, as evidenced by the ultrasonography report.
11. The knee pains were better with *Calcarea fluorica*, and *Carcinosin* was used as the intercurrent. After few months, the patient had a recurrence of the disease and expired.
12. *Uva ursi* was used as the acute remedy, *Lycopodium* as the constitutional remedy and *Medorrhinum* as the intercurrent. *Rhododendron* helped to relieve the backache. For the next five years, the patient had been alive and was keeping well.
13. The cough and dyspnoea were much better with *Antim tartaricum, Carbo vegetabilis*, and *Aspidosperma* for a period of 3 months. Then the patient succumbed due to extensive pulmonary metastasis.
14. Initially the lymph node in the cervical region reduced and regressed completely with *Mercurius iodatus ruber* as the acute remedy and *Phosphorus* as the constitutional remedy. Nine months later, the lymph node recurred and did not respond to any treatment. The severe tongue

pain was controlled by *Cistus canadensis, Calcarea oxalica*, and *Aurum muriaticum*. During the last stage, she opted not to take any medicine, and passed away peacefully. This was an ideal case of palliation.

15. The nausea, vomiting, and diarrhoea were considerably better with *Phosphorus* as the constitutional remedy. For glaucoma, no eye drops were used and the neuralgia was considerably better with *Mezereum*. Her senile tremors responded well to *Xanthoxyllum*. The patient had been under observation for the next five years, and there was no recurrence.
16. The oedema and breathlessness were controlled with *Urea pura, Apocynum* and *Eel serum*. *Lycopodium* was the constitutional remedy. The patient later succumbed to the advanced disease.
17. The pleural effusion and the consequent dyspnoea initially responded to *Arsenicum album* as acute and *Kali Carbonicum* as the constitutional remedy. He was also administered intrapleural Iscador. However, in later stages, his effusion did not respond to treatment and he expired.
18. The vomiting due to hepatic metastasis was better with *Arsenicum album* and *Chelidonium*. The nightly bone pains were better with *Arsenicum album*. Eventually patient expired as the disease advanced considerably.
19. There was marked improvement in dyspnoea with acute remedies like *Arsenicum album, Apocynum,* and *Acetic acid* used individually. This helped to reduce the frequency of pleural tapping. The severe lumbago was successfully treated with *Colocynth*. Eventually patient expired due to pulmonary complications.
20. The gastro-intestinal complaints, i.e., flatulence and constipation, were better with *Opium*. The constitutional medicine was *Calcarea fluorica*. Intermittently, whenever she had colic, *Calcarea oxalica* 6 or 30 gave her relief. After 4 months of Homoeopathic treatment, she went abroad where she developed a complication and expired.
21. The gastro-intestinal symptoms were much better with *Kreosotum* and *Cadmium sulphuricum* used individually. However, the patient expired in a short time due to extensive hepatic metastasis.
22. The vertigo responded to *Nitric acid*. All through the last 5 years, he had received infrequent doses of *Natrum muriaticum* as his constitutional remedy, with overall improvement. The tumour markers had remained normal.

Table 6.1: Summary of the Cases

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
1.	4.2.89	S/428; 16/M	Round cell sarcoma with metastasis in lungs with pleural effusion	Chemotherapy	Left sided chest pain. Dry cough. Breathlessness, < walking, climbing. Low grade fever <evening. Desire - sweets.	*Bryonia alba* 30, *Syphilinum* 30, *Calcarea fluorica* 30, *Mercurius iodatus ruber* 30	–
2.	2.8.89	B/10; 65/M	Multiple myeloma	–	Vertigo < turning the head. Flatulence < eating after, night, sitting for long, rising from lying; > rest, pressure, warm application. Desires - sweets, eggs, meat. Urination frequent. Anxiety, health about. Fastidious. Offended easily. Sleeps on right side with mouth open. Dreams of friends, of day's events.	*Colocynthis* 30, *Ignatia* 30, 200, *Lycopodium clavatum* 30, *Calcarea oxalica* 30	PcHg Series II Formica compound.

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
3.	1.9.89	A/198; 58/M	Adenocarcinoma of the stomach	–	Sour eructations, > eructations. Retrosternal burning. Nausea with profuse vomiting, < morning, eating after. Nausea > vomiting. Desire - salt, sweet, spicy. Loss of appetite. Dryness of mouth and throat. Conscientious about trifles. Fastidious. Offended easily. Anxiety - trifles. Dreams of business.	*Carbo vegetabilis* 30, *Arsenicum album* 30, *Myrica cerifera Q, Borax* 30	–
4.	17.9.89	P/729; 59/F	Moderately differentiated carcinoma of vagina	Radiation implant in uterus	Bleeding per vagina, bright red blood. < walking. Offensive odour of blood. Dyspnoea. Fever. Dull pain in legs < squatting. Thirst - often for very cold water. Desire - sweets. Constipation. Trembling of tongue.	*Kreosotum* 30, *Thlaspi bursa pastoris Q, Arsenicum album* 30, *Pyrogenium* 30, *Calcarea fluorica* 30	–

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
					Hot patient. Cares, worries, full of. Weeps easily, while narrating symptoms. Depressed; offended easily.		
5.	22.9.89	H/954; 60/F	Papillary adenocarcinoma of uterus	Hysterectomy	Bleeding per vagina. Leucorrhoea:creamish, staining the linen yellow. Thirst < eating after. Heaviness in left hypochondrium. Desire - eggs. Chilly patient. Sensitive: offended easily. Likes sympathy. Religious. Forsaken feeling. Reserved. Impatient. Cares, worries, full of.	*Magnesium phosphoricum* 30	–
6.	29.7.90	V / 2 9 7 9 ; 53/M	Hypernephroma (right) with metastasis	Right radical nephrectomy	Eructations - ineffectual, incomplete. >Eructations; < eating, after. Sleep disturbed by noise and light. Mouth opens during sleep. Desire spicy.	*Lycopodium clavatum* 30, 200, *Arsenicum album* 30, *Nux vomica* 30	–

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
					food - sweets. Aversion - meat. Dictatorial; rudeness. Contradiction <. Anger-at trifles. Egotism. Ailments from discord between chief and subordinates		
7.	25.10.90	M / 2 5 1 ; 77/M	CA of colon	Hemicolectomy	Episodes of chronic constipation alternating with diarrhoea. Stools watery with uncontrollable urge. Bloody stools. Episodes of vomiting. Tingling numbness of right palm with heaviness and numbness of right leg. Nausea; vomiting after the least intake. Diarrhoea. Photophobia. Desire salt, ice cream. Increased thirst for cold water. Offended easily. Irritable at t	*Phosphorus* 30, 200, *Bryonia alba* 30, *China officinalis* 30, *Alstonia scholaris Q*	–

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
					rifles, conscientious, outspoken.		
8.	14.4.91	S/144; 44/F	Adenocarcinoma of left lung	FNA	Cough - dry. Breathlessness. Frequent stools. Desire - sweets, salty food. Perspiration - scanty. Chilly patient. Quarrelsome. Intolerant of contradiction. Weeps at trifles, contradiction. Desire for company. Obstinate.	*Antimonium arsenicosum* 30, *Senega* 30, *Podophyllum peltatum* 30	–
9.	3.5.91	K/359; 56/F	Uncomplicated multiple myeloma (IgE type)	Chemotherapy: T. Melphelan (2 mg) 4 tab/day	Pain in bones. Caries bones. Knee - pain - rheumatic. Severe pain in lower ribs < inspiration < lying on painful side. Heartburn < oily food, night. Back pain < sitting. Gums - bleeding. Perspiration on chest. Deafness. Hot patient. Anaemia.	*Calcarea fluorica* 30, *Bryonia alba* 30, *Pulsatilla nigricans* 30, 200, *Mercurius iodatus ruber* 30	–

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
					Desire - tea. Slowness. Fear - of being alone. Weeping easily at trifles. Anger < contradiction.		
10.	3.5.91	S/359; 25/F	CA Ovary with Chocolate cyst of ovary	-	Menses–painful, lesser the flow greater the pain, > warmth. Menses - flow >. Bitter taste in mouth during menses. Pimples on face < before menses. Headache < loss of sleep, from. Perspiration - increased during menses - back. Menses - clotted. Desire - sweets. Aversion - onions. Indolence and weariness before menses. Palpitation on hearing bad news. Fear - of heights, needles. Ailments from grief. Weeps when reprimanded. Anger at trifles. Impatient.	*Magnesium muriaticum* 30, *Crocus sativus* 30	–

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
11.	19.5.91	V/195; 65/F	CA breast (intraductal) with early stromal invasion. With hypertension, osteoarthritis knees, obesity.	Total mastectomy: right side	Ailments from fright. Knee - pain - rheumatic < rising from sitting position. Arthritis deformans. Diarrhoea < indiscretion in diet. Perspiration - face, neck. Sun <. Chilly patient. Tendency to suppuration. Desire– eggs, cold drinks, tea. Fear - of falling, of murder. Loquacious– outspoken. Impatient. Cannot see suffering of others < contradiction.	*Opium* 30, *Calcarea fluorica* 30, *Carcinosinum* 30, 200, *Oxalicum acidum* 30	–
12.	30.5.91	L / 3 0 5 9 ; 55/M	Adenocarcinoma of prostate	T.U.R.P. and Bilateral orchidectomy	Shock-like pain in posterior part of urethra < end of micturition. Bleeding per rectum, of dark black blood. Flatulence. Dry, hacking cough, mucus	*Lycopodium clavatum* 200, *Uva ursi Q*, *Rhododendron chrysanthum* 30, *Medorrhinum* 30, 200	–

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
					flies out of mouth, salty expectoration. Weakness. Back pain - lumbosacral region, > stretching the back. Hunger < (hunger headaches). Desire - sweets, sour. Hot patient. Memory - poor for recent events. Offended easily. Censorious. Indifference. Desire - company, for.		
13.	2.6.91	K/269; 45/F	Metastatic adenocarcinoma of lung (?primary G.I.T.)	Chemotherapy	Cough, Dyspnoea < exertion. Pain right mammary region. Vomiting. Irritability. Ailments from financial loss.	*Antim tartaricum* 30, *Aspidosperma Q*, *Carbo vegetabilis* 30	–
14.	24.7.91	M/247; 55/F	Squamous cell carcinoma of tongue	Hemiglossectomy (Right)	Chronic ulcer right lateral part of middle 1/3 of tongue. One cervical lymph node involved. Pain referred	*Phosphorus* 30, 200, *Mercurius iodatus ruber* 30, *Cistus Canadensis* 30, *Calcarea*	*IscadorMcHG, PcHGOxalis Compound*

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
					to right ear. Increased thirst for ice cold water. Desire eggs, sweet, sour. Chronic smoker. Clairvoyance. <uncleanliness, cares, worries. Full of vanity. Dreams - God, dead parents.	*oxalica* 30, *Aurum muriaticum* 30	
15.	30.7.91	D/307;69/F	Cystadenocarcinoma of right ovary	Total abdominal hysterectomy with bilateral salpingo-oophorectomy and partial omentectomy. One course on 23.7.91:Inj. Endoxan (1200 mg) with Inj.Cisplatin (120 mg)	Glaucoma. Tremors < emotions. Coldness of soles. Desires - fish, spicy food. Thirstless. Startles in sleep due to dreams; offended easily. Desire - sympathy. Loathing for life. Fear - happen, something will; alone, of being; darkness, of. Starts easily.	*Phosphorus*30, 200, *Xanthoxylum Americanum* 30, *Mezereum* 30	–
16.	13.8.91	M / 1 3 8 ; 69/M	Multiple myeloma with chronic renal insufficiency due to nephritic syndrome with hypertension	–	Oedema of both feet with heaviness, < as day progresses. Breathlessness < slightest exertion.	*Urea pura* 30, *Apocynum canabinum* 30, *Eel serum,*	–

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
					Swelling of upper limbs. Walking difficult due to unsteady gait - has to walk with support. Itching - all over body. Inability to lift left leg - drags it. Desire Salt, cheese. Thirst - for cold water. Appetite decreased. Hot patient. Anxiety - about health. Irritable - easily excited -anger with quick repentance; reserved; impatient; <uncleanliness.	*Lycopodium clavatum* 200	
17.	29.8.91	K/298; 36/M	CA anterior mediastinum with pleural effusion	Chemotherapy	Pain mid-sternal region. Pleural effusion. Pain in spinal region. Weight loss. Dyspnoea.	*Arsenicum album* 30, *Kali carbonicum* 30, 200, *Mercurius solubilis* 30, *Cuprum metallicum* 30	–
18.	13.9.91	K/909; 70/F	CA right breast with hepatic metastasis	Mastectomy	Vomiting. Constipation. Waterbrash.	*Chelidonium majus* 30	–

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
					Hepatomegaly. Bone pains.		
19.	16.9.91	K/169; 61/F	Bilateral Ductal CA breast with bilateral adenoma with bilateral pleural effusion	Chemotherapy	Dyspnoea. Lumbago. Fever with chills. Nausea. Headache. Desire cold drinks.	*Arsenicum album* 30, *Veratrum album* 30, *Apocynum cannabinum* 30, *Aceticum acidum* 30	–
20.	2.10.91	B/210; 65/F	CA rectosigmoid junction (Modified Duke's Class Type 2)	Sigmoid colonectomy	Pain in left iliac fossa. Flatulence; constipation. Back pain< sitting or lying down. Feels hungry but cannot eat. Thirst increased. Desire-fried and spicy food. Aversion: beer. Chilly patient. Uncleanliness. Cares-worries; full of; anxiety future about. Offended easily.	*Opium* 30, *Calcarea florica* 30, *Pyrogen* 30, *Calcarea oxalica* 30, *Nitricum acidum* 30	–
21.	10.10.91	M/594; 63/F	Adenocarcinoma of stomach (inoperable) with hepatic metastasis	-	Vomiting < immediately after eating of solids. Pain in abdomen < after stool. Ineffectual urge for stool. Sensation as	*Kreosotum* 30, *Cadmium sulphuratum* 30	–

S. No.	Date of first consultation	Regn.No. Age/ Sex	Diagnosis	Radiotherapy/ Chemotherapy/ Surgery	Symptoms of the Case on Initial Presentation	Constitutional/ Acute Remedies prescribed	Iscador& Anthropos
					if food eaten is stuck in the stomach. Sharp pain in left hypochondrium, < after eating, vomiting, taking tea. Weakness < least exertion. Desire to lie down. Chilly patient. Fear - of high places.		
22.	5.11.91	D / 7 0 7 ; 27/M	CA testes: Seminoma	Chemotherapy from 10.5.90 to 20.6.90; 3 sittings	Vertigo; motion sickness. Desire to take a deep breath. Hurry eating, while. Urge for stool < after eating. Heartburn. Aversion to wearing tight clothes. Perspiration - head and face. Fear of heights. Anxiety - about health - arising from the stomach. Fear - cancer, of; health, of. Offended easily; impatient.	*Carcinosinum* 30, 200	–

Role of Homoeopathy in Treatment of Radiation Illness

Radiation sickness is illness and symptoms resulting from excessive exposure to ionising radiation. There are two basic types of radiation —non-ionising and ionising. Non-ionising radiation occurs in the form of light, radio waves, microwaves and radar. This kind of radiation usually does not cause tissue damage. Ionising radiation, however, produces immediate chemical effects on human tissue. X-rays, gamma rays, and particle bombardment (neutron beam, electron beam, protons, mesons, and others) give off ionising radiation. This type of radiation can be used for medical testing and treatment, industrial and manufacturing purposes, weapons, and weapons development, and more.

Radiation sickness results when humans (or other animals) are exposed to very large doses of ionising radiation. Radiation exposure can occur as a single large exposure (acute), or a series of small exposures spread over time (chronic). Exposure may be accidental or intentional (as in radiation therapy). Radiation sickness is generally associated with acute exposure and has a characteristic set of symptoms that appear in an orderly fashion. Chronic exposure is usually associated with delayed medical problems such as cancer and premature aging, which may happen over a long period of time. The risk of cancer depends on the dose and begins to build up, even with very low doses. There is no ‘minimum threshold’. Exposure from X-rays or gamma rays is measured in units of roentgens. For example: total body exposure of 100 roentgens/rad or 1 Gray unit (Gy) causes radiation sickness; total body exposure of 400 roentgens/rad (or 4 Gy) causes radiation sickness and death in half of the individuals who are exposed. Without medical treatment, nearly

everyone who receives more than this amount of radiation will die within 30 days. 100,000 roentgens/rad (1,000 Gy) causes almost immediate unconsciousness and death within an hour. Bone marrow and the gastrointestinal tract are especially sensitive to radiation injury. Children and babies still in the womb are more likely to be severely injured by radiation. Since it is difficult to determine the amount of radiation exposure from nuclear accidents, the best signs of the severity of the exposure are the length of time between the exposure and the onset of symptoms, the severity of symptoms, and severity of changes in white blood cells. If a person vomits less than an hour after being exposed, that usually means the radiation dose received is very high and death may be expected.

Causes of Radiation Sickness

1. Accidental exposure to high doses of radiation, such as radiation from a nuclear power plant accident.
2. Exposure to excessive radiation for medical treatments.

Symptoms of Radiation Sickness

Common symptoms seen in my practice are:

1. Bleeding from the nose, mouth, gums, and rectum
2. Bloody stool
3. Bruising
4. Confusion
5. Dehydration
6. Diarrhoea
7. Fainting
8. Fatigue
9. Fever
10. Hair loss
11. Inflammation of exposed areas (redness, tenderness, swelling, bleeding)
12. Mouth ulcers
13. Nausea and vomiting
14. Open sores on the skin
15. Skin burns (redness, blistering)
16. Sloughing of skin

17. Ulcers (sores) in the oesophagus (food pipe), stomach or intestines
18. Vomiting blood
19. Weakness.

The severity of signs and symptoms of radiation sickness depends on how much radiation patient has absorbed. How much one absorbs depends on the strength of the radiated energy and the distance between patient and the source of radiation. Signs and symptoms also are affected by the type of exposure such as total or partial body and whether contamination is internal or external and how sensitive to radiation the affected tissue is. For instance, the gastrointestinal system and bone marrow are highly sensitive to radiation.

Absorbed Dose and Duration of Exposure

The absorbed dose of radiation is measured in a unit called a gray (Gy). Diagnostic tests that use radiation, such as an X-ray, result in a small dose of radiation, typically well below 0.1 Gy focused on a few organs or small amount of tissue. Signs and symptoms of radiation sickness usually appear when the entire body receives an absorbed dose of at least 1 Gy. Doses greater than 10 Gy to the whole body are generally not treatable and usually lead to death within two days to two weeks, depending on the dose and duration of the exposure. After the first round of signs and symptoms, a person with radiation sickness may have a brief period with no apparent illness, followed by the onset of new, more-serious symptoms. In general, the greater the radiation exposure, the more rapid and more severe the symptoms will be.

[Based on ‘Radiation exposure and contamination’. *Merck Manual Professional Edition*.]

Table 7.1: Signs and symptoms of radiation sickness

Signs and Symptoms	Mild Exposure (1–2 Gy)	Moderate Exposure (2–6 Gy)	Severe Exposure (6–9 Gy)	Very Severe Exposure (10 Gy or higher)
Nausea and vomiting	Within 6 hours	Within 2 hours	Within 1 hour	Within 10 minutes
Diarrhoea	–	Within 8 hours	Within 3 hours	Within 1 hour
Headache	–	Within 24 hours	Within 4 hours	Within 2 hours
Fever	–	Within 3 hours	Within 1 hour	Within 1 hour
Dizziness and disorientation	–	–	Within 1 week	Immediate
Weakness, fatigue	Within 4 weeks	Within 1–4 weeks	Within 1 week	Immediate
Hair loss, bloody vomit and stools, infections, poor wound healing, low blood pressure	–	Within 1–4 weeks	Within 1 week	Immediate

Homoeopathic Remedies for Radiation Injury

The indications of some remedies used in my practice are:

Caesium metallicum

This is a remedy of significant importance for radioactive contamination, because of its destructive nature on the haemopoetic system. All the symptoms of this remedy have destructive nature:

- Advanced stages of cancer due to radiation.
- Dementia from radiation.
- Burning pains all over the body especially skin and extremities.

Uranium metallicum

In this remedy we see deep action on the coagulatory mechanism of the blood. Thereby producing deficiency of fibrinogen, prothrombin and Factor VIII. There is aplastic and pernicious anaemia. I also use the above remedy for the following conditions in my practice:

- Autoimmune hepatitis
- Chronic hepatitis
- Cirrhosis of liver accompanied by ascites
- Diabetes insipidus
- Glomerulonephritis
- Leucopenia
- Neutrophil granulocytosis
- Polycythemia vera
- Thrombopenia.

Plutonium Nitricum

In this remedy, bone marrow is affected there by producing severe bone marrow depression. In my practice, this is very useful for:

- AIDS
- Aplastic anemia
- Necrosis of bone
- Chronic bleeding from mouth, gums and uterus
- Liver function test deterioration
- Pancytopenia.

Cobaltum nitricum

This is one of the important anti-syphilitic remedy again having strong action on haemopoetic system. Important symptoms in my practice are:

- Active chronic hepatitis
- Aplastic and pernicious anaemia
- Basal cell carcinoma
- Formation of sarcoma on the bones
- Lymphopenia
- Pancreatitis
- Polycythemia vera
- Polyneuropathy of feet.

Radium bromatum

This is an age-old remedy in Homoeopathy for radiation sickness Important symptoms in my practice are:

- Aplastic and macrocytic anaemia
- Bone marrow depression
- Chronic nephritis
- Eosinophilia
- Menometrorrhagia
- Nephritis
- Non healing malignant ulcers
- Recurrent pneumonias
- Rheumatism.
- Thrombopenia.

X-ray

This is an important remedy for quick coagulation of blood and long term complications of radiation treatment especially in small children and old people. Common symptoms confirmed in my practice are:

- Aplastic, hypochromic, haemolytic, and pernicious anaemia especially due to chemotherapy.

- Cephal-haematoma
- Chronic thrombopenia
- Thromboembolic phenomenon
- Menorrhagia
- Hemangiomas
- Hair loss–alopecia totalis or areata and also of pubic hair
- Haemophilia
- Bone marrow depression after radiation
- Polycythemia vera
- Tuberculosis with cancer.

Cisplatinum

Bone marrow is chiefly affected due to chronic radiation. In my practice, I use this medicine for following conditions:

- Agranulocytosis
- Alopecia totalis and areata
- Aplastic and hemolytic anaemia
- Blurred vision and altered colour perception
- Elevations of liver enzymes, especially SGOT, and bilirubin
- Gastrointestinal disturbances like nausea and vomiting
- Hypercholesterinemia after chemotherapy
- Hyperuricemia
- Inappropriate antidiuretic hormone syndrome
- Leucopenia and lymphopenia
- Leukaemia as a consequence of chemotherapy and/or radiotherapy.
- Myelosuppression, like leucopenia, thrombocytopenia, acute leukaemia
- Nephritis and tubular kidney necrosis
- Nephrotoxicity manifested by elevations in BUN and creatinine, serum uric acid, and/or a decrease in creatinine clearance.
- Optic neuritis, papilledema
- Ototoxicity manifested by tinnitus and/or hearing loss in the high frequency range (4,000–8,000 Hz). Decreased ability to hear normal conversational tones.
- Peripheral neuropathies
- Serum electrolyte disturbances - hypomagnesemia, hypocalcemia,

hyponatremia, hypokalemia
- Thrombotic microangiopathies.

Chloropromazinum

Affects the haemopoetic system and damages the liver. In my practice I use this medicine for following conditions:

- Agitation
- Agranulocytosis
- Arterial thromboembolism
- Chronic hepatitis
- Constipation
- Diabetes mellitus
- Eosinophilia
- Excessive dry mouth
- Hypothrombinemia
- Liver cirrhosis
- Multiple sclerosis
- Pituitary adenoma
- Prolonged use of chlorpromazine
- Spinal osteoporosis
- Stuffy nose
- Thrombopenia.

Sulfonamidum

This remedy I have been using in my practice for many years now. Since 1960, this drug has been used by my Allopathic friends to treat various conditions like diabetes, colitis ulcerosa and urinary and respiratory system infections. In my practice I use this medicine for following conditions:

- Agranulocytosis
- Eosinophilia
- Haemopoetic disorders
- Hemolytic anaemia
- Hypercholesterinemia
- Leucopenia

- Leukaemia and malignant lymphoma
- Liver necrosis
- Lupus erythematodes
- Memory or concentration disorders
- Mental dullness Pancytopenia
- Nephritis
- Pancreatitis
- Plasmocytosis
- Porphyria
- Psychoses
- Skin rashes
- Stevens–Johnson syndrome
- Thrombopenia
- Toxic epidermal necrolysis (Lyell syndrome)
- Urinary tract disorders.

Streptomycinum

Streptomycin is used in an antibiotic against *Mycobacterium tuberculosis*, brucellosis, streptococci and staphylococci. In my practice, I use this medicine for following conditions:

- Agranulocytosis
- Aplastic and haemolytic anaemia
- Black, tarry stools
- Eosinophilia
- Granulocytopenia
- Hard tumours
- Hearing damage, deafness
- Increased uric acid
- Iron deficiency anaemia
- Leucopenia
- Leukaemia
- Lymphadenopathy
- Mycoses
- Numbness, prickling, ‘pins and needles’
- Thrombopenia

- Urticaria
- White spots on the lips or in the mouth.

Aureomycin

Aureomycin contains the active ingredient of chlortetracycline. It has an antibacterial and mucolytic effect and is used for skin infections, decubitus, wound treatment, chronic bronchitis and mucoviscidosis (Cystic Fibrosis), as well as in chemotherapy. In my practice, I use this medicine for following conditions:

- Acute haemorrhagic conjunctivitis
- Aplastic anaemia
- Atrioventricular block
- Brittle bones
- Cachexia
- Diarrhoea
- Eosinophilia
- Herpes zoster
- Hypersensitivity
- In growing nail
- Leucopenia
- Parkinson’s disease
- Pharyngitis
- Thrombopenia
- Vulvovaginitis.

Azathioprinum

Azathioprine inhibits the cellular metabolism and serves as an immune inhibitor after organ transplantation; it is used for autoimmune disease and rheumatism. In my practice, I use this medicine for following conditions:

- Fatty stools
- Granulocytopenia
- Increased or painful urination; muscle or joint pain or aches
- Leukopenia and Lymphopenia
- Liver cirrhosis

- Megaloblastic anaemia
- Mild nausea or vomiting
- Pancytopenia
- Severe allergic reactions (rash; itching; hives; difficulty breathing; tightness in the chest; swelling of the mouth, face, lips, or tongue).

Carbamazepinum

Carbamazepinum inhibits the synaptic transmission of stimuli in the spinal terminal nucleus. It is used for epilepsy, multiple sclerosis, trigeminal neuralgia and diabetic neuropathy. When radiation is given to a person whose immunity is very weak then all the complications given below will be invited. In my practice I use this medicine for following conditions:

- Agranulocytosis
- Aplastic, haemolytic, megaloblastic anaemia with spleen enlargement
- Black, tarry stools
- Blood in the urine or stools
- Blurred vision or double vision
- Confusion, agitation, or hostility (especially in the elderly)
- Diarrhoea (severe)
- Difficulty with speaking or slurred speech
- Eosinophilia
- Headache (continuing)
- Increase in seizures
- Irregular, pounding, or unusually slow heartbeat
- Leucopenia
- Leukaemia
- Loss of balance control
- Malignant lymphoma and meningioma in newborns
- Mental depression with restlessness and nervousness or other mood or mental changes
- Nausea and vomiting (severe)
- Nosebleeds or other unusual bleeding or bruising
- Numbness, tingling, pain, or weakness in the hands and feet
- Ringing, buzzing, or other unexplained sounds in the ears
- Swelling of the face, hands, feet, or lower legs

- Swollen or painful glands
- Uncontrolled movements, especially of the face, neck and back.

Non-Pharmacological Management of Cancer

In section four of the *Organon of Medicine*, Hahnemann has said, “He (the physician) is at the same time a preserver of health when he knows the causes that disturb health, that produces and maintain disease and when he knows how to remove them from healthy persons”. This statement reflects the importance of case management in the Homoeopathic treatment of chronic illnesses. In cancer cases specially, this principle should be ardently adhered to because of the various causative factors evident in the aetiology of this disease.

For the intelligent monitoring of the cancer case, the physician must know the essential generals in respect to the patient’s environment and lifestyle. Understanding of the personality is also necessary - the love and hate, the emotional state, grief, fear, jealousy, and ambition, etc. The patient’s mental and emotional expressions are a great asset to understand the subjective person and to clarify the relationship between the patient and his environment. This leads not only to the similimum, but also assures the fastest recovery possible under the particular circumstances surrounding the case. Proper case management is also a learning experience for the patient. Patient should be wisely counselled regarding diet, lifestyle, habits, and

attitudes that may interfere with the treatment plan.

The physician who fails to correct and simplify the diet in harmony with commonsense, is unintentionally leaving the serious obstacles to recovery unresolved in the case. This is especially true in the present times, when so many food items are contaminated with known carcinogenic substances, such as pesticides and preservatives. Poor eating habits during the Homoeopathic therapy can delay the recovery, and interfere with the borderline cases making them incurable. All the physical elements of the patient's environment should be monitored continuously throughout the therapy. The food, drinks, drugs, and even the air which the patient breathes should be conducive to the healing process. Stress factors in the daily routine should be eliminated as best as possible. Repose of mind and body should be encouraged with adequate rest and sleep, along with appropriate exercise, and exposure to sunshine, and fresh air.

The physician should never let the opportunity to educate the patient slip by. If he does, he is neglecting a valuable part of his duty to the sick. Education regarding the causes of patient's sickness, how Homoeopathic therapy will benefit him and how to prevent the disease from recurring is necessary and profitable to all concerned. Kent wrote the following in the July 1896 issue of the Hahnemannian Advocate–"Physicians show wisdom in teaching their patients, as well as the attendants of the sick, to study general symptoms; to note the time of the day or the night when the condition is better or worse, together with acts or influences, which are the apparent causes of these or other phenomena. In time, patients so instructed become observant. They find in themselves shades of feeling, times of improvement, particular acts or conditions that make them sick". This approach to the case will make the patient more cooperative and helpful, allowing the doctor-patient relationship to become one of respect, confidence and trust. The patient then becomes a willing partner in the therapy program, instead of a helpless observer of his misfortune.

The most difficult cancer cases are those in which no symptoms other than the ones that are common to the pathological state of the malignancy exist; i.e. no individualising signs or symptoms are there to prescribe upon. They are full of suffering; they are emaciated, tired, and malnourished, complain of nausea, headaches, palpitations, etc. These symptoms may be due to previous

Allopathic therapy, such as chemotherapy or radiation treatment, or from the progression of the disease. In most cases, a combination of these two factors is present. This is where proper case management and careful prescribing are needed. The patients must be made to understand that such enfeebled conditions are usually the result of suppression, first of one set of symptoms, and then another, and that this state can be disentangled only with the greatest care. They should be told that the improvement of their cases may require a year to eighteen months, and that great patience will be needed before one can hope for a definite alleviation of their problem. If the cancer patients are promised that much can be accomplished in a short time, they may become discouraged at the slow improvement and feel that nothing has been done, or that nothing can be done. This may cause them to give up on the therapy and leave the physician's care, despite the latter's concern, attention, and help.

The physician must also be patient in these cases and should not be in a great hurry to repeat an indicated therapy because of anxiety that the treatment is acting too slowly. These patients have a low and weak vital force and its stimulation should be done within the scope of its capability to react. A patient of this class must be studied and regulated in all his habits and relations; his family life, diet, exercise, and sexual relations must receive careful attention from the physician. If after a year, the patient has improved, even though it is a small gain, a better prognosis is evident. The person will look better and feel stronger, and his stimulated vital force will allow better assimilation from the diet, with an improvement in general health.

Dr Grimmer gave his views as to how the similar Homoeopathic remedy works in these cases, "Our remedies, especially in potency, are catalysts that change body forces and body states, enabling normal function to be restored when broken, and perpetuating in an orderly way all the necessary reactions in the human organism to maintain life and health. Absorption and nutrition are vital; the chemistry has been expended in digestion and elimination. These facts are mentioned in order that we may know how and why the Homoeopathic remedy acts so powerfully and positively as a curative agent against the changes found in the body cells in the condition called cancer".

General Management

‘Patient care’ involves not only the medicines but also various other factors if we consider the holistic approach towards health. These factors are: diet, psychological care, role of surgery, infusions and transfusions, chemotherapy and radiotherapy, immunotherapy and anthroposophical.

Diet

In the fight against cancer, diet plays a very important role. Homeostasis on the various levels of man’s existence is the determining factor in disease resistance and susceptibility. This is evident in the fields of nutrition and metabolism, and in their relationship to cancer. In the Homoeopathic analysis of any cancer case, the question of diet should be thoroughly explored. A patient’s eating habits can represent an obstacle to the cure, or a hindrance to recovery. Poor diet and environmental carcinogens may be aetiological components in any cancer patient, and they must be dealt with by the physician. Normal balances in body chemistry must be maintained to insure optimal resistance to internal and external stresses. These balances are provided by the chemical constituents of the air breathed and the food eaten. If the physical bodies are poorly nourished, the susceptibility to chronic diseases is increased in proportion to the problem. It is evident from many studies that diet does play an important role in carcinogenesis and neoplasm formation. The restriction of the amount of food eaten has been found to have an inhibitory effect on the growth of almost all tumours in rats. This may explain why fasting or strict diets are helpful in the early phases of some cases of cancer. High fat diets have been indicated as a catalyst in the formation of spontaneous breast carcinomas, skin tumours, and some hepatomas. A low protein, low fat diet with ascorbic acid-bioflavonoid supplements has been shown to inhibit tumour metastasis. Carcinogenesis in the gastrointestinal tract has been related to obesity, generalised malnutrition, alcohol intake, sugar intake, deficiencies in vitamin A and minerals, seasoning, processed foods, and contaminants such as flavorings and preservatives. Homoeopathic treatment and a dietary program are synergistic in their effects on the cancer patient. Dr Grimmer summarise his view on this subject, “Outside of Homoeopathy, the only real advance and the only helpful

measure that has proved useful in the cancer fight is that of diet. Dietary measures are as important as the selection of the indicated remedy, for unless the correct dietary rules are followed, your Homoeopathic remedy will fail to affect a permanent cure in the majority of cases. On the other hand, correct diet alone is not sufficient to eradicate the inherited soil that engenders and sustains cancer. For anything like uniform success, one must combine the selection of the Homoeopathic remedy with a diet of fruits, vegetables, cereals, and nuts. Later on, when improvement has reached a high point, dairy products in moderation may be allowed".

The dietary advice to a patient suffering from cancer would be as follows:

1. **Vegetables:** All vegetables are good, preferably raw, or as lightly cooked as possible. To avoid loss of water soluble vitamins, wash the vegetables before cutting them into pieces, steam them, and do not overcook.
2. **Fruits:** All fresh fruits are good. Avoid canned fruits because they contain large quantities of sugar.
3. **Animal foods:** Avoid all red meat. Eat only fish and chicken with the skin removed.
4. **Dairy products:** They contain casein which depends upon the pancreatic enzyme for its assimilation. This enzyme is also essential for fighting the cancerous process. Yogurt, cheese, and soft or hard-boiled eggs may be used. A small amount of butter and milk is permitted.
5. **Peas, beans, lentils, seeds, nuts, legumes:** They are good source of protein and should be used. Fresh vegetable oils should be used for cooking. Spices and natural flavourings can be used. Seed sprouts should be taken liberally.
6. **Cereals:** Use whole grains. Millet is especially good as it is rich in nitrilosides. Wheat grass is also very good.
7. **Sugar:** The intake of white crystalline sugar should be extremely limited. Honey or date sugar may be used instead.
8. **Minerals:**
    a. **Selenium:** The best sources are fish and liver. Good sources are eggs, onion, garlic, wheat, and wheat products provided the wheat is organically grown. The plants cannot pick up selenium when artificial fertilization is practiced hence such fruits and vegetables are not rich in selenium. Dr Gertard Schrauzer of the University of

California said, “Selenium is one of the most efficient agents in stimulating the natural defence system against cancer”. Dr Pietro Gullino of the National Cancer Institute found that 200 cancer patients who were tested for the presence of selenium showed selenium deficiency. In Europe, selenium is given in colloidal form by injection to inoperable cancer patients. It is reported that this reduces the pain, discharge, and ulceration.

b. **Magnesium:** Salt prepared from sea water, beans, corn, carrots, mushroom, pepper and tomatoes are good sources of magnesium. According to the research studies of Professor Delbert, the incidence of cancer is much less in animals and human in areas where the soil, water, and plants are rich in magnesium.
c. **Germanium:** Sprouts especially alfalfa sprouts, corn and Korean ginseng are rich in germanium. The district of Daun in West Germany has almost a zero incidence of cancer. Cancer patients who have gone there and lived for six months or longer have improved. This is attributed to the high content of germanium in the waters of Daun.

9. **Role of vitamins:**
   a. **Vitamin A:** Fish liver oils, vanaspati fortified with vitamin A, carrots, green leafy vegetables. Dr Maugh from the National Cancer Institute states, “Vitamin A alerts the body’s own built-in defences to help reverse the cell damage caused by the carcinogen and therefore prevent the cell’s eventual surrender to cancer. Furthermore, vitamin A helps the body’s defence system destroy cancerous cells”.
   b. **Vitamin B15 (Pangamic acid):** Sources are rice-polishings, Brewer’s yeast. Uses: it opens up the vasculature, thus bringing more blood to the tissues. This increases the oxygen supply to the tissues, and helps them to fight illness.
   c. **Vitamin B17 (Amygdalin):** Sources- The highest concentration of vitamin B17 is found in bitter almonds, and in the kernels or seeds of apple, apricot, cherry, peach, pear, plum, and prune. It is also present in beans, nuts, berries, sesame seeds, barley, brown rice, millet, and rye. Researchers have found that people living in the valley called Hunzaland in the Himalayas are very healthy and look almost half their age. Their secret lies in the fact that they eat apricots as well as apricot seeds and drink pure water loaded with calcium carbonate

from a holy spring. We find that, apricots provide enzymes; apricot kernels have B17, the longevity factor of the cells; and calcium carbonate is needed to make the enzymes in the apricot active in order to assimilate vitamin B17. The homemade formula for the above is: 2 pieces of dried apricots, 4 apricot kernels, *Calcarea carbonica* 6x. Vitamin B17 is reported to improve the mental and physical health of cancer patients.

Diet and nutrition have been elaborated further in this chapter under, 'Nutritional Management'.

Psychological Care

The word cancer strikes terror in the heart of both—the patient and his relatives, and the 'cancer phobia' proves to be a greater psychological stressor than the disease itself. Therefore, very often the physician and the relatives do not wish to let the patient know of the disease that he is suffering from. But patients who are aware of the disease, its prognosis, and the choices available by way of therapeutic management respond better to treatment. Those who are left in the dark remain insecure and thus lack a positive attitude, which hinders their management. This does not mean that the physician must indiscriminately tell all the patients about the diagnosis of cancer. He has to use his knowledge of human nature and decide accordingly. The patient also has a right to choose the mode of treatment. It is the duty of the physician to explain the various modes available with their effects and their side effects to the patient and his relatives and guide them in making a choice. This decision-making also becomes important for a patient who is in the terminal stages when the introduction of supportive measures would only prolong the agony. The Hospice movement seeks to help the terminally ill patients by providing them with the opportunity to discuss their feelings and fears about death. Patients are able to cope better in the face of death through prayers and spiritual discourses.

Dr Hahnemann referred to Homoeopsychotherapy as the process by which a patient's self-awareness of their illness could be enhanced by the physician's mirroring back their understanding of the essence of the relationship between the patient's physical, emotional and mental symptomology, after a complete case-taking, in a coherent, story-like format. In doing so, the increased self-

awareness and self-understanding in the patient acted as an effective stimulus to the vital force, thereby promoting the healing process. Not only does the story-telling by the physician about the true homoeopathic simillimum to the patient enhance healing, it also supports a sense of being understood, compassionately cared for, and trust in the physician, which all promote the therapeutic process. More can be learned about Homoeopsychotherapy in Dr Hahnemann's *Chronic Diseases*.

In patients who undergo surgery, chemotherapy or radiotherapy, the disability and disfiguring that occurs subsequently may become stressful. Patients can cope better if they are prepared beforehand about these occurrences. The feelings of dependence, of being a burden, of not being able to function—all have to be tackled sensitively by the physician and the patient's relatives. Lastly, the physician must tackle his own feelings while dealing with such patients. He should seek to palliate to the best of his abilities when cure is not possible. An attitude of hopelessness and despair in the physician would have undesirable consequences in his management of the patient.

Role of Surgery

Surgery is advisable under the following circumstances:

1. The tumour mass presses upon vital structures to grossly impair the body functions. For example, space-occupying lesion in the brain, tumour pressing upon ureter leading to obstructive uropathy, tumour in pharynx or larynx which causes dysphagia and threatens to block the respiratory passages.
2. Gastrostomy is done to maintain nutrition when the gastrointestinal tract functions well.
3. Central venous access is done to maintain parenteral nutrition when the gastro-intestinal function is inadequate. It is usually done through the subclavian or external jugular vein.
    a. Tracheostomy is done to maintain the patency of the respiratory passage when the tumour blocks the upper respiratory passage.
    b. Ascitic and pleural tapping are done to instantly relieve the distress caused by accumulation of large quantities of fluid.

Whenever surgery is used as a therapeutic mode for a cancer patient, we must remember that it only takes care of the expression of the disease and never of

the disease itself. Hence Homoeopathic treatment must also be given simultaneously.

Infusions and Transfusions

Intravenous fluids to maintain the fluid and electrolyte balance; packed cell transfusions to treat the anaemia usually when the haemoglobin is below 6 gm%; platelet transfusion to treat the chronic thrombocytopenia following chemotherapy may be used as and when required.

Chemotherapy and Radiotherapy

Both seek to undermine the immune mechanism and should therefore not be advocated. The physician should be well-versed with their side-effects:

Table 8.1: Side-effects of chemotherapy and radiotherapy

Side-effects of Chemotherapy	*Side-effects of Radiotherapy*
• Hair loss • Nausea and vomiting • Infections (bacterial and fungal) of oral cavity arrhythmia, pericarditis, and rarely cardiac ischaemia, and infarction • Chemotherapy-induced pneumonitis • Gonadal dysfunction • Secondary malignancy - usually in those treated for Hodgkin's disease, paediatric cancers, and breast cancers. The chemotherapy given may lead to acute non-lymphocytic leukaemia.	• Hair loss • Buccal mucositis, • xerostomia, and rarely osteoradionecrosis when radiation is given to head and neck • Pericarditis and rarely cardiac ischaemia and infarction • Radiation pneumonitis • Gonadal dysfunction • Radiation proctitis • Radiation-induced skin burns • Secondary malignancy - usually bone cancer.

Immunotherapy

This is still in the early stages of research. Interferon, Interleukin-2, have been used for the treatment of cancer patients.

Anthroposophical Treatment

Starting from philosophical and metaphysical ideas, Rudolf Steiner noted that the mistletoe (*Viscum album*) ought to be a real specific remedy in cancer.

Composition used is a fermented aqueous extract of *Viscum album* from different host trees processed by a special method. It is used in malignant diseases and precancerous states.

Mode of action: A number of preclinical studies have indicated that *Viscum album* stimulates an immune response at cellular level. Other researches suggest selective damage to tumour cells. The the specific action of *viscum album* to activate defence mechanism and consequently tumour inhibition is evident from the following effects commonly seen in cancer patients given *Viscum album*:

1. Improvement in general condition
2. Improved appetite and weight gain
3. Better sleep
4. Relief of tiredness and depression
5. Improved urinary and bowel function
6. Slowing down and cessation of tumour growth
7. Occasional regression of tumours
8. Reduced incidence of metastasis.

Nutrition

Good nutrition gives the energy and the building blocks to the body to function properly and keep in good repair. A cancer patient needs even more nutrients than usual. The extra nutrients will give the body more energy, repair damaged tissues, help boost the immune system, and create a feeling of general well being. Every cancer patient should build a very strong foundation featuring a health-promoting diet and lifestyle. Whether one takes Homoeopathic treatment or a conventional approach to treatment, an integrative approach or no treatment at all, making appropriate diet and lifestyle changes is paramount. Diet and food management is critical component of any cancer treatment plan. A healthy diet needs to become the way of life. The anticancer nutrition plan focuses on making choices that will stimulate your body's innate ability to fight cancer.

More than 2,000 years ago, Hippocrates advised, "Let your food be your medicine and let your medicine be your food". We need to reclaim this wisdom. Nutrition is powerful in its own right, and on the cancer battle field it has a role alongside chemotherapy drugs, the surgeon's knife, and radiation therapy. In fact, because poor food choices can play a role in the development of many cancers, a healthy diet should be viewed as a critical part of the first line of defence. In most cases, however, diet alone will not cure cancer. Foods that heal contain so much more than just calories, carbohydrates, proteins, and fats. They also contain vitamins, minerals, and other essential nutrients that are critical for good health. Many of these essential nutrients also play an important role in bolstering the body's ability to kill cancer. Here are just a few critical cancer-fighting vitamins, minerals, and other nutrients and some of the tasty foods they are found in:

1. **Vitamin A and carotenes:** Carrots, peppers, apricots, spinach, and mangoes
2. **Vitamin C:** Peppers, berries, broccoli, guavas, cauliflower, strawberries, and papaya
3. **Vitamin D3:** Cold-water, fatty fish, cheese, egg yolks, liver
4. **Vitamin E:** Whole grains, seeds, and nuts
5. **Folic acid:** Beans, asparagus, lentils, walnuts, and spinach
6. **Calcium:** Kelp, cheese, almonds, spirulina, and watercress

7. **Magnesium:** Wheat bran, brown rice, cashews, peanuts, tofu, and figs
8. **Potassium:** Bananas, oranges, lima beans, and avocados
9. **Selenium:** Brazil nuts, whole wheat bread, and orange juice
10. **Zinc:** Fresh oysters, pumpkin seeds, ginger root, and pecans
11. **Flavonoids:** Coloured fruits such as apples, cherries, grapes, blueberries, and strawberries
12. **Essential fatty acids:** Fish, shellfish, flaxseeds, and sea vegetables

Most whole grains, fruits, vegetables, herbs, and spices contain specific active compounds called phytochemicals (phyto meaning "plant") that can make a positive contribution to health. These compounds can actually stimulate specific body functions on the cellular level.

Researchers at the MD Anderson Cancer Centre reviewed a variety of phytochemicals found in fruits, vegetables and herbs to determine how they can help treat cancer by influencing cell signalling pathways. By disrupting important cellular signals, these agents can potentially stop cancer growth, prevent angiogenesis, and even cause cancer cell death (apoptosis). They studied a long list of agents, including the following: 6-gingerol (found in ginger); Anethole (found in anise, camphor, and fennel); Beta-carotene (found in carrots); Capsaicin (found in red chillies); Catechins (found in green tea); Curcumin (found in turmeric); Diallyl sulphide, S-allyl cysteine, and allicin (found in garlic and onions); Diosgenin (found in fenugreek); Ellagic acid (found in pomegranates); Eugenol (found in cloves); Genistein (found in soybeans, red clover), Indole-3-carbinol (found in cruciferous vegetables); Limonene (found in citrus fruits); Lycopene (found in tomatoes); Phlorotannin polyphenols (found in brown algae), Resveratrol (found in red grapes, peanuts, and berries); Silymarin (found in milk thistle); Ursolic acid (found in apples, pears, and prunes).

The researchers conclude that "extensive research during the last half century has identified various molecular targets [that are influenced by these phytochemicals], that can potentially be used not only for the prevention of cancer but also for treatment". While that list is quite impressive, there are scores of other nutrients, herbs, and foods being studied for cancer prevention and treatment. Nutrients receiving a great deal of research attention include vitamin D, folic acid, selenium, coenzyme Q10, glutathione, and essential fatty acids (specifically, EPA and DHA from coldwater fish). Herbs of interest include rosemary (which contains the phytochemical carnosol),

turmeric (which contains the phytochemical curcumin), and green tea (notably, EGCG). Certain whole foods or their components also show particular promise, including olive oil, flax oil, active compounds in various mushrooms, active compounds in rice bran, and lignans found in flaxseed, whole grain cereals, and other foods. Recent research in Europe has revealed that cold-pressed, virgin organic olive oil contains a compound called oleocanthol that is a potent, anti-cancer phytonutrient.

For a more thorough understanding of the use of vitamins, bioflavonoids, and phytonytrients in integrative medical practice, please refer to *RAPID REFERENCE To The Fundamentals of Vitamin Therapy: Oral, Topical, and Intravenous Clinical Applications.* (https://www.amazon.com/dp/B01M2WZT6O/ref=dp-kindle-redirect?_encoding=UTF8&btkr=1)

A High-Value Diet

No fanaticism, no asceticism! This would produce symptoms, such as anxiety or guilty conscience, which have a negative effect on health. The ideal composition of basic compounds should consist of the following (a good ration of vegetarian diet):

1. Nutrients which are conducive to health, the majority of medicinal substances are found in vegetarian food.
2. Wholemeal products, cereals, vegetables, fruits, salad, olive oil, in short, about 70% of the daily diet should be from this range.
3. If the daily diet consists of vegetarian products from the flower, fruit, foliage or root range, there is harmony in digestion and well-being at the level of mind and body.

Today, it is general knowledge that an ovo-lacto vegetarian, high-value diet, combined with moderate consumption of fish and meat (often referred to as the '*Mediterranean*' diet), is the best basis for good health. The *'Mediterranean'* diet includes healthy amounts of cold-pressed, virgin organic olive oil. It also considers the latest facts in connection with the emergence of cancer diseases. In my practice, I advise my patients to be on ovo-lacto vegetarian high-value diet to give them the opportunity to perceive and try this form of diet.

The Gerson Therapy diet, developed by Dr Max Gerson, is a natural treatment that activates the body's extraordinary ability to heal itself through an organic, vegetarian diet, raw juices, coffee enemas and natural supplements. Dr Gerson described his approach in the book *A Cancer Therapy: Results of 50 Cases* (1958). The Gerson Therapy appears to be most effective in patients who have the 'A' blood type.

Natural, Fresh, and Seasonal

If we consider the season and the regional conditions in the choice of our food, we get an important basis from nature's wisdom for a healthy diet; this is the best guarantee for natural and fresh food. Natural food, preferably from biological agriculture rather than from industrial production is preferable.

Moderation

The rule -`something of everything, too much of nothing' is an important point to avoid being overweight. Lack of meat and sausages causes no deficiency symptoms. Particularly. hidden animal fats in meat and sausages, sweets, fried food, etc., are detrimental to health, cause one to get overweight, and increase the cholesterol level. We can particularly recommend cold-pressed olive oil, sunflower oil as well as a moderate amount of pure butter, and no margarine. In general, avoidance of all trans-fatty acids is highly recommended.

Excessive protein causes the tissues to slag and causes unfavourable metabolic environment. The daily need for protein can be covered exclusively and entirely with milk products and plant based food.

Refined sugar should be consumed less and more of whole wheat and whole corn products as well as roughage-rich vegetables and fruits be taken.

Pleasure in Eating

The meal should be enjoyed, the preparation, and presentation should be a feast for the senses. Table sessions, calmness and a good, cheerful conversation favour patient's pleasure in eating and your digestion. Healthy food is nothing without drinking fluids. Two litres a day is the ideal amount

of liquid, preferably water, mineral water, or herb tea. Drinks with a high sugar content should be avoided and alcohol little or none; coffee and tea cause a marked excretion of liquids, and should not be taken on any account. Besides, they are luxury drinks which should be used in rather carefully measured doses.

Preference of Basic Food

Acidifiers in food encourage the growth of tumour cells. Animal fats, meat, sausages, sugar and sweets, saturated fats, white flour products are typical acidifiers. Basic food neutralises these acidifiers, particularly foliage and radical vegetables, fruits, bananas, or milk. In addition, a lot of exercise and right breathing (*pranayama*) have a strong neutralising effect.

Vitamins, Trace Elements, etc.

Today, it is often recommended to take additional vitamins and trace elements. With a proper lacto vegetarian high-value diet it is normally not necessary to take additional vitamins and trace elements. As far as cancer is concerned, it is particularly recommended to take the vitamins A, C, and E as well as beta-carotene and various trace elements, above all zinc and selenium.

Changing Attitude Towards Eating

In short, a healthy diet means:

1. Well-balanced, natural, fresh, and seasonal food
2. Eating slowly but regularly.
3. Light ingredients.
4. A lovely presentation.
5. Eating with pleasure.

Common Nutritional Problems

Many cancer patients have a hard time maintaining good nutrition, since the cancer itself and the therapies that fight it can make it hard for the patient to eat enough food. Each patient’s reaction to cancer and cancer therapy is

different. How many symptoms a patient has and how severe they are depend on the type and extent of cancer, the kind of treatment, and the overall health of the patient. But even if the symptoms are mild and occur only occasionally, they can be discouraging. Understanding those symptoms that affect the patient's nutritional health may help to manage them. The following are some of the major common problems:

1. **Problems due to the effects of the disease:** Cancer can interfere with proper nutrition in several ways. For example,
   a. Tumours or cancer therapy may block the food passage way at some part of the digestive system—mouth, oesophagus, stomach, or intestines, so that the patient cannot eat or digest food.
   b. Production of substances that affect the 'appetite control' part of the brain that signals hunger and satiety.
   c. Lessen the desire to eat by changing the way food tastes. Food may seem too sweet or bitter, or have no taste at all.

   As a result, food intake may be reduced. Unfortunately, the less the patient eats, the lesser they feel like eating. The appetite cycle works in the following way: if food is not eaten enough to provide 'fuel' for the body, the body burns fat for energy and results in weight loss. During this process the body produces substances that cause further loss of appetite. On the other hand, eating small amounts of food frequently seems to give the opposite effect for many people by stimulating the appetite. Appetite also may be affected by emotions such as depression that patients feel when cancer is diagnosed. Pain or fear that eating may cause uncomfortable symptoms also can decrease the desire to eat. There are several medications that can be prescribed to lessen depression, pain, and other symptoms. Once these symptoms are under control, the appetite should improve. If the patient doesn't have much appetite, still they should be encouraged to try to eat a little more each day. Gradually, the appetite will improve and this will make the patient feel better.

2. **Problems due to the effects of treatment:** The common cancer treatment methods such as surgery, chemotherapy, and radiation therapy sometimes trigger nutritional problems. Any type of surgery places stress on the body, which may temporarily decrease the appetite. However, the effects of surgery performed on some parts of the digestive tract may make eating a more serious problem; e. g., mouth or

neck surgery may make chewing or swallowing difficult, stomach surgery may give a false full feeling after very little have been eaten, small intestine surgery may cause diarrhoea, hampering the body's ability to absorb food.

The patients should be informed before the surgery that after surgery their gastrointestinal (GI) tract may function slowly for a while; there may be satiety after only a few bites. Also, any other symptom must be reported to the doctor who may be able to prescribe medicine or give other advice to deal with the problem, like having timid, small, frequent meals, with high calorie foods for satiety after few morsels.

Drugs used in chemotherapy may decrease the desire for food. Chemotherapy treatments are effective because they kill fast-growing cancer cells. However, normal cells of the GI tract also grow quickly, so they too may be affected by the drugs. There may be mouth ulcers, sore throat, loss of or change in the sense of taste, crampy stomach or intestines, nausea, feeling of fullness, vomiting, or diarrhoea. Fortunately the problem often solves by itself. Since GI-tract cells grow rapidly, they usually repair themselves quickly as well. Symptoms tend to decrease after a few days and eventually disappear. Since these symptoms usually can be treated and controlled, the patient should discuss them with the doctor or nurse before the next course of treatment. For example, as simple as it may seem, not eating several hours before or after treatment may lessen GI discomfort.

Radiation therapy usually does not produce GI symptoms unless the area being treated includes the GI tract and surrounding organs. In that case, there may be some difficulty in eating, depending on the amount of radiation being used. For example, radiation to the mouth or neck may cause dry mouth because of decreased saliva flow, difficulty in swallowing, or a change in taste. Radiation to the stomach may cause nausea, vomiting, or feeling of fullness; and diarrhoea may result if the therapy involves the intestines. Once the tissues of the GI tract recover from radiation, most of these symptoms generally go away.

3. **Malabsorption:** For a number of reasons, nutrients may not be absorbed normally into the bloodstream from the gastrointestinal tract, e.g., cancer of the pancreas can cause a decrease in the digestive juices that regulate absorption. Abnormal connections following bowel surgery may divert food past the parts of the intestine where nutrients are usually absorbed.

The intestine may become less able to absorb nutrients if the normal food intake is reduced for a lengthy time.

4. **Loss of appetite:** Pain, nausea, vomiting, diarrhoea, constipation, or a sore or dry mouth can easily make the patient lose interest in food. Patient may also tend to eat less because of fear, anxiety, or depression about having cancer. Radiation or chemotherapy to the neck and to the mouth can distort the perception of smell and taste and the loss of taste tends to be greater if the tumour is more advanced. Some food can start to taste bitter or rancid—especially meat, eggs, fried foods, and tomatoes. Sweet foods may have less taste, while bitter foods may taste stronger. Some protein-containing foods, especially red meats, may taste different to you. Since protein is an important part of good nutrition, you'll need to find high-protein substitutes for red meat, such as fish, or chicken should be used or experimenting with new recipes that make these high-protein foods easier to eat or use other sources of protein such as eggs or cheese should be encouraged. Protein foods taste better when cold or at room temperature, so patients may want to try to eat more cheese, tuna, chicken, ham or egg salad, devilled eggs, ice cream, milkshakes, puddings, custards, and nuts. If there is no salt restriction, cold luncheon meat, and cooked cured meats such as ham, bacon, sausage, and corned beef can be had. Or marinating meats in soy sauce or in sweet fruit juices or sweet wines, and cooked with fruit over them to improve their taste. Fresh fruits add flavour to milkshakes, ice cream, puddings, custards, and medical nutritional products (complete, balanced nutrition in liquid, and powder forms), which will be described later. Seasonings, including lemon juice, mint, basil, and other herbs and spices, also will perk up the taste and smell of food. Sugar and salt can be used, if not restricted.

   Generally people are more tempted by meals that are attractively served in a pleasant atmosphere. Varying the colour of foods served on a plate and using garnishes such as lemon or lime wedges make a meal more appetising. Colourful place settings and soft background music may make mealtimes more enjoyable. In short, if there are pleasant feelings and enjoyable conversation at mealtime, the patient is much more likely to enjoy the food. Look for other ways to stimulate your appetite. Light exercise, such as walking before a meal, will help. If the patient feels hungrier in the early part of the day, diet can be planned to have the

biggest meal then. The patients should eat the foods they enjoy most. Because every patient is unique therefore, one should find a special way to improve appetite and increase intake for each patient.

5. **Feelings of fullness or nausea and vomiting:** When feeling of fullness or nausea and vomiting are the problems, such food that moves through the stomach quickly should be encouraged. High-carbohydrate foods such as toast, gelatin, and juices are good choices for this purpose. Fatty and fried foods should be avoided because they take longer to leave the stomach. To keep from filling up on liquids during meals, drink an hour before or after eating. Dry foods such as toast often relieve nausea, particularly when eaten right after getting up in the morning. Cold, clear beverages, or carbonated drinks may help too. But remember not to drink them with solid foods during a meal. Food should be eaten slowly and chewed thoroughly. The patient should rest or lie down after eating, because activity can slow digestion and may cause discomfort. If the smell of food nauseates the patient can, stay out of the kitchen while meals are being prepared or if possible, leave the house. Cold foods tend not to have much odour, so patient may want to try eating more dairy products, chicken sandwiches, cold soups, and desserts with fruit. If nausea becomes severe, medicines can be prescribed to give some relief. Nausea can sometimes be avoided or relieved by relaxation techniques. Sometimes staying in a very pleasant setting with soft music may help.
6. **Dry or sore mouth and sore throat:** Liquid or moist foods including stews will be easier to swallow with these problems. If the patient is not nauseated, melted margarine, gravy, or broth can be used as a moistener. Sauces or syrups may be helpful too. Many people dunk foods in coffee, tea, or milk or take a swallow of a beverage with a small bite of food. If the mouth or throat is sore, soft, cold foods such as ice cream, frozen fruit-juice bars, watermelon, and grapes may feel and taste good. Using a straw may make swallowing easier. If certain spices bother the patient, they should be avoided. Carbonated beverages and highly acid foods such as citrus fruit juices and tomatoes may be irritating. Other fruit drinks such as apple juice and nectars can be pleasant. If pain becomes severe, your doctor may give you medicine to numb your mouth and throat.
7. **Diarrhoea and cramps:** In case of, eating small meals frequently rather than two or three large meals each day may be helpful. To prevent

dehydration, plenty of fluids should be encouraged between, rather than with the meals. Diarrhoea also causes loss of sodium and potassium, which must be replaced. Enough sodium is obtained from the table salt added to the food. Some high-potassium foods that are easy for most people to digest are coconut water, banana, peach, potatoes, fish, and meat. Some foods tend to cause gas and cramps, for example, carbonated beverages, chewing gum, beans, members of the cabbage, and onion family, nuts, highly spiced foods, and too many sweets; skipping meals and swallowing air while talking and chewing at the same time also can cause gas. These foods and practices should be avoided if you have problems with gas. For diarrhoea, avoid greasy, fatty, or fried foods; eat only peeled, cooked fruits and vegetables, that don't have seeds (no tomatoes, for example, unless the seeds are strained out); avoid beans, corn, onions, garlic, popcorn, and nuts; some patients get diarrhoea from milk and other dairy products because cancer therapy that may interfere with the ability to digest lactose. So these may be avoided or eliminated from the diet temporarily. If diarrhoea is severe and does not let up or if stool has blood in it, it should be treated.

8. **Constipation:** Cancer symptoms don't usually include constipation, but it can be caused by some drugs used for treatment. High-fibre foods, such as raw fruits and vegetables, act as laxatives. If the patient has trouble chewing raw fruits and vegetables, try grating or cooking those, skins, and all. Drinking plenty of liquids and as much light exercise as the condition allows, also helps. Medicine can be prescribed for constipation if necessary.
9. **Depression:** Feeling depressed can make the patient lose interest in eating. Talking about these feelings with a close friend or relative or a health care professional often helps. Even though eating properly is important for the general well-being, patients should not be too hard on themselves if they can't eat. This will only decrease the appetite further or make symptoms worse. Patient should accept the fact that there will be days when they can't eat as much as they should. Patient should be encouraged to take advantage of those days when they feel like eating to catch up and taking responsibility for own eating and not letting others badger about not eating. On the other hand, if gentle encouragement from others helps, do let them know. Finally, some self-motivation by reminding themselves that food is important for health will help.

Malnutrition

Malnutrition affects the whole body, making the person steadily weaker. It can also decrease the immunity and make one more susceptible to infections. It can promote tissue and muscle breakdown and poor healing of any surgical wounds. It can also worsen any problem of malabsorption of food. The patient may have side effects of treatment, resulting in cramping, bloating, and diarrhoea.

A decreased appetite and weight loss lead to fatigue and depression. Depression and progressive weakness lead to reduced activity and an even smaller appetite. More weight loss and weakness lead to a lower resistance to disease and a decrease in immunity. Lower resistance may limit the amount of chemotherapy, radiation therapy, or surgery that can be delivered, leading to a poorer prognosis. Good nutrition can increase immunity, promote feelings of well-being and a better mood, achieve better results of treatment and increase the quality of life.

A convenient way to increase intake of calories and protein is to use complete and balanced nutritional products called ‘medical nutritionals’. One can eat or drink them to supplement other food or if taken in sufficient volume, to use as a meal replacement. Complete medical nutritionals supply the same ratio of protein, carbohydrate, fat, vitamins and minerals as a well-balanced meal. They come in liquid or powder forms. Medical nutritionals are useful when one can’t eat enough food to meet the body’s needs. Medical nutritionals that are canned do not need to be refrigerated until they are opened. These products make good between meal and bedtime snacks and can be used as meal replacements if taken in sufficient volume. Medical nutritional products are available at most drugstores. At times some patients must change their eating habits for a while. If they have difficulty swallowing or have severe digestive tract problems, their doctor or dietician may recommend a full liquid diet. These medical nutritionals are complete and balanced and can be used under the direction of a physician as the sole source of nutrition for as long as they are needed.

Simple Grandmothers’ Diet

Before the era of fast food was an era of grandmothers’ ‘never to fail’ healthy

kitchen tips we can take advantage of, the amazing power of simple foods to support essential body functions. The foundation is to eat plenty of colourful vegetables and fresh fruits. We recommend seven to ten servings of fruits and vegetables a day. Vegetable juices and protein-enriched fruit smoothies are great ways to more easily get all of those servings and the beneficial nutrients they provide. Whole grains, beans, seeds, and nuts provide fibre and important vitamins and minerals which should also be abundant in the diet. Fresh cold water fish is a great source of protein as well as beneficial omega-3 fatty acids because of the fat content, limit dairy products to one serving per day. Also drinking three litres of water is a must.

Vegetables and Fruits are of Utmost Important

The scientific evidence linking vegetable intake to cancer prevention and treatment is impressive and continues to grow. There are longterm and large epidemiological studies consistently showing that the people who eat the most vegetables have the lowest incidence of all types of cancer. Studies have shown that vegetables in the diet improve immune function and strengthen liver detoxification. Scientists are also discovering how compounds in vegetables help protect DNA from damage that would otherwise lead to cancer.

Of special interest are the cruciferous vegetables such as brussels sprouts, kale, broccoli, and cabbage. Many studies have shown these vegetables can help prevent cancer. Newer research involving components of these important vegetables, such as sulforaphane, actually show they may have the ability to destroy established cancer. Fruits are also very important to every cancer patient. Fruits contain active compounds called flavonoids. Flavonoids protect fruits from being damaged by the ultraviolet rays of the sun. Scientific research is confirming that some of those flavonoids have similar effects in us. Specifically, flavonoids exert cancer-preventive effects and also stimulate a variety of anticancer actions within our bodies. Here are just a few flavonoids from fruits to focus on:

1. Phenolic compounds (in apples)
2. Resveratrol (from red grapes)
3. Anthocyanidins (from berries)
4. Limonoids (from citrus fruits)

Increasing the consumption of organic fresh vegetables and fruits is the first and most important step toward building an anticancer foundation of health, in addition, to several other dietary aspects.

Whole Grains Foods

Whole grains are a great source of fibre; whole grains provide important vitamins, and minerals. According to a review featured in the Journal of the American Dietetic Association, "*Whole grain foods are valuable sources of nutrients that are lacking in the American diet, including dietary fibre, B-vitamins, vitamin E, selenium, zinc, copper, and magnesium*".

Unfortunately, most Indians and even Europeans are not getting enough whole grains to receive the immense health benefits these foods can provide. Dietary fibre has been shown in several clinical studies to prevent some cancers—most notably, cancers of the colon. However, the value of whole grains as an anticancer food goes beyond fibre. Whole grains have been shown to help rid the body of excess circulating hormones, stabilise blood sugar levels, maintain healthy weight, and stimulate immunity. Whole grains include foods such as whole wheat, oats, and brown rice. An emphasis on whole grains is important because they contain more nutrients and complex carbohydrates than refined grains.

Planning for Improved Nutrition

If a patient is losing a lot of weight, one can adjust fat in the diet, as fat is the most calorically dense food substance. Healthy type fat includes oils, especially olive, avocados, and unprocessed nuts. Avoid trans-fatty acids that are contained in certain margarines and hydrogenated fats. Choose lean cut of meat, chicken and fish, and reduce portion sizes to about three ounces per meal. Eat more plant-based protein and less animal-based protein. Choose more from the bean or legume group if the patient is able to tolerate these foods. Patients can be advised to have the following:

1. Six grains portions daily–one serving, for example, equals one slice whole-grain bread or ½ cup barley, pasta, or cooked cereal.
2. Three to five vegetables portions daily (one serving equals ½ cup cooked or 1cup raw vegetables [if allowed]).

3. Two to four fruit portions daily (one serving equals one small banana or medium fruit or ½ cup juice).
4. Increase fluid consumption: Have at least 8 to 10 glasses of water per day. Fluids include low-salt broth, weak tea, herbal tea, juice, soup.
5. Special diets: After surgery, the patient may need to go on a liquid diet and work his way up to through a soft diet before getting back to the regular foods. The patient may need lactose-restricted diet, a high-fibre diet, and/or a high-protein diet. Lactose-free, high-protein drinks such as Ensure, Resource, Boost, and Nutren can be included to increase daily intake of nutrients. Some chemotherapy drugs can prevent absorption or cause the depletion of certain vitamins and minerals. Oral supplements can be taken to counter the depletion of magnesium caused by cisplatin. 5-fluorouracil may cause loss of potassium, which can be replaced with medication and/or a diet rich in apricots, bananas, oranges, and potatoes. There are various methods of supplementing the nutrition in a cancer patient. The nutrients can be taken oral and enteral, intravenously, tube-feeding and parenteral feeding.

   Radiation delivered to the abdomen or pelvis can cause an irritation of the bowel known as radiation enteritis. The patient may show symptoms like nausea, vomiting when radiation is given to in the upper abdomen. Pelvic irradiation may cause irritation in the rectum, frequent bowel movements or watery diarrhoea. Patient may find difficult to absorb fat, bile salts and vitamin B12. Such patients should start on low-fat, low fibre, low-residue diet.

Macrobiotic Diet

Macrobiotics was introduced to Western society from Japan in the 1920s. *Macro* meaning ‘large’ and *bios* meaning ‘life’, this diet was originally thought of as a spiritual way of life, featuring a simple diet of brown rice, miso soup, sea vegetables and foods with no preservatives, additives and other toxins. The initial philosophy of macrobiotics combined living simply with spiritual, physical and communal discipline oriented toward respecting the planet while searching for inner peace. Considered more than a diet, it was a way of life. While many people still embrace the macrobiotic way of life, others primarily follow the dietary fundamentals. In his book, *Comprehensive Cancer Care,* mind body cancer expert James Gordon, MD,

defines the basic macrobiotic diet as follows:

1. 50% whole grains
2. 25–30 % seasonal vegetables
3. 5–10% beans, bean products, and sea vegetables
4. 5–10% soups and broths made with miso (a fermented soy product), and vegetables and beans
5. Fruits in moderation and sometimes fish
6. Organic food.

According to Dr Gordon, while the percentages may have shifted over the years, the premise of the macrobiotic diet is similar to recommendations of the American Cancer Society, "choose foods from plant sources while limiting intake of high fat foods, particularly from animal sources in its most basic form. Macrobiotics is a mostly vegetarian, whole foods diet. It is generally low in calories, composed of highly nutritious foods and devoid of detrimental foods. It is hard to argue with such a solid dietary strategy. However, caution is strongly advised in cases of advanced or aggressive and fast growing cancers".

In general, scientific data regarding macrobiotics as a cancer treatment is limited. In a paper featured in the Journal of Nutrition in 2001, researchers from Columbia University explained that "*macrobiotics is one of the most popular alternative or complementary comprehensive lifestyle approaches to cancer*" because of "*remarkable case reports of individuals who attributed recoveries from cancer… to macrobiotics.* "

It is true that women consuming a macrobiotic diet have lower circulating oestrogen levels, implying a potential reduction in breast cancer risk. This type of diet may also be helpful in delaying progression of cancers diagnosed at early stages or preventing their recurrence. And certainly, there is a wide variety of health benefits associated with such a diet. However, the Columbia researchers concluded that the "*empirical scientific basis for or against recommendations for use of macrobiotics for cancer therapy is limited*". Macrobiotics, as well as other diets promoted as cancer cures, is likely more effective for prevention than treatment, especially in cases of advanced cancers.

Nutritional Needs of Advanced Cancer Patients

The dietary concepts discussed thus far are appropriate for those who are interested in preventing cancer or for cancer patients with intact digestive systems who can control their nutritional intake. In certain situations of more advanced cancers, people may not be able to eat or digest sufficient quantities of food to get all of the nutrients they need from their diet. However, obtaining adequate calories with balanced protein, fat, carbohydrates and healing micronutrients is just as important for these individuals, if not more so. People having difficulty eating or maintaining weight should depend more on juices. The nutrients in fresh vegetables and fruits are more easily absorbed when they are juiced because the fibre is removed. What remains is water and sugars from the vegetable or fruit, along with the majority of its vitamins, minerals and other healthful nutrients. In this form, the nutrients can more readily saturate the system to produce energy and provide health benefits more rapidly. If one consumes freshly juiced fruits and vegetables regularly over a long period of time, it is important to add additional fibre to the diet to compensate for the fibre lost in the juices. Whole grains, legumes, nuts, and seeds are good sources of fibre. In addition, it is important to note that fresh vegetable and fruit juices are high in natural sugars and can elevate your blood sugar level. This triggers the release of insulin, which clears excess sugar from the blood, but can also result in hypoglycaemia, or low blood sugar. Hypoglycaemia can make the patient feel shaky, nervous, sleepy, confused or weak and it can also lead to sugar craving to bring the blood sugar level back up again, creating a vicious cycle that can ultimately lead to insulin resistance. In addition to creating unpleasant symptoms, these sorts of blood sugar fluctuations are hard on the pancreas. To avoid this, protein powder can be added to fresh juices, diluting them with water or taking longer time to drink them. Medical intervention may be necessary to ensure adequate nutrition in certain situations, such as blockage of the digestive tract; severe digestive side effects from conventional treatments; issues that keep the person from eating, such as anorexia, severe depression, or confusion; pain that makes it difficult to swallow or chew; or surgery that has removed part of the gastrointestinal tract. Additionally, some cancer patients have difficulty maintaining adequate body weight and muscle mass, known as cachexia, this is a serious muscle wasting condition associated with cancer. It has been estimated that 40% of cancer patients do not die from cancer, but from malnutrition. Many nutrients, specifically essential fatty acids, can help prevent and reverse cachexia. In all of these situations, enteral

or parenteral nutrition can be critical to the person survival and quality of life. In enteral nutrition, nutrients are delivered in a liquid form by using a tube to deliver nutrients directly into the stomach or the beginning part of the intestines (the jejunum). Liquefied food is the most basic and natural form of enteral nutrition. In parenteral nutrition, specially formulated nutrients are infused through intravenously.

Make a New Beginning

A growing body of evidence shows that nutrition can play an important role in preventing and treating cancer. While the idea of food as medicine may not sound appetising, healthy food choices are not only good for everyone's health but it is also tasty. There are so many wonderful cook books packed with healthy recipes. So the patient should start exploring the delicious world of healthy eating. Making some simple dietary changes can increase energy, improve sleep pattern, thinking becomes more clear, and stamina increases. Making conscientious nutrition choices can also help strengthen one's immune system, reduce inflammation, balance hormones, stabilise blood sugar levels and improve digestion, elimination and detoxification. Supporting these physiological systems will have enormous health benefits, not the least of which is helping people to heal their cancer. When it comes to cancer treatment, healing foods are not just the fuel that makes the body run; they are the sparks that ignite each critical cancer-fighting body system. When combined with significant lifestyle factors, this becomes the strong foundation that integrative cancer care is built upon.

Antioxidants

The prefix 'anti' means against, in opposition to or corrective in nature. In order to understand antioxidants, it helps to learn what exactly these agents oppose and correct. Within the human body, millions of processes are occurring at all times. These processes require oxygen. Unfortunately, that same life giving oxygen can create harmful side effects or oxidant substances, which cause cell damage and lead to chronic disease. Oxidants, commonly known as 'free radicals', are also introduced through external sources such as exposure to the sun or pollution. Other mediums include stress, as well as things that people put into their bodies, such as alcoholic

beverages, unhealthy foods and cigarette smoke. In much the same way as oxidation creates rust, causing a breakdown on the surface of inanimate objects; oxidation inside the body causes a breakdown of cells. Free radicals produced by this breakdown, attack healthy cells, usually DNA as well as proteins and fats. This chain of events weakens immunological functions and speeds up the aging process and is also linked to several diseases such as cataracts, various forms of cancer and heart disease. Some studies indicate possible links to arthritis and several other chronic conditions. Antioxidants or anti-oxidation agents, reduce the effect of dangerous oxidants by binding together with these harmful molecules and decreasing their destructive power. Antioxidants can also help repair damage already sustained by cells. Antioxidants are found abundant in beans, grain products, fruits and vegetables. Look for fruits with bright colour - lutein in some of the yellow pigments found in corn; orange in cantaloupe, butternut squash and mango; red from lycopene in tomatoes and watermelon, and purple and blue in berries. It is best to obtain these antioxidants from foods instead of supplements. In addition, minimise the exposure of oxidative stress such as smoking and sunburn. Lack of meat and sausages causes no deficiency symptoms. Best Sources of high antioxidants foods are:

1. Cereals like barley, millet, oats, corn
2. Dry fruits high in antioxidants apricots, prunes, dates
3. Fruits
4. Berries (cherry, blackberry, strawberry, raspberry, crowberry, blueberry, bilberry/wild blueberry, black currant), pomegranate, grape orange, plum, pineapple, kiwi fruit, grapefruit
5. Legumes like broad beans, soybeans
6. Nuts and seeds like pecans, walnuts, hazelnuts, ground nut or peanuts, sunflower seeds
7. Spices like cloves, cinnamon oregano
8. Vegetables like kale, chili pepper, red cabbage, bell peppers, parsley, artichoke, brussels sprouts, spinach, lemon, ginger, red beets

Acidifiers

Acidifiers are substances added to food as preservatives and flavour agents. They work to bring the blood levels to be more acidic. The common

acidifiers are - lactic acid, ascorbic acid, citric acid and phosphoric acid. An acid environment round the cancer cells encourages their growth. Acidifiers in food are especially sugar, sweets in any form and also animal fats and saturated fats such as pork, bacon, beef, etc. Anti-acidifier diet consists of:

1. Foliage vegetables are: Amaranth, asparagus, broccoli, brussel sprouts, cabbage, carrots, cauliflower, celery, green beans, lettuce, radish, spinach, swiss chard, turnip and beet greens, kale, collards.
2. Fruits are: Apples (with skin), bananas, grapefruit, oranges, strawberries. Milk is also anti-acidifier.

Free Radicals

Our body constantly reacts with oxygen as one breathes and produces energy from the same. As a consequence of this activity, highly reactive molecules are produced known as ‘free radicals’. A free radical is a molecule with one electron missing. These free radicals are very unstable and attack the nearest stable molecules to get electrons. This results in a chain reaction and new free radicals are formed. Normally the body can handle these free radicals, but excessive free radicals can damage cells and are not good for health. If the free radicals take electrons from important components in the body, like protein, fat or DNA, they create health problems such as cataract, heart disease, arthritis, aging and cancer. Free radicals can also contribute to premature aging. Free radicals are formed in the body due to several reasons. Some are given below:

1. Burning of oxygen by body’s cells to produce energy.
2. Environmental factors such as pollution, cigarette smoking (active and passive), alcohol, stress, herbicides, radiation and ultraviolet light.
3. During metabolism.
4. Sometimes the body’s immune system creates them to neutralise viruses and bacteria.

As free radicals have deficiency of electrons, compounds are needed which can neutralise free radicals by donating their own electrons to free radicals but they themselves do not become free radicals in the process. This stops the electron ‘stealing’ chain reaction. The antioxidants themselves do not become free radicals by donating an electron because they are stable in either form. Antioxidants convert free radicals to harmless waste products that are

eliminated from the body before any damage is done to the body. Thus the antioxidants act as scavengers, helping to prevent cell and tissue damage.

Intestinal Flora

At least 400 different species of micro-organisms inhabit the human gastro-intestinal tract. Enteropathogenic micro-organisms cause disease in the individual; symbiotic or ‘good’ micro-organisms actually benefit the individual by their presence.
Lacto acidophilus is an anaerobic gram-positive bacterium, which requires vitamin B complex vitamins and amino acids for growth and produces only lactic acid as its fermentation end product. L. acidophilus is found virtually throughout the gastrointestinal tract, even in the highly acidic stomach. Infants are born with a sterile gastro-intestinal tract, but become colonised by lactobacilli shortly after birth. Analysis of an infant’s faeces will demonstrate large quantities of lactobacilli. However, as the infant is exposed to bacteria in the environment, the gut also becomes colonised with other species of bacteria, including pathogenic gram-negative bacteria. Lactobacillus bacteria are considered ‘good bacteria’, that is, when present, lactobacilli produce beneficial metabolic by-products, inhibit the growth of pathogenic bacteria and stimulate the immune system of the human host. The following lactobacilli are normal inhabitants of the human intestinal tract: *L. Acidophilus, L. Bifidus, L. Casei, L. Fermentum, L. Salivaroes, L. Brevis, L. Leishmannii, L. Platnarum.*

Most cancer researchers believe that beneficial levels of lactobacilli can be maintained in the gut through ingestion of foods rich in lactobacilli or supplementation with nutritional products containing the bacteria, L. acidophilus. This is found in a wide variety of dairy products and can be found in the human oral cavity and in the faeces if dairy products are consumed.

Yogurt and other cultured milk products containing L. acidophilus are suggested for maintaining a healthy amount of L. acidophilus in the gut. The other rich sources of L. acidophilus are - kefir (a fermented yogurt drink) and raw kimchi (spicy fermented Korean side dish), raw sauerkraut (fermented cabbage) is both rich in lactobacillus acidophilus and other beneficial micro-organisms. Kombucha (a fermented tonic made from tea, sugar and live

cultures) contains a significant dose of healthy bacteria. The other rich sources are:

1. Brined olives
2. Salted gherkins
3. Fermented cucumbers
4. Nigerian ogi (fermented maize or sorghum porridge)
5. Nigerian fufu (fermented cassava)
6. West African garri (fermented cassava)
7. Tanzanian togwa (fermented sorghum, maize, millet or maize–sorghum)
8. Baba (fermented millet)
9. Ethiopian kocha (fermented black tea)
10. Pito (traditional Nigerian alcoholic drink)
11. Sour Mifen (traditional fermented rice noodle from China)
12. Sour dough bread although the bacteria is killed by the heat.
13. Italian cheeses
14. Cheddar cheeses
15. Swiss cheeses
16. Morocon soft white cheese
17. Qula (traditional Tibetan yak cheese)
18. Salers (traditional raw milk, semi-hard, French cheese)
19. Dadih (traditional fermented milk), Indonesia
20. Nigerian nono (fermented milk)
21. Kefir (fermented milk)
22. Miso (fermented soy)

Iron

Nutritional scientists have recently discovered that certain antioxidants reduce the amount of iron that the body can absorb. This effect can result in iron deficiency and anaemia in high-risk individuals, such as pregnant women and young children.

Iron Inhibitors

Iron rich diet is very important to our health especially in cancer patients who are prone to develop iron deficiency and anaemia due to nutritional complications hence a good store of iron in the body is very useful. Iron

content varies according to age, sex and our dietary habits, it is important to know how much iron we need as well as ways to make certain that we reach our iron needs. One obvious way of helping make certain that we have sufficient iron is to eat foods that are rich in iron. Another way is to avoid food items and other sources that help to deplete our iron reserves. Following foods actually deplete or inhibit our iron intake. These include foods high in caffeine like certain types of chocolate especially dark chocolates with high caffeine content, white or milk chocolates are far safer, therefore, if you must have a piece of chocolate, look for white or creamy milk chocolate instead of semi-sweet or bittersweet dark flavours. Many foods and drinks containing phosphates, which are found in many soft drinks, fizzy lemonades and colas, certain types of candy and ice cream, some condiments, a lot of processed meats like hot dogs, fish fingers, etc. are also iron inhibitors.
Other foods that can deplete iron intake include certain types of grain cereals that are not specifically fortified with iron, especially wheat and multi-grains and their related by-products. Some beans and/or legumes, like those containing polyphenols and/or phytates also fall into this category as do certain nuts and seeds and related by-products like peanut butter. Too much calcium also inhibits iron intake, which means that it is important not to overdo products like milk and cheese. Drinks like tea, coffee, grape juice and red wine containing polyphenolic compounds can also inhibit iron intake as can some spices such as oregano. Certain foods high in peptides, like soy and soy products also fall into this category.

Drugs like aspirin and antacids can inhibit iron intake as well as deplete iron reserves. Switch to alternative medicines like Tylenol and antacids that do not contain phosphates or other ingredients known to deplete iron reserves. Don’t take too much vitamins that contain high amounts of calcium since it can also hurt iron reserves.

Meat

“*Men who eat red meat as a main dish five or more times a week have four times the risk of developing colon cancer than men who eat red meats less than once a month*,” says Edward Giovannucci of Harvard Medical School. Heavy red-meat eaters were also twice as likely to get prostate cancer in his study of 50,000 male health professionals. (Source: Time Magazine.) That is

just one study. Looking at others, says Lawrence Kushi of the University of Minnesota, "*the evidence is quite consistent that red meat is associated with a higher risk of colon - possibly prostate - cancer*". It is not just red meat that is a problem, in fact all meats including: chicken, lamb, pork, turkey, fish (including salmon, tuna, trout, prawn and all seafood), beef, quail and other poultry, eggs, sausages and mince are all highly acid forming in the body. A diet which is rich in acid forming foods is known to increase the risk of many illness and disease, since the highly acid forming diet causes a large accumulation of debris and hardened mucoid plaque (mucous) in the colon. Once the colon is damaged in this way, the body's immune system and ability to eliminate toxins is compromised. A major study reported in the British Medical Journal found that, of 5000 meat eaters and 6000 non-meat eaters, vegetarians had a 40% less risk of cancer of colon, pancreas and breast and 30% less risk of heart disease than meat eaters (Oxford Vegetarian Study). More and more scientific evidence supporting vegetarianism is found each year. Some of the healthiest people with the longest lives, lowest cancer rates and highest IQ's are Vegetarians. For e.g. Albert Einstein, Rabindranath Tagore, Leonardo da Vinci, George Bernad Shaw, Dalai Lama, Thomas Edisson, Benjamin Franklin, etc. were all vegetarians.

Secondary Vegetarian Substances

Vegetables are grouped according to botanical characteristics as follows:

1. Leafy or stem vegetables (e.g., cabbage); fruit-bearing vegetables (e.g., melons); flower vegetables (e.g., cauliflowers); root, bulb and tuberous vegetables (e.g., onion); leguminous vegetables (e.g., green peas); other vegetables (e.g., green maize and mushrooms).
2. Secondary vegetables are parts of the vegetable like leaves, flowers, stems and seeds. Although many of the secondary plant parts are edible, their popularity as food items is diminished by lack of proper flavour or unfavourable texture. For example, the leaves of practically all the cabbage family are edible, but the strong flavours of some species are disagreeable or too strong for most people's taste. Quite often, cooking is necessary to make the parts edible. Raw leaves eaten fresh may even produce slight indigestion with intestinal colic. The following is a list of ordinary garden vegetables with both commonly eaten parts and less

frequently eaten parts.

Table 8.2: Secondary vegetarian substances

Vegetable	Common Edible Parts	Other Edible Parts
Beans	snap pod with seeds	leaves
Lima Beans	seeds	pods, leaves
Beets	root	leaves
Broccoli	flower, leaves	flower stem
Carrot	root	leaves
Cauliflower	flower	stem, leaves
Celery	leaf stems, leaves	seeds
Corn	sweet seeds, young ears	unfurled tassel, young leaves
Cucumber	fruit with seeds	stem tips and young leaves
Eggplant	fruit with seeds	leaves
Okra	pods with seeds	leaves
Onion	root	young leaves
Parsley	tops	roots
Peas	pods	leaves
Pepper	pods	leaves after cooking, immature seeds
Potato, sweet potato	roots	leaves and stem shoots
Radish	root	leaves
Squash	fruit with seeds	flowers and young leaves
Tomato	fruits with seeds	leaves
Turnip	root	leaves
Watermelon	fruit with interior pulp and seeds	rind of fruit

Vegan

Exclusively vegetarian diet without any animal protein or fat; the composition must be carefully chosen so as to avoid deficiency symptoms.

Sugar

Sugar feeds every cell in our bodies. Our bodies need glucose or simple sugar, for energy. Even if you cut every bit of sugar out of your diet, your body will make sugar from other sources, such as protein and fat. So cancer cells need sugar to grow, just like healthy cells. Even though sugar doesn't exactly 'feed' cancer cells, it is a good idea to limit the amount of simple sugar you eat. This is because when one eats a lot of sugar, the body produces excess of insulin. Insulin is a natural substance made by the body. Insulin can tell cells to grow. In simple terms, insulin can 'rev up' cell growth. For healthy cells, this is a good thing. This is because the cells in our body grow, divide, die and are replaced as part of the natural process of living. However, cancer cells can be encouraged to grow more, too, when our bodies produce too much insulin. So while some insulin in the body is normal, excess insulin may encourage cancer cells to grow more, which is not a good thing. This is the downside of insulin, our bodies need it to function, but it is unhealthy if we make too much of it. One does not have to avoid every bit of sugar in their diet. Nor should one avoid all carbohydrates. In fact, the best sources for healthy, complex carbohydrates such as vegetables, fruits, whole grains and legumes (beans), are the very foods that appear to fight cancer best. There are three other things in the diet that can help reduce the amount of insulin produced by the body when you eat sugar and carbohydrates. These are protein, fat and fibre. When eaten along with even the simplest sugars, these three items help the body to make less insulin in response to simple sugar. If you eat sugar with some protein, some fat or some fibre, your body won't produce as much insulin. Eating this other food helps your body process sugar more slowly and this means that your body does not overproduce insulin. In short, protein, fat and fibre help your body process sugar in a healthier way. Excessive sugar (industrial sugar is contained in many drinks) causes bad intestinal flora, is a strain on metabolism and causes one to get overweight. Sweeteners such as honey, maple syrup, jellied fruit juices are

preferred instead of refined sugar.

Weight

In 2001, experts concluded that cancers of the colon, breast (postmenopausal), endometrial (the lining of the uterus), kidney and oesophagus are associated with obesity. Some studies have also reported links between obesity and cancers of the gallbladder, ovaries and pancreas. Obesity and physical inactivity may account for 25–30% of several major cancers: colon, breast (postmenopausal), endometrial, kidney and cancer of the oesophagus. Preventing weight gain can reduce the risk of many cancers. Experts recommend that people establish habits of healthy eating and physical activity early in life to prevent overweight and obesity. Those who are already overweight or obese are advised to avoid additional weight gain and to lose weight through a low-calorie diet and exercise. Even a weight loss of only 5–10% of total weight can provide health benefits. In 2002, about 41,000 new cases of cancer in the United States were estimated to be due to obesity. This means that about 3.2% of all new cancers are linked to obesity. A recent report estimated that, in the United States, 14% of deaths from cancer in men and 20% of deaths in women were due to overweight and obesity.

A Balanced Menu Plan for Cancer Patients

Now that the relationship between cancer and nutrition is known, here are practical suggestions for healthy eating. The main goal is to keep the weight at a reasonable level. Making daily menu plans may help to ensure that patients are getting a balanced diet. The following general guidelines will help patients to start eating foods that supply a balanced diet with enough calories.

1. Drink two cups of milk or more per day. Cheese, cottage cheese, buttermilk, yogurt and ice cream may be substituted.
2. Eat two or more, two to three ounce servings of meat or a meat substitute daily. Meat substitutes include eggs, fish, poultry, dried beans and peas, peanut butter and nuts.
3. Eat or drink two or more half-cup servings of fruit or fruit juices daily. One should eat a citrus fruit or juice if he tolerates it. Fruits or juices can

be fresh, frozen or canned.

4. Eat two or more half-cup servings of vegetables daily. One should eat a dark green leafy vegetable or a yellow vegetable.
5. Eat four or more servings of bread or cereal every day.
6. Eat other foods such as desserts, margarine, soups and beverages as desired.
7. Include nutritious snacks such as nuts, cheese and crackers between meals and before bedtime.
8. An effective way to battle cancer is to starve the cancer cells by not feeding it with the foods that it needs to multiply. Cancer cells feed on 'sugar'. Sugar substitutes like NutraSweet, Equal, Spoonful, etc. are made with Aspartame and it is harmful. A better natural substitute would be *manuka*, honey or molasses but only in very small amounts.
9. Table salt has a chemical added to make it white in colour. Better alternative is Bragg's aminos or sea salt.
10. Milk causes the body to produce mucus, especially in the gastrointestinal tract. Cancer feeds on mucus. Hence milk should be substituted with unsweetened soya milk.
11. Cancer cells thrive in an acid environment. A meat-based diet is acidic and it is best to eat fish and a little chicken rather than beef or pork. Meat also contains livestock antibiotics, growth hormones and parasites, which are all harmful, especially to people with cancer.
12. A diet made of 80% fresh vegetables and juice, whole grains, seeds, nuts and a little fruits help to put the body into an alkaline environment. About 20% can be from cooked food including beans. Fresh vegetable juices provide live enzymes that are easily absorbed and reach down to cellular levels within 15 minutes to nourish and enhance growth of healthy cells. To obtain live enzymes for building healthy cells try and drink fresh vegetable juice (most vegetables including bean sprouts) and eat some raw vegetables 2 or 3 times a day. Enzymes are destroyed at temperatures of 104°F (40°C).
13. Avoid coffee, tea and chocolate, which have high caffeine. Green tea is a better alternative and has cancer-fighting properties. It is best to drink purified water or filtered water, to avoid known toxins and heavy metals in tap water. Distilled water is acidic, avoid it.
14. Meat protein is difficult to digest and requires a lot of digestive enzymes. Undigested meat remaining in the intestines become putrefied

and leads to more toxic build-up.

15. Cancer cell walls have a tough protein covering. By refraining fromor eating less meat it frees more enzymes to attack the protein walls of cancer cells and allows the body's killer cells to destroy the cancer cells.
16. Some supplements build up the immune system (IP6, Florssence, Essiac, anti-oxidants, vitamins, minerals, EFAs, etc.) to enable the body's own killer cells to destroy cancer cells. Other supplements like vitamin E, which is known to cause apoptosis or programmed cell death, the body's normal method of disposing of damaged, unwanted or unneeded cells.
17. Cancer is a disease of the mind, body and spirit. A proactive and positive spirit will help the cancer warrior be a survivor. Anger, unforgiveness and bitterness put the body into a stressful and acidic environment. Learn to have a loving and forgiving spirit. Learn to relax and enjoy life.
18. Cancer cells cannot thrive in an oxygenated environment. Exercising daily and deep breathing help to get more oxygen down to the cellular level. Oxygen therapy is another means employed to destroy cancer cells.
19. Please remember:
    a. No plastic containers should be in microwave.
    b. No water bottles should be in freezer.
    c. No plastic wrap should be in microwave.
    d. No food should be cooked in a microwave oven, since it creates carcinogenic, radiolytic compounds in the food.
20. Protein for Body Mass: One of the strongest anticancer diets is protein. Protein helps maintain and build muscle mass and overall immunity. '*Undergoing conventional Allopathic cancer therapy may require as much as 50% more protein than usual*', according to Michael Murray, ND, Tim Birdsall, ND, joseph Pizzorno, ND and Paul Reilly, the authors of *How to Prevent and Treat Cancer with Natural Medicine*. The authors go on to state that "*smoothies are an ideal and delicious way for people with cancer to consume lots of high quality protein*". People fighting cancer typically require between 60 and 100 grams of protein daily. Red meat contains saturated fats that contribute to insulin resistance and increased cancer risk and if it is not hormone free or all natural it also contains residues from pesticides, antibiotics and hormones given to the animal. Red meat can also be difficult to digest,

contributing to inflammation in the digestive tract. Red meat should always be replaced by lean meat from organically raised and grass fed cows. Meats such as elk, bison and buffalo also have a healthier fatty acid profile and are healthier choices. Good sources of protein include hormone and antibiotic free eggs, yogurt, seafood and organically fed, free range chicken; nuts, seeds and legumes and whey protein powder. The best is to make at home made protein rich smoothies by blending a variety of fruits (frozen or fresh), yogurt and non fat milk (organic, if possible), rice milk or soy milk and adding about an ounce of high quality whey protein powder per smoothie. Flavoured whey protein powders can provide an extra flavour boost. We recommend whey protein powder because it contains a good balance of essential and nonessential amino acids which are the building blocks of protein. Among the essential amino acids, glutamine is especially important. Not only it is the most abundant amino acid in the body, It is also involved in more metabolic tasks than other amino acids. "*Glutamine is especially important as a source of fuel for white blood cells and for cells that divide rapidly, such as those that line the intestine*," explain the authors of *How to Prevent and Treat Cancer with Natural Medicine*. "*It has become an important component of intravenous feeding mixes in hospitals since double blind studies have shown that it dramatically increases survival in critically ill patients*". Adding high protein foods are a help, especially if meat doesn't taste good to a patient with lack of appetite.

21. Cut down Fats: Until recently, fats had a very bad reputation in cancer diet as excessive dietary fats, especially saturated fats, have been implicated in increased risk of cancer, along with other serious diseases. But certain fats are good for body and in fact, some are so important as to be termed essential fatty acids (EFAs) - essential because they can't be created within the body, but are required for various metabolic functions. And when you realise that fats are present in every cell membrane and every organ and tissue in the body, you can see that It is important to include some fat in the diet. Saturation refers to the number of hydrogen atoms that are linked to the carbon atom backbone of a fatty acid. When all of the carbon molecules in the chain are linked by single bonds, this allows for the greatest number of hydrogen atoms to be attached to the carbon backbone; such fats are referred to as saturated

fats (i.e., they are saturated with hydrogen). Monounsaturated fats have one double bond between carbon atoms, with the result that the overall molecule contains one less hydrogen atom than possible. Polyunsaturated fats contain multiple double-bond linkages between carbon atoms and thus even fewer hydrogen atoms. Most vegetable oils contain a combination of monounsaturated and polyunsaturated fats.

a. **Saturated fats are monsters:** Saturated fats are found in animal products like butter, cheese, whole milk, cream and fatty meats. Coconut, palm and palm kernel oils also contain saturated fats, although the saturated fats in coconuts are medium chained triglycerides that are readily utilised for the production of energy and do not carry the same risks as do other saturated fats. This makes coconut fat an exception to the rule. While saturated fats are more closely linked to increased risk of heart disease than other types of fat, the link between this "bad" fat and cancer is becoming stronger. According to an MSN report provided by the American Institute for Cancer Research, a reason saturated fats can contribute to cancer is because they cause insulin problems. New Studies show that too much saturated fat can decrease insulin production, which leads to a rebound effect of overproduction of insulin. Insulin is a growth factor for many cancers.
b. Several studies have linked a diet high in **animal fats** to an increased risk of developing some cancers. To reduce saturated fat consumption, one needs to reduce consumption of animal products. As a point of reference, a 4-ounce T- bone steak (broiled or grilled) delivers a whopping 26.5 grams of fat. The goal is for fat to comprise no more than 30% of the diet and to try to significantly reduce consumption of saturated fat. Recommended daily fat intake for a 2,000-calorie diet is 65 grams. If you eat a 10-ounce T-bone steak, you've already exceeded your limit for the entire day. Excessive consumption of saturated fats from animal sources contributes to insulin resistance and obesity and introduces bio-accumulated toxins and hormones into your body. All of these factors contribute to cancer formation and development and can also inhibit treatment and recovery.
c. **Trans fats:** Another category of fats to avoid is trans fats. Although they occur in minute quantities in certain foods, the vast majority of

the trans fats we consume are created synthetically by heating liquid (unsaturated) fats in the presence of hydrogen. This is done to make them more solid (for example, to make margarine) and to make them more stable, thus increasing the shelf life of foods made with trans fats—a boon to the big business of pre-packaged foods. In addition to increasing the amount of saturation, this process also alters the very structure of the molecule, converting it into a straighter, more linear molecule—a form the body isn't accustomed to metabolising. When these trans fats are incorporated into cell membranes, they impede energy metabolism and also interfere with the function of certain anti-inflammatory substances. In fact, these fats are so bad for the body that almost all government all over the world insists on food manufacturers list both saturated and trans fat amounts on package labels.

d. **Essential fatty acids:** Essential fatty acids (EFAs) are good fats they are divided into two primary categories: omega-3 and omega-6 fatty acids. The average Indian gets more than enough omega-6 from diet, so for most of us, obtaining enough omega-3 is the problem.
e. In reality, there's just one essential omega-3 fatty acid (alpha-linoleic acid or ALA) and one essential omega-6 (linoleic acid or LA). From these basic, fatty acid building blocks, the body can manufacture most of the other omega-3 fatty acids, such as eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), as well as omega-6 fatty acids, which include gamma-linolenic acid (GLA). However, for people whose systems are compromised by cancer and other chronic diseases, it is preferable to avoid this metabolic expenditure by directly consuming the important omega-3 fatty acids, especially EPA and DHA, in the form of dietary supplements. Although omega-3 fatty acids are available from plant sources (particularly flaxseeds, but also pumpkin seeds, sunflower seeds, walnuts and leafy green vegetables) and animal sources (especially fish and shellfish), plant sources mostly contain omega-3 fatty acid as ALA with only minimal EPA and no DHA. So for therapeutic purposes, eating cold-water fish or supplementing with fish oil or Krill oil capsules is your best bet. Recent research shows a direct link between omega-3s and effective cancer treatment. Here are just a few examples from this exciting area of investigation:

i. An Australian study of untreated pancreatic cancer patients showed improvement in quality of life and weight gain in patients who drank a protein energy drink and took an oral nutritional supplement with omega-3 fatty acids.
ii. Some studies have demonstrated that diets rich in omega-3 fatty acids are associated with a lower risk of breast and colon cancers.
iii. Preliminary animal studies indicate that omega-3 fatty acids can help make tumours of various types more sensitive to chemotherapy drugs.

22. Avoid junk foods: Food can be good medicine if you make the right choices. The foods mentioned previously can positively influence your health. Equally important is to avoid those foods that can cause harm. Here are some of the worst offenders:
    a. Simple sugars should be avoided or limited to avoid creating immune deficiencies and insulin resistance.
    b. Refined carbohydrates (such as white bread, pasta, white rice and anything made with white flour), should be consumed only in moderation. Refined carbohydrates are rapidly broken down into simple sugars, so they also contribute to insulin resistance.
    c. Sodium from excess salt can disrupt electrolyte balance and contribute to fluid retention (oedema).
    d. Additives and preservatives can overwhelm the body's detoxification process.
    e. Hydrogenated fats can directly damage DNA; these fats are the main ingredient in much margarine and are commonly used in convenience foods and other prepared foods.
    f. Alcohol should be consumed only in moderation, if at all, as it contributes to inflammation and insulin resistance.
    g. Avoid all processed foods if possible.

A convenient way to increase your intake of calories and protein is to use complete and balanced nutritional products called medical nutritionals. You can eat or drink them to supplement your other food or. If taken in sufficient volume, to use as a meal replacement when you don't feel like eating. Complete medical nutritionals supply the same ratio of protein, carbohydrate, fat, vitamins and minerals as a well-balanced meal. They come in liquid or powder forms. Medical nutritionals are useful when you can't eat enough food to meet your body's needs.

Medical nutritionals that are canned do not need to be refrigerated until they are opened. You can carry the 8-fl-oz cans with you and open one whenever you feel hungry. Chilled, these products make good between-meal and bedtime snacks and can be used as meal replacements if taken in sufficient volume when you don't feel like eating. Medical nutritional products are available at most drugstores. If they're not, ask your pharmacist to get some. At times some patients must change their eating habits for a while. If you have difficulty swallowing or have severe digestive tract problems, your doctor or dietician may recommend a full liquid diet. These medical nutritionals are nutritionally complete and balanced and can be used under the direction of your physician as the sole source of nutrition for a long as they are needed.

Diet for Cancer Patients Before, During and After Treatment

Diet is an important part of one's treatment for cancer. Eating the right kind of foods before, during and after the treatment can help one to feel better and stay stronger.

Diet before the treatment begins

In the process of killing the cancer cells, some healthy cells are also damaged. That is what causes side effects of cancer treatment. Nutritional recommendations for cancer patients may focus on helping the patient eat higher calorie foods that emphasise protein. The recommended diet may include:

1. Eating or drinking more milk, cream, cheese and cooked eggs.
2. Include more of butter, margarine and oil in the food.
3. Less of high fibre diet should be eaten because these foods can aggravate problems like diarrhoea or a sore mouth.

Eating a healthy diet before treatment will help one to go into the treatment with reserves energy, which help keep up one's strength, prevent body tissue from breaking down, rebuild tissue and maintain one's defences against infection. People who eat well are better able to cope up with side effects. The patient may be able to handle even higher doses of certain treatment; e.g. some cancer treatments are much more effective if the patient is well-

nourished and getting enough calories and proteins in his or her diet.

Diet during the Iscador and Chemotherapy treatment

All the methods of treating cancer - surgery, radiation therapy, chemotherapy, hormone therapy and biological therapy (immunotherapy) - are very powerful. Although these treatments target the fast-growing cancer cells in your body, but healthy cells can also be damaged. Healthy cells that normally grow and divide rapidly, such as those in the mouth, digestive tract and hair are often affected by cancer treatments. The damage to healthy cells produces the unpleasant side effects that cause eating problems.

1. One must eat meals and snacks with sufficient proteins and calories
2. Many people find their appetite better in the morning. Take advantage of this and eat more then. Consider having the main meal of the day early and have liquid meal replacements later on if one doesn't feel like eating.
3. If one doesn't feel well and can eat only one or two things, stick with them until they are able to eat other foods.
4. The patient should try drinking plenty of fluids, especially on those days when they don't feel like eating. Water is essential for body's proper functioning, so getting fluids will ensure that the body has water, which it needs.

Diet after cancer treatment ends

Most eating related side effects associated with radiation, chemotherapy or other treatments go away after cancer treatment ends. Sometimes though side effects persist, especially weight loss. There's no current research that suggests that the foods one eats will prevent the cancer from recurring. But, eating right will help one regain their strength, rebuild tissue and help to feel good.

1. Focus on eating a variety of foods every day as no one food contains all the nutrients in one need.
2. Emphasise fruits and vegetables. Raw or cooked vegetables, fruits and fruit juices provide the vitamins, minerals and fibre one needs.
3. Emphasise breads and cereals, especially the whole grain varieties, such as whole bread, oats and brown rice. These foods are good sources of

complex carbohydrates, vitamins, minerals and fibre.

4. Fat, salt, sugar, alcohol and smoked or pickled foods should be consumed in limits. Choose low-fat milk products and small portions of lean meat and poultry without skin. Try low-fat cooking methods, such as broiling, steaming and poaching.

According to the Optimum Health Food Pyramid, the daily diet should on average, consist of the following:

1. Vegetables: 5 to 7 servings
2. Seeds, nuts, and healthy oils =4 servings
3. Whole grains: 3 to 6 servings
4. Beans (legumes): 2 to 3 servings
5. Fruit: 2 to 3 servings
6. Protein: 2 to 3 servings
7. Dairy (organic, if possible): 1 to 2 servings

Each serving of the above consists of:

1. Vegetables: 1 cup of raw leafy vegetables, 1/2 cup of raw non-leafy, 1/2 cup cooked vegetables, or 1/2 cup fresh vegetable juice
2. Seeds or nuts: 1/4 cup
3. Healthy oils: 1 tablespoon
4. Whole grains: 1 slice whole wheat, rye, or other whole grain bread, 1/2 cup whole grain cereal, 1/2 cup cooked whole kernel corn, 1 small ear of corn, or 1/2 cup cooked whole grain pasta
5. Beans (legumes): 1/2 cup cooked
6. Fruit: 1 medium fruit; 1/2 cup cut-up fruit; 1 cup berries; 4 ounces of 100% juice; or 1/4 cup dried fruit
7. Protein: 3 to 4 ounces (the size of a deck of cards)
8. Dairy: 1 cup milk, yogurt, or cottage cheese, or 1 ounce cheese. If the patient is avoiding dairy, substitute calcium supplements or calcium rich foods, such as almonds and sea vegetables.

Herb teas

Use hot (not boiling) water for the following teas:

1. **Sage:** General invigorating effect; regulates the glandular functions in case of lack of appetite, catarrhs in the upper airways, nervous stomach.

To be gargled in case of inflammation of tissues. Preparation: 1 teaspoonful per cup; let the tea infuse for 5 min in a cup of hot water.

2. **Peppermint:** Anti-spasmodic in the region of the stomach and intestines, for nausea, nervousness, disinfects in case of colds. Preparation: 1 teaspoonful per cup; let the tea infuse for 5 min in a cup of hot water.
3. **Chamomile:** Anti-spasmodic, analgesic, anti-phlogistic in case of poor digestion, helps treat irritation of the skin and mucous membranes, helps treat insomnia. To be gargled in case of inflammation of tissues. Preparation: 1 teaspoonful per cup; let the tea infuse for 5 min in a cup of hot water.
4. **Marigold:** Stimulates the defence mechanism and the healing process in case of cough, asthma and gastro-intestinal problems. Preparation: 1 teaspoonful per cup; let the tea infuse for 5 min in a cup of hot water.
5. **Caraway:** Stimulates the digestive system, relieves flatulence and cramps in the digestive system, invigorates the stomach. Preparation: 1 teaspoonful per cup; let the tea infuse for 5 min in a cup of hot water.
6. **Fennel:** Has an appetising effect, relieves flatulence and cramps, acts as an expectorant in case of inflammation of bronchus, calms in case of gastrointestinal trouble. Preparation: 1 teaspoonful per cup; let the tea infuse for 5 min in a cup of hot water.
7. **Saint John's Wort:** Depressions, insomnia, menstrual or gastrointestinal trouble.
8. **Dandelion:** Stimulating metabolism and glandular activities.
9. **Passion flower:** Restlessness, nervous tensions and insomnia.
10. **Echinacea:** Invigorating the defence mechanism against infections, for inflammations and colds.
11. Hawthorn: Cardiac insufficiency, lack of concentration, minor insomnia.

Table 8.3: Indian names for common fruits and vegetables

English	Hindi
Amaranth	Chauli / Chowli / Chavleri / Lobiaphali
Apple	Seb
Apricot Fresh	Khoobani
Apricot Dried	Khoobani

Arrowroot	Paniphal, Tikora
Asah Gourd	Petha
Asparagus	Shatwar, Sootmooli, Musli
Avocado, butterfruit	Makhanphal
Banana	Kela
Bael, Stone Apple, Bengal quince	Bel, Sriphal
Bell Pepper	Shimla mirch
Bitter Gourd	Karela
Black eye beans, green	Lobiaphali
Beet root	Chukander
Blueberries	Nilabadari, Falsa
Bottle Gourd, Chinese Melon, Long Melon	Lauki
Broccoli	Hari phoolgobhi
Brussels Sprout	Chhotigobhi
Cabbage	Pattagobhi / Bandhgobhi
Cantaloupe	Kharbuja
Capsicum (green pepper / bell pepper)	Shimla mirch / Kashmiri mirch
Carrot	Gajar
Cauliflower	Phoolgobhi
Celery	Celery
Chakothra, pomelo	Chakotra
Chili	Mirch
Cluster beans	Gawarphali
Coconut	Khopra / Narial
Colocassia	Arbi
Colocassia Leaf	Arbi patta
Coriander, Cilantro	Dhania
Corn, Maize	Bhutta / Macca
Cucumber	Kheera

Custard Apple	Sitaphal, Saripa
Dill	Suwa
Eggplant (Brinjal)	Baigan
Endive	Gulsuchal
Fennel	Moti Sauf
Fenugreek leavers	Methi Bhaji
Fig	Anjeer
French beans	Fansi
Garlic	Lahsun
Gherkin	Tindora
Ginger	Adrak
Ginger (dry)	Saunth
Grapes	Angoor
Guava	Amrud
Indian gooseberry	Amla
Jackfruit	Kathal / fanas
Jamoon, Jambu fruit, Blackberry	Jamun
Karonda, Carissa Carandas	Karonda, Karanda
Lettuce	Salad patta, Kasmisaag
Lime	Nimbu
Lemon	Galgal / Nimbu
Lotus Stem, Lotus Root	Kamal Kakdi, Bhien, Natal Plum
Lychee	Lychee
Mango	Aam
Mint Leaves	Pudina
Mulberry	Shehtooth
Mushroom	Guchi / Kukurmutta
Mustard Leaves	Sarsoon ka saag
Okra (Lady Finger)	Bhindi
Olive	Jaitun
Onion	Pyaz

Onion–green, Spring Onion	Hara Pyaz
Orange	Narangi
Papaya	Papita
Parsley	Ajmoda / Ajmud / Bariajmud
Peach	Aahroo
Peanut	Moongfali
Peas	Matar
Dried Green Peas	Matar
Pineapple	Ananas
Pinenut	Chilgoza
Plum	Aloobukara
Pomegranate	Anaar
Potato	Alu
Prunes	Prun
Pumpkin	Kaddu, Kashiphal
Radish	Mooli
Ridge Gourd	Tori / Turai
Sapota	Chiku
Snake Gourd	Chichonda
Spinach	Palak
Sweet Lime	Mosambi
Sweet Potato	Shakarkand
Tomatoes	Tamater
Turnip	Shalgam
Turmeric	Haldi
Star fruit	Kamrakh
Water chestnut	Singhada
Watermelon	Tarbooz
White goose–foot	Bathua
Zizyphus, Jujube, Chinese Date	Ber / Bor

Lifestyle Factors

"*I've spent many years learning how to fix life, only to discover at the end of the day that life is not broken. There is a hidden seed of greater wholeness in everyone and everything. We serve life best when we water it and befriend it,*" Rachel Naomi Remen, MD, eloquently explains in her wonderful book, *My Grandfather's Blessings.* She goes on to remind us that "*in befriending life, we do not make things happen according to our own design. We uncover something that is already happening in us and around us and create conditions that enable it"*. Dr Remen has pinpointed the vital essence of lifestyle factors that positively influence cancer prevention and treatment, creating conditions that enable the healing power that is ever present within us. We need to establish an internal and external healing environment that influences mind, body and spirit. This environment begins with healthy lifestyle choices that support our innate healing abilities, improve the body's response to cancer treatment and improve quality of life.

Scientific evidence has proved time and again that lifestyle factors are responsible for development of cancer. Their positive physical and emotional benefits have piqued the curiosity of many prestigious universities and research facilities. Respected medical journals such as the *Journal of Clinical Oncology*, *Journal of the American Geriatric Society*, *Journal of the American Medical Association* and *Annals of Internal Medicine,* to name a few, are publishing new and exciting research making the connection between a healthy lifestyle and cancer treatment. Following publication of Dr Dean Ornish's study of prostate cancer patients in 2005, a representative from the American Cancer Society commented that '*the take home message is that an active lifestyle combined with a healthy diet definitely decreases the risk of many types of cancer and in the case of early non-aggressive prostate cancer, it may slow disease progression'*. A representative from the National Cancer Institute said, "*There's a building body of evidence that lifestyle may affect cancer progression. This is a very important area and this is one more important lead that indicates a crucial direction for more research"*. Lifestyle factors that can positively influence cancer healing are as diverse as the people who practice them. And as with diet, these interventions are most successful when they move beyond being goals or occasional efforts; they're most effective when they become a way of life, a way of thinking, believing

and being. Some of the many options available to the patients are exercise or physical activity, creativity, meditation and spirituality, massage and other relaxation techniques, etc. As diverse as this list is, most of the options mentioned have something in common - they can positively influence mood, enhance immunity and reduce stress. And thus they can have a positive impact on an overall cancer prevention and treatment plan.

1. **Exercise and being ambulatory is a good medicine:** The human body is meant to move. Strength training, yoga, walking, dance, qigong and swimming are just a few of the possibilities. Even the simplest movements such as swinging the arms while walking, doing stretches at the desk or carrying the groceries up the stairs will benefit the body and mind. Movement helps us maintain our freedom, our ability to seamlessly perform everyday tasks. But movement can be more than just making it through the day. It can be medicine, a healing balm for body, mind and spirit. Here are just a few of the important and far-reaching benefits of physical activity:
   a. Enhanced immunity
   b. Improved mood and self-image
   c. Stronger muscles and bones
   d. Reduced pain
   e. Increased energy and vitality
   f. Improved circulation of blood and lymphatic fluid
   g. Improved ability to sleep
   h. Better digestion
   i. Decreased risk of developing cancer
   j. Increased survival after cancer diagnosis.

   According to the American Cancer Society, researchers at Stanford University School of Medicine found that no matter when you start, exercise improves health. Even people who start exercising later in life appear to gain many of the same health benefits as people who've exercised their whole lives). Research is confirming that people with cancer can benefit from exercise. Not that long ago, cancer patients were told to take it easy and not do anything too strenuous. Obviously, That is good advice in certain circumstances; for example, following a major surgery. However, recent research has begun to reveal that exercise can be an extremely effective part of any cancer treatment program, even for those who are undergoing chemotherapy or radiation therapy. Research

has repeatedly demonstrated an overall increase in immunity in people who exercise regularly; and exercise has been shown to be particularly beneficial to patients with breast, prostate or colon cancer. In case of colon cancer, the American Cancer Society says, '*physical activity speeds up the digestive process, shortening the exposure of the bowel lining to harmful substances*'. Researchers at Harvard Medical School found that exercise improved survival rates in women diagnosed with breast cancer; '*We found the maximum benefit in women who walked the equivalent of three to five hours a week*', says Harvard researcher Michelle Holmes, explaining that women who are physically active have lower levels of hormones that stimulate breast cancer growth. There was no additional benefit from walking faster or longer than the average pace of the study participants - two to three miles per hour. A 2008 study published in the *Journal of Clinical Oncology* found that women who did the equivalent of at least two to three hours of brisk walking each week in the year before they were diagnosed with breast cancer were 31% less likely to die of the disease than women who were sedentary before their diagnosis. The study also found that women who increased their physical activity after diagnosis had a 45% lower risk of death compared with women who were inactive both before and after diagnosis. Exercise is also important for men with prostate cancer. In a 14 year study, men over 65 years of age who regularly exercised most vigorously experienced slower disease progression and had a lower risk of dying from prostate cancer. Previously, exercise was thought to weaken the patient and the patient's immune system. However, research has confirmed that not only is physical activity during cancer treatment safe, in most cases it will actually enhance immunity and increase energy levels. The results of the clinical studies, in brief, show that exercise is not dangerous, but in fact improves your overall health and wellbeing, according to the authors of *The Healing Power of Movement: How to Benefit from Physical Activity during Your Cancer Treatment*. The only downside of aerobic exercise is increased oxidative stress or free radicals which cause damage to cells. Therefore, regular exercise should be accompanied by increased intake of antioxidant rich foods or antioxidant supplements to counteract the oxidative stress.

Obesity is a big obstacle. Research has clearly demonstrated a direct link between excess weight and cancer development, so exercise can play a

fundamental role in preventing and treating cancer by assisting with weight management. A study involving participants of the Nurses' Health Study, featured in the *Journal of the American Medical Association*, identified obesity and inactivity as significant risk factors for pancreatic cancer. The researchers concluded that physical activity decreased the risk of pancreatic cancer, especially among those who were overweight. Physical activity can help you maintain a normal, 'anticancer' weight. The American Cancer Society reminds us that dieting isn't the only way to lose weight: '*One pound of body fat equals 3,500 calories. To lose one pound per week, reduce total calories by 500 per day. You can do this by eating 250 fewer calories a day and burning an extra 250 calories through physical activity*'. Or you could avoid those calories in the first place. Here are some ways to burn off 250 calories:

a. Walk for 50 minutes at a moderate pace.
b. Run for 20 minutes.
c. Cycle for 30 minutes.
d. Dance for 60 minutes.

Here is some additional fitness advice from the American Cancer Society:

a. If you haven't been active, start with moderate activities that you enjoy and gradually increase the duration, frequency and intensity as you are able to, with the goal of 30 minutes or more five or more days a week.
b. If you are active, you can increase intensity, duration or frequency to 45 minutes or more of moderate to vigorous activity five or more days a week, increasing even further as you become more fit.
c. If you are active and want to maintain your current level of fitness, you may want to consider adding new activities to your routine or rotate activities throughout the week. This will not only make exercising more interesting and fun, but will also use different muscles.
d. If you want to exercise but feel too exhausted or weak from your illness or treatment, it is important to listen to your body and not overdo it.

Dancing and other movement activity is good. Adding movement to cancer treatment program will provide many physical benefits; however, exercise has emotional and mental health benefits as well. Exercise

releases endorphins. These powerful neurotransmitters are the body's own painkillers and can also enhance mood, resulting in that 'exercise high' we so often hear about. In addition, exercise can improve self image, increase confidence, combat depression and fatigue, and contribute to a sense of empowerment. Best of all, big gains are made with even modest efforts. A recent study featured in the *Journal Cancer Nursing* demonstrated that a 12 week dance and movement program significantly improved the quality of life for breast cancer survivors. Another study followed 40 breast cancer survivors who exercised and 79 who were sedentary. Researchers Pinto and Trunzo found that those who exercised had higher body esteem and were in a better mood than the sedentary women. The regular exercisers 'reported significantly more positive attitudes, significantly less confusion, fatigue, depression and total mood disturbances'. Exercise will also help with insomnia. However, It is best to avoid strenuous exercise later in the evening because the release of those endorphins may actually get in the way of a good night's sleep. On the other hand, gentle movement such as yoga or tai chi before bedtime can aid in falling asleep. A study from the University of Texas, MD Anderson Cancer Center, found that patients with lymphoma who practiced Tibetan yoga had better subjective sleep quality, could get to sleep faster, slept longer and used less sleep medications than patients who were not practicing yoga. Yoga is also a great physical activity to consider because it is less jarring on the body and incorporates other important healing practices such as deep breathing and relaxation. Using a series of body postures and breathing exercises, yoga helps loosen muscles, encourages flexibility, relaxes mind and body, and helps relieve stress and anxiety. If you are hesitant to do yoga because you have a mental image of seemingly impossible contorted positions, bear in mind this observation from the American Cancer Society: *'Although some of the postures seem to be extremely difficult to achieve, a basic principle of yoga is not to push beyond one's limit'*. Lorenzo Cohen, MD, director of integrative medicine at the MD Anderson Cancer Center, did a study of women who practiced yoga while undergoing radiation treatment for breast cancer. The women reported better physical functioning, less fatigue and fewer problems with sleep. The average patient in the study was 52 years old. Many scientific studies have demonstrated the effectiveness of yoga as part of an integrative

cancer treatment plan. Many of the larger cancer treatment centres, even conservative ones, offer yoga instruction and encourage the practice of yoga. A recent study at the University of Calgary demonstrated improvement in a number of quality of life variables in breast cancer survivors who participated in a seven week yoga program. Participants showed improvements in irritability, depression and confusion, as well as in general fitness and physical symptoms, such as gastrointestinal disturbances.

2. **Body massage:** When delivered by a trained professional, massage not only feels good, it is also good for overall well being. This form of bodywork can provide many emotional and physical benefits. A recent study featured in the *International Journal of Neuroscience* demonstrated that there is a biochemical stress reducing reaction that occurs in the body following massage. Researchers noted a significant decrease in cortisol (the hormone associated with stress) and a significant increase in serotonin and dopamine (feel-good hormones). The researchers concluded that massage therapy can be effective for a variety of stressful experiences and medical conditions, including cancer. Another study demonstrated enhanced immune activity in women with breast cancer following massage therapy, as indicated by increased levels of natural killer cells and lymphocytes. These are important immune system cells that help the body kill cancer cells. Studies are now evaluating massage as a complementary therapy during active cancer treatment. Recently, researchers from Copenhagen found that a six week program, featuring structured physical activity, relaxation, body awareness techniques and massage reduced symptoms related to chemotherapy treatments. Italian researchers recently found that reflexology foot massage significantly reduced anxiety in hospitalised patients receiving chemotherapy compared to those who did not receive the foot massage. There are a few important cautions regarding massage for people with cancer. All of the following should be avoided: the area directly over a known tumour, bone that may be affected by cancer (to reduce risk of fracture), deep massage work in people who are prone to bleeding, lymph massage if there is a possibility of lymphatic spread.
3. **Meditation and spirituality:** The way we think, feel, live, and act, in total affects our physical health. There is a direct physiological and

energetic link between awareness of our thoughts, feelings and emotions, and the body that encases us. Our senses like vision, hearing, taste, touch, and smell work together to give us information. Beyond ‘that there is the place of mindfulness, ultimate awareness and consciousness, creating and defining mind-body-spirit medicine. Meditation is a way to practice and enhance everyday mindfulness, making it a cornerstone of mind-body medicine. Research is demonstrating that by focusing on the here and now while gently redirecting anxiety provoking inner thoughts and images, we can help stimulate the relaxation response, and positively influence important body systems. A study featured in *Psychosomatic Medicine* showed that a mindfulness meditation program positively impacts brain and immune function. There are a variety of ways to meditate. The key is to find a meditation style that fits an individual’s lifestyle and personality. For some people, just being outside in nature is meditative and restorative. Others may experience the calming effects from a meditation practice based upon focused awareness on breathing. Though spirituality is most commonly associated with religious practice, prayer or spiritual meditation, spirituality can be experienced in many ways. Anything that brings a sense of purpose and connectedness to your life can be considered a spiritual practice. One of the methods is directing ones attention to one’s breathing, ignoring thoughts, emotions, or external distractions that appear and accepting all of them, without judging or getting involved with them. When you notice that one’s attention has drifted off and one is focused on thoughts or feelings simply bring the attention back to your breathing.

4. **Creativity:** The patients may consider art, music or journaling according to personal interest.
5. **Experiencing positive emotions:** Anything that increases the daily experience of emotions such as love, happiness and fulfilment will be good for the patient during the treatment.

General Management of side effects of Conventional Treatment of Cancer

Loss of Appetite

Loss of appetite or poor appetite is one of the most common problems that occur with cancer and its treatment. Exactly what causes loss of appetite is unknown. It may be caused by the treatment or the cancer itself. Emotions such as fear or depression can also take away a person's appetite. Sometimes it is the side-effects of the treatment such as nausea, vomiting or changes in food's taste or smells that make a person averse to food. For some people, loss of appetite happens for just a day or two; for others it is an ongoing concern. Below are a few ways to manage this problem.

1. Frequent small meals throughout the day should be had, rather than fewer big ones. It may be easier to eat more in this way and one will not feel full.
2. One must keep snacks like cheese and crackers, ice creams, peanut butter, fruits and puddings at easy reach. A portable box of snacks like crackers or raisins can be carried while going out.
3. Even if one doesn't feel like eating solid foods, try to drink beverages during the day. Juice, soup, and other fluids can provide important calories and nutrients. Milk-based drinks also provide protein.
4. If possible try having something at bedtime. It won't affect the appetite for the next meal.
5. Sometimes, changing the form of a food will make it more appetising and helps the person eat better.
6. Try softer, cool or frozen foods, such as yogurt or milkshakes.
7. One must take advantage of times when they feel well and have a larger meal then. Many people have a better appetite first thing in the morning, when they are well rested.
8. During meals, sip only small amounts because drinking may make one feel full. If one wishes to have more than just a small amount to drink, have it 30-60 minutes before or after a meal.
9. Make mealtimes as relaxed and pleasant as possible. Presenting food or

meals in an attractive way may also help.

10. A small glass of wine or beer during a meal (only if your doctor allows) may help to stimulate appetite.

Some home remedies which have proved beneficial to my patients are as follows:

1. The best home remedy is to boil a few small pieces of ginger in one cup of water with a few small pieces of cinnamon sticks, boil for about 5 minutes and then allow the water to cool, and then empty the contents in half glass of homemade fresh apple juice. Take this in sips and repeat it throughout the day.
2. A mixture of pomegranate (*anar*) juice, rock salt and honey is a useful remedy for loss of appetite.
3. Cranberry juice should be taken when available.
4. Muskmelon (*kharbooja*) is useful for people who are underweight.
5. Garlic cloves and ginger should be taken daily, especially with vegetable soups to stimulate the appetite.
6. A mixture of equal quantities of powdered coriander seeds (*dhania*), cardamom (*elaichi*) and black pepper should be taken daily to increase the appetite.
7. Mash a banana in a bowl of curd and add a pinch of black pepper to it and take it once daily.
8. Dried figs (*anjeer*) and raisins should be soaked overnight and then eaten the next morning and also drink up the water in which they were soaked.
9. One teaspoonful of lime juice mixed with an equal quantity of ginger juice and a gram of rock salt should be taken daily before meals.
10. A mixture of mustard seeds, fried asafoetida (*hing*), ginger, cumin seeds (*jeera*) and rock salt should be taken daily with buttermilk.
11. Having apples daily also helps in increasing the appetite.
12. Oranges and grapes are very beneficial since they stimulate the digestive juices and thus improve the appetite and digestion.
13. Tea is made by boiling some holy basil (*tulsi*) leaves in water till the water is reduced to half. Add some milk, sugar and a pinch of powdered cardamom (*elaichi*) and have it.
14. Prepare a decoction by adding 1-2 teaspoonful of dried ginger powder in a cup of water and boiling it for ten minutes. Drink this water 3 times a day. It will bring back lost appetite.

15. Drink half a cup of fresh Indian gooseberry (*amla*) juice mixed with one teaspoonful of honey and one teaspoonful of lemon juice early in the morning on an empty stomach. This cures loss of appetite.

Weight Loss

Many cancer patients lose weight during their cancer treatment. This is partly due to the effects of the cancer itself on the body. Also, if one has lost his appetite and is eating less than usual because of the treatment or emotional worries, one may lose weight.

1. The following are the ways one can increase calories:
    a. Add butter and margarine in soups, mashed and baked potatoes, hot cereals, rice, noodles and cooked vegetables. Stir it into cream soups, sauces and gravies.
    b. Use sweetened whipped cream on hot chocolate, desserts, gelatin, puddings, fruits and pancakes. The unsweetened variety can be added to mashed potatoes and vegetable purees.
    c. Milk and cream can be used in soups, sauces, egg dishes, batters, puddings and custards. Put it on hot or cold cereals or mix it with noodles, pasta, rice and mashed potatoes. Pour it on chicken and fish while baking. Use whole milk instead of low fat.
    d. Cheese can be melted on top of casseroles, potatoes and vegetables. Add cheese to omelettes and sandwiches.
    e. Sour cream can be added to cream soups, baked potatoes, macaroni and cheese, vegetables, sauces, salad dressings, stews, baked meat and fish. Use as a topping for cakes, fruit, gelatin desserts and breads. Use it as a dip for fresh fruits and vegetables. For a good dessert, scoop it on fresh fruit, add brown sugar and refrigerate until cold, before eating.
    f. Salad dressings and mayonnaise can be used with sandwiches. Combine it with meat, fish and egg or vegetable salads.
    g. Honey, jam and sugar can be added to bread, cereal, milk drinks, fruits and yogurt desserts. Use as a glaze for meats, such as chicken.
    h. Add dried fruits like raisins, prunes, apricots, dates and figs to cookies, breads, rice or grain dishes, cereals, puddings and stuffing. Combine dried fruits with cooked vegetables such as carrots, sweet potatoes, and yams. Serve them in breakfast, as snacks or desserts.

i. Eggs: Add chopped, hard boiled eggs to salads and dressings, vegetables and creamed meat. Make rich custard with eggs, milk and sugar. Beat eggs into mashed potatoes, vegetable purees and sauces. (Add egg before cooking these dishes, because raw eggs may contain harmful bacteria.) Add extra eggs or egg whites to custards, puddings, scrambled eggs, omelettes, pancakes and French toast batter before cooking.

2. Following are ways to increase protein:
   a. Hard or semisoft cheese can be melted on sandwiches, bread, meats or fish, vegetables, eggs, desserts, stewed fruits and pie. Grate and add to soups, sauces, vegetable dishes, mashed potatoes, rice and noodles.
   b. Mix cottage cheese with or use it to stuff fruits and vegetables. Add to spaghetti, noodles and in egg dishes such as omelettes, scrambled eggs and soufflés. Use in gelatin, pudding like desserts, cheesecake and pancake batter.
   c. Use milk instead of water in beverages and in cooking when possible. Use in preparing hot cereal, soups, cocoa and pudding. Add cream sauces to vegetables and other dishes.
   d. Non-fat instant dry milk can be added to regular milk and milk drinks. It can also be used in sauces, cream soups, mashed potatoes, pudding, custards and milk-based desserts.
   e. Ice cream, yogurt and frozen yogurt can be added in milkshakes. Add to cereal, fruit, gelatin desserts, and pies; blend or whip with soft or cooked fruits. Sandwich ice cream or frozen yogurt between cake slices or cookies. Make breakfast drinks with fruits and bananas.
   f. Add hard boiled eggs in salads and dressings, vegetables and creamed meat. Add extra egg white in scrambled egg, French toast batter and in omelettes. Make rich custard with mixing of eggs, high protein milk and sugar. Avoid raw and undercooked eggs.
   g. Nuts can be sprinkled on fruit, cereal, ice cream, yogurt, vegetables, salads and toast as a crunchy topping; use in place of bread crumbs. Blend nuts with cream for a noodle, pasta or vegetable sauce. Roll banana in chopped nuts.
   h. Peanut butter can be spread on sandwiches, toast, crackers, waffles, pancakes and fruit slices. Use as a dip for raw vegetables, such as

carrots, cauliflower and celery. Blend with milk drinks and beverages. Swirl through soft ice-cream and yogurt.

i. Meat and fish can be cooked, chopped and added in vegetables, salads and soups. Use in omelettes, sandwich fillings and chicken stuffing. Wrap in pie crust or add it to stuffed baked potatoes.
j. Cook and use peas, legumes, beans in soups or pasta and grain dishes that also contain cheese or meat. Mash cooked beans with cheese and milk.
k. The most effective and simple remedy to gain weight is to consume banana milk shake. It is a fast way to gain weight.
l. Another effective way would be to have banana thrice a day. This should be followed with curd or milk.
m. Muskmelon is beneficial in treating underweight problem. Have muskmelon three times a day as it helps gain weight.
n. Another effective way to cure underweight problem would be to have fruit diet with milk. While fruits nourish the body with sugar, milk provides the proteins.
o. An effective way to gain weight would be to consume a glass of hot milk with a tablespoonful of honey.
p. Take a cup of milk and put some almonds, dates and figs (*anjeer*) in it. Boil this milk and have it when warm. This is helpful in treating underweight problem.
q. Mangoes are useful to gain weight. You should have a mango followed by a glass of milk. The other way would be to have a glass of mango milk shake every day for a month.
r. Raisins are beneficial in solving underweight problems. Have 30 grams of raisins every day for about a month. This would surely cure underweight problems.
s. Take 3 - 4 dry figs or anjeer and immerse them in water. Keep them overnight. Have this twice a day to get cured of underweight problem.
t. t. Take 100 to 150 grams of bran with fruits. The best way would be to take it with papaya. It works as an excellent appetizer, improves digestion and reduces constipation.

Weight Gain

Some patients find that their weight does not change during treatment. They may even gain weight. This is particularly true for breast, prostate and ovarian cancer patients taking certain medications or who are on hormone therapy or chemotherapy. It is important not to go for a diet, if the patient notices weight gain. It is important to find out the exact cause of the weight gain. Sometimes weight gain happens because certain anticancer drugs can cause the body to hold on to excess fluid causing oedema. A dietician needs to be consulted if the patient has to go on a salt restricted diet. Breast cancer patients with primary diagnosis of cancer may be different. Over half of them may actually gain weight rather than lose during treatment. Because of this many of the breast cancer patients are recommended a low fat, a reduced calorie diet.

Weight gain may also be the result of increased appetite and eating extra food and calories. If this is the case and one wants to stop gaining weight, then here are some tips.

1. Emphasise fruits, vegetables, breads and cereals.
2. Choose lean meat and low-fat dairy products.
3. Cut back on added butter, mayonnaise, sweets and other extras.
4. Choose low fat and low calorie cooking method (broiling, steaming).
5. Avoid eating high calorie snacks between meals.
6. The easiest and effective remedy to fight obesity would be to have 10 grams of honey, along with a glass of warm water. Consume this in the morning, on an empty stomach. If found effective, the dose can be increased with time.
7. You can also mix juice of half a lime and one teaspoonful of fresh honey in a glass of lukewarm water. Have this early in the morning and repeat it every few hours.
8. Consuming 10-12 fully grown curry leaves every morning, for 3 months, is found beneficial in dealing with the problem of obesity.
9. Have one or two tomatoes, on an empty stomach, every morning. This has proved to be effective in reducing obesity.
10. In a glass of boiling water, add ginger and lemon slices. Steep for some time and strain the water. Have this decoction when warm. Not only would it treat obesity, it would also control overeating tendency.
11. In a cup of water, add 3 teaspoonful of lime juice, ¼ teaspoonful powdered black pepper and 1 teaspoonful honey. Have this concoction regularly, once a day.

12. Soak a handful of *jujube* (*bor*) or Indian plum leaves overnight. Strain the water in the morning and consume on an empty stomach. It will prove beneficial in treating obesity.
13. Include loads of cabbage in your diet. Leaves can be had raw or boiled. It can also be prepared as a vegetable or used it in salads.
14. Extract fresh carrot juice and add a little water. Strain the juice and drink it.
15. Include French beans, jackfruits, grapes, figs, peaches, *phalsa* (*Grewia asiatica*) and guava in the diet.
16. Having green tea has been found to be beneficial in treating obesity. You can also consume tea made from dandelion root.
17. In a cup of lukewarm water, add half a tablespoonful of honey and half a teaspoonful of holy basil (*tulsi*) paste. Consume every day for treating obesity.

Sore Mouth or Throat

Mouth sores, tender gums and a sore throat or oesophagus often result from radiation therapy, chemotherapy or infection. Certain foods will irritate an already tender mouth and make chewing and swallowing difficult. Inflammation and ulceration of mucous membranes in the mouth is referred to as stomatitis or mucositis and often begins a few days after starting chemotherapy and can last for several weeks. Symptoms and signs include a burning type of pain and redness, involving the floor or roof of the mouth, cheeks, gums, tongue and lips. White patches can appear which turn red after the tissue sloughs. Mouth pain can make eating difficult, and may make talking and swallowing uncomfortable. Most chemotherapy drugs can cause mouth sores, but is more common with some drugs for lung cancer. By carefully choosing of foods and by taking good care of mouth, teeth and gums, one can usually make eating easier. Following are some suggestions that may help.

1. Try soft foods that are easy to chew and swallow, such as milkshakes, bananas, applesauce and other soft fruits, peach, pear and apricot nectars, watermelon, cottage cheese, yogurt, mashed potatoes, noodles, macaroni and cheese, custards, puddings and gelatin, scrambled eggs, oatmeal or other cooked cereals, pureed or mashed vegetables, such as

peas and carrots, pureed meats.

2. Avoid following foods or liquids that can irritate the mouth: oranges, grapefruits, lemons or other citrus fruit or juice, tomato sauces or juice, spicy or salty foods, raw vegetables, granola, toast, crackers or other rough, coarse or dry foods, commercial mouthwashes that contain alcohol.
3. Cook food until it is soft and tender.
4. Cut foods into small pieces or use a blender or food processor to puree the food.
5. Mix food with butter, margarine, thin gravy, or sauce to make it easier to swallow.
6. Use straw to drink liquids; use a smaller than usual spoon.
7. Try foods cold or at room temperature. Hot foods can irritate a tender mouth and throat.
8. Try drinking salty broth; it can smooth throat pain.
9. Try sucking on ice chips, it has numbing effect.
10. If swallowing is hard, tilting the head back or moving it forward may help.
11. Rinse your mouth often with water to remove food and bacteria and to promote healing.
12. Put K-Y jelly or lanolin (not Vaseline) on your lips. You can also use unflavoured chapstick.
13. Eat foods like broth or gelatin. Drink lots of juices and at least 2 glasses of water everyday.
14. Eat smooth foods like puddings, milk shakes and cream of wheat cereal.
15. Eat warm or cold foods. Try not to go from eating a food that is very hot to a food that is very cold
16. Don’t eat hard foods like potato chips and toast. If you have questions about what foods to eat, ask your nurse, doctor or dietician.
17. Make an infusion of fenugreek (*methi*) leaves and gargle with it 4-5 times a day. Do this for a few days. The mouth sores and ulcers will get healed.
18. Soak and grind fenugreek (*methi*) seeds into a paste and apply this paste on the ulcer. This will give relief to mouth ulcers.
19. Gargle the mouth with some warm water thoroughly and frequently. After gargling, have sweet-lime (*mosambi*) juice mixed with some warm water. Do this at least 3-4 times a day. This will help cure mouth sores

and ulcers.

20. Apples contain saliva stimulating property and hence are good for those suffering from ulcers in the mouth.
21. Fenugreek (*methi*) seeds tea when had with some honey is very soothing for sore throats.
22. A few leaves of holy basil (tulsi) are boiled in water and taken as a drink and also as a gargle to relieve the sore throat.
23. Take one teaspoonful ginger juice mixed with half teaspoonful honey. Take this mixture drop by drop retaining the juice in the mouth and throat.
24. Take a teaspoonful of lemon juice with a little bit honey every hour. This is good for lubricating the mucous membrane of mouth and throat.
25. One teaspoonful of powdered cinnamon (*taj*), boiled in a glass of water with a pinch of black pepper powder and two teaspoonful of honey should be taken daily. This helps to heal tiny ulcers that accompany sore mouth and throat.
26. Gargle with any of the following:
    a. A strong solution of either soda or salt and water is a useful mouth rinse.
    b. Mix the juice of half a lemon in a glass of warm water and gargle three to four times daily.
    c. Soak a teaspoonful of bishop's weed powder (*ajwain*) and a pinch of salt in boiling water and rinse the mouth with it when it is warm.
    d. d. Boil about 8-10 cloves (*lavang*) in two glasses of water till the water is reduced to half. When warm, gargle or rinse the mouth with it.
    e. Liquorice (*mulethi*) sticks are soaked in water and the infusion is useful as a gargle.
    f. Soak a few henna leaves in water for 4 hours and gargle with this water 3-4 times a day.
    g. Coconut milk is extracted by grinding grated coconut and squeezing it and the resultant solution is a useful gargle.
27. Increase the intake of fresh fruit juices and vegetables. Avoid spicy, sweet and salty food items. Avoid citrus fruits, nuts, pickles, pineapple, plums and tomato products. Take a bland diet.
28. Papaya and yam (*suran*) are very useful for the patient.
29. Fresh lime juice with a pinch of rock salt is useful.

30. Take a bowl full of unflavoured yogurt daily.
31. Hold a pinch of dry mustard powder or myrrh against the sore for five minutes.
32. Turmeric powder is very useful in healing the ulcers. Add about half teaspoonful of turmeric powder to a cup of warm milk and a teaspoonful of sugar (if required) and take it orally.
33. Take in more figs (*anjeer*) as these have properties toheal mouth ulcers.
34. Apply powdered cinnamon (*tuj*) over the ulcers
35. Apply vitamin E oil or a thin paste of alum (*phatakdi*) directly over the ulcers.
36. Apply ice or a wet tea bag directly over the painful ulcer. Drinking of chamomile tea also helps.
37. The inside soft portion of the aloe vera leaf is applied locally over the lesion.
38. Apply raw onion or powdered sage over the sore.

Dry Mouth

Chemotherapy and radiation therapy in the head or neck area can reduce the flow of saliva and cause dry mouth. When this happens foods are harder to chew and swallow. Dry mouth also can change the taste of foods. Some of the ideas mentioned above for sore mouth and throat may help. The suggestions below also may help one deal with dry mouth.

1. Have a sip of water every few minutes to help in swallowing and talking more easily. Consider carrying a water bottle along.
2. Try very sweet or tart foods and beverages, such as lemonade; these foods may help the mouth to make more saliva (avoid this advice if you have a tender mouth or sore throat).
3. Suck on hard candy or chewing gum. These can help make more saliva.
4. Eat soft and pureed foods which are easier to swallow.
5. Moisten food with sauces, gravies and salad dressings to make it easier to swallow.
6. Increase fluids, drink plenty of liquids, and drink at least 8 glasses of water a day, unless advised otherwise by your doctor.
7. Limit coffee, tea and alcohol. These contribute to dryness of mouth. Caffeine products as coffee, tea and colas act as diuretics.

8. Avoid mouthwashes with alcohol base. Use non-alcohol based mouthwashes.
9. Keep mouth and lips moist. Apply lip balm or lip moisturizer (chap stick) often.
10. Eat soft, high protein, moist diet.
11. Avoid red meat; instead have moist fish, eggs, cheese.
12. Avoid hot food, have food that is lukewarm.
13. Avoid dry foods like bread, dry meat, pastries toast and crackers, snack foods that are dry and salty.
14. Eat food with gravies, sauces, have soups, stews.
15. Avoid citric foods, juices such as tomato, orange, grapefruit, etc.
16. Blenderise fruits and vegetables and any other food.
17. Have thin cooked cereals.
18. Have more yogurt, fresh fruit, fruit slushes and milk shakes.
19. Avoid aerated drinks. If you need to have sodas that are fizzy, try letting the soda go flat and then have it.
20. Try to eat smaller meals and snacks more often.
21. Make breakfast your biggest meal of the day.
22. Remember that favourite foods can be eaten at any time of the day. For example: if eggs taste good to you, try an omelette or scrambled eggs for dinner.
23. Have soft, bland foods that are cold or at room temperature.
24. Sweet or tart foods such as lemonade, lemon drops and sour candy can help to increase saliva.
25. Suck on popsicles, slushes, ice chips and *golas*.
26. Use a straw to drink liquids.

Dental and Gum Problems

Cancer and cancer treatment can cause tooth decay and other problems for teeth and gums; e.g. radiation to the mouth can affect the salivary glands, making the mouth dry and increasing the risk of cavities. Change in eating habits may also add to the problem. If one eats often or eats a lot of sweets, he may need to brush his teeth more often. Brushing after each meal or snack is a good idea. Following are some ways for preventing dental problems:

1. The patient must let the doctor know about any dental problems that he

has.

2. Patients receiving radiation therapy to the head and neck may need to see the dentist more often than usual.
3. Use a soft toothbrush for sensitive gums.
4. Rinse the mouth with warm water when the gums and mouth are sore.
5. If the patient is eating foods high in sugar or foods that stick to your teeth, be sure to rinse the mouth afterwards so that the sugar won't damage the teeth or use sugar-free varieties. (Sorbitol, a sugar substitute that is contained in many sugar-free foods can cause diarrhoea in many people.)
6. Lime is highly beneficial in treating inflammation of gums, pyorrhoea and dental caries. Mix the juice of one whole lime in one glass of warm water with one teaspoonful of honey. Have this twice daily. This will arrest the growth of dental caries and will treat pyorrhoea and inflammation of the gums.
7. Potatoes should be included in your daily diet since it is a good source of Vitamin C which will help prevent dental decay and keep gums healthy.
8. Due to high vitamin C content, oranges are also good in treating pyorrhoea, dental caries and other diseases of the teeth and gums. Eating oranges and rubbing the gums with their skins daily can help cure pyorrhoea. Drinking a lot of orange juice is also beneficial.

Changed Sense of Taste or Smell

The sense of taste or smell may change during the illness or treatment. Foods, especially meat or other high-protein foods, can begin to have a bitter or metallic taste. Many foods will have less taste. Chemotherapy, radiation therapy or the cancer itself may cause these problems. Dental problems also can change the way foods taste. For most people, changes in taste and smell go away when their treatment is finished.

There is no fool proof way to prevent changes to the sense of taste and smell because each person is affected differently by illness and treatments. However the following tips may be helpful:

1. Choose and prepare foods that look and smell good to the patient.
2. If red meat tastes or smells strange, try chicken, turkey, eggs, dairy

products or mild tasting fish instead.

3. Help the flavour of meat, chicken or fish by marinating it in sweet fruit juices, sweet wine, Italian dressing or sweet and sour sauce.
4. Try using small amounts of flavourful seasonings.
5. Try tart foods, such as oranges or lemonade that may have more taste. Tart lemon custard might taste good and will also provide needed protein and calories.
6. If the smell bothers, try serving foods at room temperature, turning on a kitchen fan, covering foods when cooking, and cooking outdoors in good weather.
7. Try using bacon, ham, or onion to add flavour to vegetables.
8. Soak some tamarind in water for a few hours and have this infusion twice a day. This makes a refreshing drink and cures tastelessness of the mouth, especially in people suffering from cancer.
9. Prepare an infusion of mint leaves and cardamom (*elaichi*) seeds and have it along with the leaves and the seeds. Do this 3 times a day. This will help treat tastelessness of the mouth.

Nausea

'Nausea' is an uncomfortable sensation that a person gets in the region of the chest, abdomen and sometimes in the head, which progresses to vomiting when the digestive tract sends signals to inform the centres in the brain that certain harmful substances are present in the stomach. This sensation of nausea is better after the patient vomits. Nausea with or without vomiting is a common side effect of surgery, chemotherapy, radiation therapy and biological therapy. The disease itself or other conditions unrelated to cancer or treatment may also cause nausea. Some people have nausea or vomiting right after treatment, others don't have it until two or three days after treatment. Many people never experience nausea. For those who do, nausea often goes away once the treatment is completed. Whatever may be the cause, nausea can keep away, one from getting enough food and needed nutrients. Here are some tips to manage nausea:

1. Try foods that are easy on stomach, such as toast and crackers, yogurt, cream of wheat, rice or oatmeal, boiled potatoes, rice or noodles, skinned chicken that is baked or broiled not fried, canned peaches or

other soft, bland fruits and vegetables, clear liquids, ice chips, carbonated drinks, such as cola or ginger ale which help to curb nausea, tart foods, such as pickles and lemons may help, gelatin desserts are satisfying and increase your fluid intake.

2. Avoid foods like fatty, greasy or fried things, very sweet things such as candy, cookies, or cake; spicy or hot food, and strong odours.
3. Eat small amounts, often and slowly. Eat before you get hungry because hunger can make feelings of nausea stronger. Chew your food well to prevent tense stomach.
4. Avoid eating in a room that is stuffy, too warm or has cooking odours that might disagree.
5. Drink fewer liquids with meals. Drinking liquid can cause a full, bloated feeling.
6. Drink or sip liquids slowly throughout the day. A straw may help.
7. Have foods and drinks at room temperature or cooler; hot foods may add to nausea.
8. One should never force himself to eat favourite foods when they feel nauseated. This may cause a permanent dislike for those foods.
9. Rest after meals because activity may slow digestion. It is best to rest sitting up for about an hour after meals.
10. If nausea is a problem in the morning, try eating dry toast or crackers before getting up from the bed.
11. Wear loose fitting clothes.
12. If nausea occurs during radiation therapy or chemotherapy, avoid eating for 1 to 2 hours before treatment.
13. Sense of smell is often altered or heightened during chemotherapy. Cold meat plates, sandwiches, fruit plates, cottage cheese and other cold foods offer good nutrition without creating an overpowering aroma that may cause nausea.
14. Those who are unable to retain anything in the stomach may usually retain shredded fresh raw apple mixed with honey. One can also extract juice from a fresh raw apple and add a pinch of rock salt to it and drink it. This helps to treat the annoying sensation of nausea.
15. Take powdered black pepper in small doses every few hours to reduce nausea.
16. Putting one or two cloves in the mouth and chewing them slowly will curb nausea.

17. Cut a small piece of ginger and boil it in some water. The ginger tea thus prepared should be taken in small sips and it will definitely reduce the nauseous sensation. Ginger ale can be taken instead of ginger tea.
18. Mix equal quantities of fresh ginger juice, lemon juice, mint (*pudina*) juice and honey and take it 3–4 times a day in very small quantities. This will cure nausea.
19. To treat nausea or vomiting, cut a lemon into two halves, heat both halves with open surface upon a hot frying pan until the juice inside boils. Sprinkle salt on one half, sugar on the other half and suck the juice of both alternately. This will immediately control the nausea.
20. Ripe tamarind (*imli*) pulp is given in small doses. This help to control nausea.

Vomiting

Vomiting may follow nausea and may be brought on by treatment, food odours, gas in the stomach or bowel or motion. In some people, certain associations or surroundings, such as the hospital, may cause vomiting. As with nausea, some people have vomiting right after treatment while others don't have it until a day or more after treatment.

Very often, if nausea can be controlled, vomiting can be prevented. At times, though, one may not be able to prevent either. Relaxation exercises or meditation may help. These usually involve deep rhythmic breathing and quiet concentration and can be done almost anywhere.

'Retching' can result when the brain's 'vomiting orders' continue even after the stomach is completely empty. The patient is asked to take in a lot of fluids in the form of electrolyte water, soups, juices, etc. which should be sipped slowly to let the irritated stomach adjust. Do not force the patient to eat anything since that will only increase the problem. Once the vomiting subsides the person can start off with a gelatin dessert or other bland foods like non-buttered toast or crackers. If vomiting does occur, try these suggestions to help prevent further episodes:

1. Do not eat or drink anything until the vomiting is under control.
2. Once the vomiting is under control, try small amounts of clear liquids like clear fat free broth, clear carbonated beverages, grape juice, fruit-

flavoured drink, fruit punch, honey, jelly, plain gelatin dessert, strained citrus juice, strained lemonade, strained vegetable broth, tea and water. Begin with 1 teaspoonful every 10 minutes, gradually increasing the amount to 1 tablespoon every 20 minutes. Finally, try 2 tablespoons every 30 minutes.

3. When one is able to retain clear liquids, a full liquid diet or a soft diet can be tried for e.g. all fruit juices, broth, butter, cream, margarine, carbonated beverages, cheese soup, coffee, tea, plain yogurt, fruit drinks, fruit punch, honey, jelly, syrup, milk, milkshakes, potatoes pureed in soup, small amount of strained meat in broth or gelatin, smooth ice cream, soft or baked custard, strained or blenderised soup, thin fruit purees, tomato juice, tomato puree for cream soup and vegetable juice. Continue taking small amounts as often as one can keep them down. If one feels okay, they can gradually work up to their regular diet. If milk is hard to digest then try a soft diet instead of a full liquid diet, because a full liquid diet includes a lot of milk product.
4. To cure vomiting, prepare some powder of celery seeds and cloves mixed together and have it with honey. This will stop the vomiting.
5. Putting one or two cloves in the mouth and chewing them slowly will curb vomiting.
6. Infuse one teaspoonful of freshly grated cloves of garlic in a cup of hot boiling water for five minutes, strain and drink. This will reduce nausea and vomiting.
7. Ice cubes can be kept in the mouth to control severe vomiting.
8. Take one gram of cumin seeds and one gram of green cardamom seeds, grind them into a powder and add about 50 ml of water to it, then squeeze half a lemon in it and give it to the patient every two hourly. This will help control vomiting.
9. In cases of severe vomiting and nausea, drink pomegranate juice in sips.
10. Avoid taking any spicy food, rich food, milk and its products (like cheese, butter, ghee, etc.) for a few days during and even after the vomiting subsides.
11. Those who are unable to retain anything may usually retain shredded fresh raw apple mixed with honey or squeeze juice from a raw apple and add a pinch of rock salt and drink it.
12. Drink half a glass of mint juice 2 - 3 times during the day.
13. Juice of holy basil (*tulsi*) is given with powdered cardamoms and honey

to children.

14. Powdered black pepper is given in small doses.
15. Cut a lemon in half and heat both halves with open surface upon a hot frying pan until the juice inside boils. Sprinkle salt on one half, sugar on the other and suck the juice of both alternately.
16. Coconut water is given with sugar, honey and long pepper (*pipli*).
17. Diluted vegetable soup can be given to the patient liberally.
18. Mix one teaspoonful of onion juice with one teaspoonful of ginger juice and drink it thrice daily.
19. Ripe tamarind (*imli*) pulp is given in small doses.

Diarrhoea

Diarrhoea may have several causes, including chemotherapy, radiation therapy to the abdomen, infection, food sensitivities and emotional upset. During diarrhoea, food passes quickly through the bowel before the body has a chance to absorb enough vitamins, minerals and water. This may cause dehydration, which means the body does not have enough water to work well. Here are some ways to cope with diarrhoea.

1. One must drink plenty of fluids like broth, lemonade, tomato juice to replenish what is lost with the diarrhoea.
2. Eat small amounts of food throughout the day instead of three large meals.
3. Eat plenty of foods and liquids that contain sodium and potassium, two important minerals that help your body work properly. These minerals are often lost during diarrhoea. Good high sodium liquids include fat-free broth. Foods high in potassium that doesn’t cause diarrhoea include bananas, peach, boiled or mashed potatoes. Sports drinks contain both sodium and potassium and have easily absorbable forms of carbohydrates.
4. These foods may be tried during diarrhoea - yogurt, cottage cheese, rice, noodles or potatoes, eggs (cooked until the whites are solid; not fried), smooth peanut butter, white bread, canned, peeled fruits and well cooked vegetables, skinned chicken or turkey, lean beef, or fish (broiled or baked, not fried).
5. These foods are to be avoided: greasy, fatty or fried foods (if they make

diarrhoea worse), raw vegetables and the skins, seeds and stringy fibres of unpeeled fruits, high fibre vegetables such as broccoli, corn, dried beans, cabbage, peas, cauliflower.

6. Avoid very hot or cold food or beverages. Drink liquids at room temperature.
7. Limit foods and drinks that contain caffeine, such as coffee, some sodas and chocolate.
8. If you have a sudden, short term episode of diarrhoea, try having nothing but clear liquids for next 12 to 14 hours. This lets the bowel rest and replaces the important fluid lost during the diarrhoea.
9. Be careful when using milk and milk products. The lactose they contain can make diarrhoea worse.
10. Apples are anti-diarrhoeal food. Apple juice mixed with banana is very beneficial in treating acute and chronic diarrhoea. Cooked, baked or steamed apples are also good for diarrhoea.
11. Mix one teaspoonful of dried ginger powder, one teaspoonful of cumin seeds (*jeera*) powder and one teaspoonful of cinnamon powder. Add two teaspoonful of honey to this mixture and make a thick paste. Have one teaspoonful of this paste 3 times a day. This will cure diarrhoea.
12. Mix some roasted and powdered cumin seeds in one cup of curd and have it thrice a day. This will cure diarrhoea.
13. Lemon is very good in controlling diarrhoea. Fresh juice of one lemon mixed with 200 ml of water is excellent for even the most severe type of diarrhoea. This can be repeated several times a day. Another way would be to heat the mixture of one lemon juice with one glass of water, add a pinch of black pepper and drink it immediately. This will control the diarrhoea.
14. Small amounts of onion juice is given repeatedly, every few minutes to treat acute diarrhoea.
15. Make a glassful of decoction by boiling 20-25 *tulsi* leaves (holy basil) in water, mixed with some rock salt. Drink this, it will give relief to diarrhoea. Repeat this 3-4 times a day for further relief.
16. Give 50 ml of pomegranate juice repeatedly to the patient suffering from diarrhoea, this will not only cure the diarrhoea, but will also give strength to the patient who has become weak due to diarrhoea.

Lactose Intolerance

Lactose intolerance means that the body can’t digest or absorb the milk sugar called lactose. Milk and other milk based dairy products (such as cheese and ice cream) and foods to which milk has been added (such as pudding) may contain lactose. Dairy products are important sources of calcium, riboflavin, and vitamin D. Some lactose-intolerant people are able to tolerate certain dairy products in small amounts, and their diets may provide enough of these nutrients.

Lactose intolerance may occur after treatment with some antibiotics, with radiation to the stomach or with any treatment that affects the digestive tract. The part of the intestines that digest lactose may not work properly during treatment. For some people, the symptoms of lactose intolerance (gas, cramps and diarrhoea) disappear a few weeks or months after the treatment ends or when the intestine heals. For others, a permanent change in eating habits may be needed.

A dietician may advice a diet that is low in lactose. The supermarkets may carry milk and other products that have been modified to reduce or eliminate the lactose. The following are some food items containing lactose as well as food that is lactose free.

Table 8.4 : Lactose in food

Food Item	Lactose Free Food	Lactose Containing Food
Milk and milk products	100% lactose-free milk, soy milk.	Whole milk, skimmed milk, buttermilk, curd, yogurt, sweetened condensed milk; instant hot chocolate and cocoa mixes; cheese.
Vegetables	Fresh, frozen, and canned vegetables without added milk or milk products; tomato paste and purée; tomato and spaghetti sauces without cheese.	Creamed or breaded vegetables, packaged dried potato mixes, tomato, and spaghetti sauce with cheese.
Fruits	Fresh, frozen, canned, and dried fruits.	None.
Bread and grains	Water-based breads (Italian, French, Jewish rye), rice and popcorn cakes, cream crackers, rusks, Pareve-Jewish bakery products, cooked	The following made with milk or milk products, breads, rolls, biscuits, muffins, pancakes, sweet rolls, waffles, crackers,

Food Item	Lactose Free Food	Lactose Containing Food
	and dry cereals without added milk solids, pasta, rice, oats, barley, cornmeal, bulgar, and other plain grains.	instant and dry cereals with added milk products, some packaged grain mixes, and packaged macaroni mixes.
Meat or meat substitutes	Plain beef, lamb, veal, pork, wild game, poultry, fish, shellfish, eggs, kosher prepared meat products, peanut butter, peas, beans or lentils (dried, canned or frozen), all nuts and seeds, tofu.	Eggs, fish, meat or poultry (breaded or creamed), luncheon meats, sausages, frankfurters, some brands of egg substitutes, and powdered eggs.
Fats and oils	Bacon, butter, margarine without milk derivatives (whey), salad dressing without cheese or milk, vegetable oils, olives, most non-dairy creamers, mayonnaise, gravy made without milk or milk products.	Cream, sour cream, cream cheese, chip dips, some types of margarine, salad dressing with cheese or milk, whipped toppings.
Sweets and desserts	Cake, gelatin desserts, fruit ice, fruit popsicles, fruit roll ups, hard candy, gum drops, jelly beans, liquorice, fruit pie fillings.	Ice cream, ice milk, some brands of sherbet, soufflé, mousse, pudding, custard, packaged dessert mixes, milk chocolate, toffee, caramel, butterscotch.
Beverages	Postum, lactose-free nutritional supplements	Instant iced tea, instant coffee, ovaltine,

Food Item	Lactose Free Food	Lactose Containing Food
	(Sustacal, Ensure, Nutren), vegetable juice, fruit juices and drinks, tea, carbonated beverages, beer, wine, distilled spirits (gin, rum, etc.), cocoa powder, coffee.	chocolate drink mixes, cordials, liqueurs, milk-based nutritional supplements (Carnation Instant Breakfast).
Soups	Bouillon, broth, meat or vegetable stock soups; bisques and chowders made with water, soy milk, or 100% lactose-free milk.	Cream soup, canned and dehydrated soup mixes containing milk products.
Miscellaneous	Popcorn, plain pretzels, plain potato and corn tortilla chips, salsa, mustard, ketchup, pickles, uncreamed horseradish, relish, sauces made without milk or milk products, sugar, honey, jams, and jellies, maple and corn syrup, molasses, herbs, spices, salt, pepper.	Cream or cheese sauces, ranch-style or cheese-flavoured snack pretzels or chips, cheese curls, sugar substitutes with lactose added, medications and vitamin/mineral supplements with lactose added.

Constipation

Some anticancer drugs, such as pain medications, may cause constipation. This problem also occurs if the diet lacks enough fluid and fibre or if the patient has been in bed for a long time. Following are some suggestions for preventing and treating constipation:

1. Drink plenty of fluids, at least eight 8 ounce glasses every day. This will make stool soft.
2. Have a hot drink about one and half hour before the usual time for a bowel movement.
3. If one can increase the fibre in their diet under their doctor's guidance, they can try foods such as wholegrain breads and cereals, dried fruits, wheat bran, wheat germ; fresh fruits and vegetables; dried beans and peas. Eat the skin on potatoes. Make sure to drink plenty of fluids to help the fibre to work.
4. Do some exercises everyday.
5. A mixture of 5 - 6 blanched almonds, dried figs, seedless black raisins in equal quantities when taken daily aids in treating constipation.
6. Contrary to the popular myth, a ripe and juicy apple eaten at bedtime every night cures constipation.
7. Ripe green banana is good for constipation. Take one banana on an empty stomach first thing in the morning, this acts as a laxative and cures constipation.
8. Eating three dried figs in the morning which have been soaked overnight in a glass of 200 ml water helps cure chronic constipation.
9. Onion juice mixed with warm water is very useful for constipation.

Fatigue and Depression

All methods of treating cancer are powerful. Treatments may go on for weeks or months. It may even cause more illness or discomfort than the initial disease. Many people say that they feel exhausted, depressed, and unable to concentrate.

Fatigue during cancer treatment can be related to a number of causes, like less eating, inactivity, low blood counts, depression, poor sleep and side effects of medicine. Fatigue and depression can affect one's interest in food and ability to prepare healthy meals. One may experience any of these symptoms of fatigue during cancer treatment–extreme sense of tiredness,

often described as ‘whole body’ tiredness or tiredness that persists despite rest or getting tired even with simple activities, such as walking to the mailbox or difficulty in concentrating or feeling more emotional than you ordinarily would or rapid onset of fatigue or less desire to participate in activities you usually enjoy. Following are some suggestions:

1. The patients should be encouraged to talk about their feelings and fears. Being open about their emotions can make them seem more manageable.
2. The patients should become familiar with the treatment, possible side effects and ways of coping. Being knowledgeable and acting on that knowledge will help one to feel more in control. There should be no hesitation in talking with the doctor and asking questions.
3. Make sure that the patients get enough rest by:
    a. Taking several naps or rest breaks during the day, rather than one long rest.
    b. Planning the day to include rest breaks.
    c. Making relaxation time special with a good book in a comfortable chair or a favourite video.
    d. Trying easier or shorter versions of the usual activities, instead of pushing oneself to do more than you the imagination.
4. Saving the favourite foods for times that aren’t associated with treatment sessions. That way, they won’t be linked to an uncomfortable or distressing event.
5. Taking short walks or getting regular exercise, if possible. Some people find that this helps to lessen their fatigue and raise their spirits.

Hair Loss

Hair loss is usually more of a nuisance than a symptom, but it can be distressing nonetheless. According to research, hair loss is one the most feared side effects of chemotherapy. Some medications are more likely to cause hair loss than others, and hair loss can range from a little thinning to total baldness. In some cases, all hair can be affected, and it is not uncommon to lose eyebrow hair, facial hair, and even pubic hair. Hair loss usually begins a week or so after the start of chemotherapy and begins to grow back 6 to 8 weeks after completing therapy. Talking about options such as wigs and other

head coverings before you lose your hair can ease some of the anxiety at this time. Some home remedies:

1. Increase the intake of alfalfa sprouts, barley (*jau*) and oats, wheat germ, fish, nuts, cheese, milk, ghee, butter, eggs, fresh fruit (especially citrus fruits) or vegetable juices, green vegetables, parsley, broccoli, greenpepper, peas, beans, prunes (dried plums), some berries and black currants. Avoid excess salt, spicy, hot and pungent food as far as possible.
2. Washing the hair with a paste of cooked black gram (*urad dal*) and fenugreek (*methi*) lengthens the hair.
3. Applying aloe vera gel on the scalp is useful for stimulating the hair roots.
4. Apply fresh coconut milk to the hair roots all over the scalp twice a week for increasing growth of the hair. Coconut milk is prepared by grinding the coconut shavings and squeezing it well to remove the milk.
5. Having a mixture of lettuce and spinach (*palak*) juice, at least one glass daily, helps to increase the growth of hair.
6. Lemon juice when taken internally or rubbed on the scalp at night proves to be useful to reduce the hair fall.
7. Drink a glass of water containing one teaspoonful of apple cider vinegar. Also apply apple cider vinegar to the bald spots with the help of a soft toothbrush.
8. Grapefruit (*chakotra*) juice if taken daily gives some relief.
9. Make a mixture of half a cup of castor oil (*arandi*), one cup of olive oil and two cups of coconut oil. Heat this, cool it and then store it. Apply it on the scalp three times a week just before going to bed and wash it the next morning.
10. Apply a sliced onion over the bald spots in the evening and wash it the next morning. This stimulates the roots of the hair.
11. Using Indian gooseberry (*amla*) oil, made by boiling the dry Indian gooseberry fruits in coconut oil, is an effective remedy for stimulating hair growth. A mixture of an equal quantity of fresh Indian gooseberry juice and lime juice, used as a rinse, also stimulates hair growth and prevents hair loss.
12. Grind a few pieces of liquorice (*mulethi*) in milk with a pinch of saffron. Apply this paste over the bald patches at night before going to bed.
13. Fresh leaf juice of amaranth (*chauli*) when applied to the hair promotes

hair growth.

14. The seeds of lime and black pepper corns are ground and made into a paste by adding a little plain water or ginger juice. This paste is applied on the bald patches once or twice daily for a few weeks to encourage growth of new hair.
15. Increase the intake of chutney made from curry leaves for hair growth since these leaves provide good strength and vitality to hair roots.
16. In the olden days it was said that rubbing the nails of your palms with each other for three minutes continuously at least thrice daily helps hair growth.
17. The age-old remedy which has been most successful in my practice is to apply one's own urine all over the scalp. Do this first thing in the morning and leave it on for fifteen minutes before washing the hair.

Halitosis

'Halitosis or bad breath' is usually caused by the bacteria in the mouth that produce the offensive odour by acting on the food fragments and oral debris collected in between the teeth or between the teeth and the gums, due to poor oral hygiene. Chronic halitosis can arise from many illnesses like decayed or ulcerated teeth, gingivitis, digestive disturbances, aphthae, periodontal disease, vitamin deficiencies, diabetes, hypoglycaemia, duodenal ulcers, kidney or liver malfunction and some respiratory disorders (like chronic sinusitis, throat infections, chronic bronchitis and bronchiectasis).

Brushing teeth twice a day (especially before going to bed at night) and cleaning the tongue at the same time and gargling the mouth after eating anything helps in preventing the bad odour. Food particles stuck in between the teeth should be removed carefully with toothpicks or by flossing the teeth. Proxabrush is a special inter-proximal brush that has tiny bristles that go below the gum line, where floss cannot reach. They are thus useful when used in conjunction with normal brushing and flossing. Some home remedies to treat halitosis are:

1. Avoid raw onions, garlic, alcohol, coffee, smoking, fish (especially tuna or anchovies), refined carbohydrate foods (like white bread and white sugar) spicy meat and Camembert or Roquefort cheese; which seem to leave an odour in the mouth.

2. The patient should take a well-balanced diet comprising of seeds, nuts, grains, vegetables and fruits with special emphasis on raw and lightly cooked vegetables and fruits.
3. Gargle with water in which peels of pomegranate have been boiled.
4. Eating fresh parsley or chewing a few anise seeds, fenugreek seeds, cardamom, dill or fennel seeds will help mask the offensive odours. Drinking peppermint tea after meals helps sweeten the breath.
5. Chewing unripe guava and the tender leaves of guava tree (which is rich in tannic, malic, oxalic and phosphoric acids as well as calcium, oxalate and manganese) is an excellent tonic for the teeth and gums and helps a great deal in cases of bleeding gums and stops bad breath.
6. A few drinks of lemon juice will help cure the complaint.
7. Eating yogurt can be helpful because of the Lactobacillus culture it contains which reinforces beneficial bacteria, which battles with the odour-producing intestinal micro-organisms.
8. A tea is made from fenugreek seeds, by putting one teaspoonful of the seeds in half a litre of cold water and allowing it to simmer for fifteen minutes over a low flame and then strained. This should be taken regularly for correcting the condition.
9. Apples, raw celery and carrots are recommended snacks between the meals.
10. Boil about 5 cloves in a glass of water till it reduces to half and gargle and rinse the mouth with it when it becomes warm.
11. Chewing two springs of parsley dipped in vinegar or sucking a lemon wedge sprinkled with salt is said to fend off the garlic or onion breath.
12. Avocado effectively treats intestinal putrefaction or decomposition, which is one of the main causes of bad breath.
13. Burn some dry turmeric and powder it. Use this powder daily along with salt for cleaning the teeth by rubbing it on the teeth and gums. This will maintain the gums and teeth in a healthy condition and prevent any halitosis.
14. Fresh juices from green vegetables are very useful for the treatment of halitosis.

Cirrhosis

‘Cirrhosis’ is one of the severest diseases of the liver, where the whole liver

is affected with progressive damage and widespread death of the liver cells. This is associated with inflammation and gradual development of scar tissue, resulting in diffused fibrosis and loss of the normal lobular liver architecture leading to formation of nodules in the liver. These prevent the liver from functioning normally and thereby removal of the toxins from the blood is affected. Gradually the normal soft consistency of the liver becomes hard, irregular and contracted. In later stages, the fibrosis continues with degeneration and chronically a shrunken liver is formed. Initial symptoms include weakness, fatigue, muscle cramps, weight loss and ankle and abdominal oedema. The other common signs include enlargement of the liver and spleen; slight jaundice with pain in the epigastric region, anorexia, nausea and vomiting; red and smooth palms; ascites; spider naevi; caput medusae; cyanosis; clubbing of fingers; gynaecomastia; testicular atrophy; impotence; loss of libido; loss of body hair; haemorrhagic tendency (easy bruises, purpura, epistaxis and menorrhagia); low grade fever and in later stages Dupuytren's contracture. Medical assistance is of utmost importance in these patients and the prognosis is poor especially if the condition is advanced. Some home remedies:

1. Abstain from alcohol in any form and reduce the intake of fats and oils. Restrict the intake of salt in the diet. Avoid taking refined, processed and canned foods, sugar in any form, condiments, spices, strong tea, coffee, and fried foods.
2. The patient is advised to take 3 meals of only fresh juicy fruits and milk daily. One litre of milk can be taken on the first day, which should be increased by 250 ml daily up to 2 litres a day; but should be sipped slowly.
3. Increase the intake of high quality proteins (goat's milk, homemade cottage cheese, sprouted seeds, grains and raw nuts especially almonds) and fibre-rich food.
4. Freshly extracted juices or raw fruits like apple, pear, lemon, papaya, grapes, oranges, pineapple and peach may be taken during this period.
5. A tablespoonful of the juice of black seeds of papaya mixed with ten drops of fresh limejuice taken twice daily for a month has proved beneficial.
6. Vegetables, which are bitter in taste like sponge gourd or *Luffa acutangula,* bitter gourd and bitter variety of drumstick, should be given to the patient. Other vegetables useful for this condition are eggplant,

beetroot, tomato, carrot, radish and raw papaya.

7. The juice of bitter gourd is a useful antidote for alcohol intoxication and so is a useful home remedy for cirrhosis of liver. 3 teaspoonful of this juice should be taken in a glass of buttermilk every morning for a month.
8. Camel's milk is considered very useful in this disease especially when there is ascites associated with cirrhosis.
9. Juice of ripe mango fruit with honey is given.
10. Curd should not be given to the patient but buttermilk prepared by churning the curd (prepared from cow's milk) is exceedingly useful. Add some roasted cumin seeds to the buttermilk.
11. One of the most popular and effective home remedy for cirrhosis of liver would be to have 200 ml of spinach juice. To enhance the efficiency of the drink, add 300ml of carrot juice or beetroot juice or cucumber juice to it.
12. Figs or its leaves also prove beneficial in treating cirrhosis of liver.
13. One teaspoonful of glucose in a cup of water taken thrice a day would be beneficial in treating liver cirrhosis.
14. Including carbohydrates in the diet would be helpful in curing liver cirrhosis. Salads also would be very helpful.
15. Another simple yet efficient treatment would be to have limejuice with a pinch of rock salt.
16. Radish also cures a person suffering from cirrhosis of the liver. There are two ways of taking it. Either a person can take it raw along with the tender stem or extract juice out of it and have it on an empty stomach daily.
17. Another effective way of curing cirrhosis would be to extract the juice of the leaves of the herb *Eclipta alba*. One teaspoonful of its juice should be mixed with one teaspoonful of honey and consumed three times a day.

Hiccoughs

'Hiccough' is usually triggered off by involuntary spasmodic contractions of the diaphragm (the thin muscular layer that separates the chest from the abdomen), due to the irritation of the phrenic or vagus nerves that causes the air to suddenly rush into the lungs, causing the vocal cords to close suddenly

and make the sound ‘hic’. This usually results if a lot of air has been swallowed when eating or drinking rapidly, when eating some irritating food (like flatulent food items), when eating both hot and cold food simultaneously, by a fit of laughter or by nervous tension. Drinking alcohol or carbonated beverages can also result in hiccoughs. They usually go off on their own, but if they persist, then some medical intervention is necessary, since it can be caused by diseases like pneumonia, stomach problems, alcoholism, hepatitis, etc. The following measures have helped most of the people who have had hiccoughs –

1. Take a deep breath and hold it for a few seconds, release the breath and repeat
2. Breathe into a paper bag.
3. Gulp down hard.
4. Plug the ears with fingers and hold out the tongue, this is to be done repeatedly until the patient gets some relief.

But if there is no relief with the above measures, then start off with home remedies. Some home remedies:

1. Take a glass full of cold water and hold it in the mouth. Press the middle fingers in both ears and swallow the water, removing the fingers after a moment or two. Repeat this act till relief is obtained.
2. Drinking pineapple juice, orange juice or beer or gulping down practically any liquid helps to halt the hiccoughs because of the act of swallowing involved.
3. Swallowing a teaspoonful of sugar or something sour (like vinegar) or sucking on a lemon is advised which helps reduce the hiccoughs.
4. Eating fresh papaya or pineapple helps in cases where the hiccoughs result from some digestive troubles.
5. Drink a glass full of water with a teaspoonful of honey or water containing a teaspoonful of apple cider vinegar, without stopping.
6. Drinking small quantity of cold milk and hot milk alternately helps to stop the hiccoughs.
7. Juice of white radish is useful to stop the hiccoughs.
8. Sugarcane juice mixed with ginger juice can be taken in large quantities.
9. Mixture of equal parts of powdered seeds of dates and long pepper (pipli) is given with honey.
10. Suck a lemon wedge with salt or sprinkled vinegar or worcestershire

sauce.
11. Swallow a teaspoonful of honey, onion juice or vinegar.
12. Chew dill seeds or fresh mint leaves.
13. Make a cup of anise tea and sip slowly.

Open Wounds

Open wounds are complications of surgical intervention, severe infections or metastasis on the skin. These open wounds always produce severe pain, mucopurulent or blood discharges, bad odour, etc. Some home remedies–

1. Cleaning the wound with *Calendula* mother tincture several times a day is extremely useful to prevent secondary infection.
2. When the wound has an offensive odour it should be cleaned with *Hoang nan* mother tincture several times a day.
3. When haemorrhage is present on slightest touch or when bleeding occurs like a fountain, it should be compressed with a gauze piece dipped in *Millefolium* mother tincture several times a day.
4. Paste of leaves of holy basil (*tulsi*) is applied to check the bleeding and promote healing.
5. Pure honey is applied locally as an ointment for wounds and ulcers.
6. The juice of pumpkin when applied externally helps to heal the wound fast.
7. A few drops of the fluid extract of the herb Marigold (*Calendula*) when added to a cup of cold water makes an excellent dressing for any cancerous wounds. The petals moistened with some warm water also make an excellent local application.

Insomnia

Insomnia in cancer patients is a result of chronic ill health, depression, pain and nutritional disturbances. Some home remedies:

1. Eating dinner just before sunset, followed two hours later by a bath in lukewarm water with a few drops of lavender oil can be very soothing to the nerves. This with some soft and soothing drone music will help the person to sleep well.
2. A balanced diet should be taken and the following items should be

avoided as far as possible–tea, coffee, chocolate, cola drinks, alcohol, fatty foods, white flour products, sugar and its products, fried foods and foods containing additives and preservatives.

3. Rinse the eyes with rosewater and then put a drop of ghee in each eye and keep the eyes closed for some time. This will by itself lead to a peaceful sleep.
4. Honey is a good remedy for inducing sleep. A glass of warm milk, sweetened with honey, taken every night before going to bed is useful.
5. Sesame oil (*til*) is mixed with bottle gourd juice in equal proportion and massaged over the scalp each night to induce sleep.
6. Roasted brinjal eaten with honey in the evening induces sleep.
7. Thiamine (vitamin B1) and Vitamin A is vital for strong, healthy nerves. A body starved of thiamine over a long period will be unable to relax and fall asleep naturally. The rich sources of vitamin B1 are asparagus, brown rice, brussel sprouts, dried beans, dried plums, eggyolk, fenugreek seeds, fish, gingelly seeds, green leafy vegetables, lean meats, maize, milk and other dairy products, nuts, oats, organ meats, peas, peanuts with husk, plums, pork, potatoes, raisins, rice bran, rye, soybeans, sprouted wheat, unpolished rice, wheat germ and yeast. The natural sources of vitamin A are alfalfa, animal livers, apricots, asparagus, beans, beets, broccoli, cabbage, cantaloupe, carrots, cod liver oil, dandelion greens, dates, egg yolk, fish, fresh fruits and green leafy vegetables (especially spinach, spirulina, turnip tops and green peas), garlic, kale, milk and milk products (especially butter), mustard, oranges, papayas, parsley, peaches, pumpkin, red pepper, soya beans, sweet potatoes, tomatoes, watercress (*jalkumb*) and whole cereals.
8. Curd when massaged on the head induces sleep.
9. Having small sips of wine before retiring to bed helps.
10. Some herbs like *Serpentine, Avena sativa, Indian hemp,* etc. prove to be beneficial.
11. Rosemary tea when taken at night, half an hour before sleep, is useful for insomnia.

Amnesia

Memory disorder in cancer patients usually comes from nutritional disturbances, depression and the emotional stress of physical suffering. Some

home remedies:

1. Increase the intake of carrots, cow's milk, egg yolk, nuts, pulses, radish, soybean oil, sunflower oil and whole-grain cereals. Avoid taking a lot of spices and bitter things.
2. Soak at least 10 almonds in water overnight and then the next morning, peel off the skin and have it on an empty stomach daily.
3. Having phosphorus-rich fruits like apples, almonds, walnuts, dates, oranges, figs (*anjeer*) and grapes prove to be useful to improve the memory. Other sources of phosphorus are asparagus, bran, brewer's yeast, corn, dairy products, dried fruits, eggs, fish, garlic, legumes, meat, nuts, pumpkin seeds, salmon, sesame seeds, sunflower seeds and whole grain.
4. The person should take Indian gooseberry (*amla*) in either raw form or in the form of *murabba*, pickles, juices and vegetables.
5. Taking 3 to 4 prunes (dried plums) daily in the morning for a few days helps.
6. Tea prepared from herbs like dried sage leaves or rosemary herb (*Rosmarinus Officinalis*) should be taken twice daily. It is a refreshing drink and also an effective antidote to mental fatigue and forgetfulness.
7. Having an apple daily along with two teaspoonful of honey and one cup of milk helps improve the memory.
8. Add powdered cardamom seeds in boiling water during the preparation of tea.
9. Walnuts when taken daily, preferably along with raisins or figs, prove to be effective.
10. One teaspoonful of cumin seeds mixed with two teaspoonful of pure honey taken once daily, preferably in the morning, is useful for improving the memory.
11. Make powder from cloves and mustard seeds and give it to the patient daily in the morning.
12. Deficiencies of iron, zinc and boron can be responsible to some extent for lack of concentration and so have a diet rich in these minerals.

Table 8.5: Healing foods

Foods	Key Nutrients	Benefits
Broccoli, Brussels, sprouts, cabbage, cauliflower, radish, turnip, watercress	Indole-3-carbinol, glucosinolates, isothiocyanates, vitamin C	Enhancing detoxication Protecting DNA Inhibiting tumour formation
Carrots, peppers, green vegetables	Vitamin A and C, carotenoids, lutein, fibre, calcium, magnesium	Antioxidant function Immune enhancement
Citrus fruits (lemon, grapefruit, orange)	Vitamin C, fibre, potassium, flavonoids (Limonoids, hesperidin, rutin), Ellagic acid	Antioxidant function Preventing tumour invasion Enhancing detoxification Immune enhancement
Dark berries, grapes	Bioflavonoids (Anthocyanidins), resveratrol	Immune enhancement Antioxidant functions Cell protection Enhancing detoxification
Whole wheat and other whole grains	Vitamin E, zinc, selenium, fibre, liganans	Elimination and detoxification Immune enhancement

Foods	Key Nutrients	Benefits
Green tea	Polyphenols (including epigallocatechin-3-gallate, abbreviated EGCG)	Antioxidant function Inhibiting tumour formation Interfering with signalling for tumour growth Preventing genetic damage and cancer formation
Garlic and onion	Allicin, S-allyl cysteine, selenium,	Blocking formation of cancer causing agents
	flavonoids, quercetin	Preventing tumour growth Antioxidant functions Immune enhancement
Spices (especially ginger, rosemary and turmeric)	Carnosol, curcumin, flavones	Antioxidant function Enhancing detoxification Inhibiting tumour formation Immune enhancement Anti-nausea (ginger) Anti-inflammatory (curcumin and ginger)
Tomatoes	Lycopene	Inhibiting tumour formation and carcinogenic activity
Legumes and beans (soybeans, garbanzo, kidney)	Phytic acid, genistein, fibre, isoflavones, phytoestrogens, protease inhibitors	Blocking oestrogen receptors Inhibiting tumour formation Interfering with carcinogenic activity Modulating hormones

Foods	Key Nutrients	Benefits
Nuts and seeds	Vitamin E, essential fatty acids, calcium, magnesium, zinc, fibre, protease inhibitors, sterols	Antioxidant function Modulating hormone receptors
Mushrooms	Polysaccharides, beta-glucan, fibre	Immune enhancement
Cold-water fish (salmon, cod, halibut)	Vitamin-D3, essential fatty acids [eicosapentaenoic acid (EPA) docosahexaenoic acid (DHA)]	Immune enhancement Inhibiting tumour formation

Infections in Cancer Patients

Most of the cancer patients run a high risk of catching some sort of infection. This is so because the cancer itself and the treatment used to fight it, both affect the immune system defences. The skin and mucous membrane, which are the first line of defence against infection, are punctured by the invasive procedures which are necessary to diagnose or treat cancer problems. Chemotherapy and radiation are particularly damaging to mucous membranes. The needles for drawing blood samples, the intra-venous (IV) lines, the catheters and pumps, all create potential ports of entry for infectious organisms. Also the number of neutrophils is dramatically reduced by chemotherapy, radiation therapy, leukaemia and bone marrow transplants; low white blood cell counts are common in cancer patients and as the count decreases the risk of infection increases.

Some cancers, including Hodgkin's disease, can cause defects in cellular immunity and also the chemotherapy, radiation and drugs that suppress the immune system. Humoral immunity can be damaged in cases of multiple myeloma and chronic lymphocytic leukaemia or after removal of the spleen (if treatment requires).The normal flora i.e., the resident bacteria which lives on the skin, mucous membrane and in the intestine which are otherwise harmless can also cause severe infection when the person's immunity is down. The infections may be bacterial, fungal, or viral:

1. **Bacterial Infections:** Bacteria on the skin can readily gain access into the blood stream if an IV line is in place, resulting in sepsis or a local soft tissue infection called cellulitis. Similarly, normal oral or intestinal bacteria can reach the blood stream if the mucous membranes or lining of the gut are damaged by radiation or by certain types of chemotherapy. This therapy-induced tissue injury is called mucositis (inflammation of the mucous membranes). A depressed immune system will also make one more susceptible to acquiring an infection through direct, face-to-face contact with people who already have an infection. Once any area of the body is infected with bacteria the chances are high of developing sepsis.
2. **Fungal Infections:** Most fungal infections develop only after several abnormal circumstances exist. For example, the use of broad spectrum

antibiotics may kill off much of the normal intestine bacterial flora, creating an ecological ‘vacuum’ that is filled by the gut becoming heavily colonised by antibiotic-resistant yeast. Also added ‘insults’ to the body by chemotherapy-induced mucositis; by the use of steroids and other immunosuppressive drugs, and by the presence of invasive devices such as urinary catheters, deep intravenous lines and nasogastric tubes may allow the yeast colonization to progress to localised and then disseminated yeast infection.

3. **Viral Infections:** When the cellular immunity is depressed by either cancer or chemotherapy, new viruses can readily establish in the body and old viral infections could be reactivated; e.g. cold sores are caused by the herpes simplex virus; this is a virus that can persist within the body indefinitely. When the cellular immunity is depressed, the virus can flare up and produce a severe bout of cold sores. Herpes, which causes chicken pox can reactivate and cause shingles, it can become widespread and even life threatening.

The infections manifest in the form of following signs and symptoms:

1. Fever***:*** This is a very reliable sign of infection and has to be attended immediately, especially if the patient’s white blood count is low.
2. Shaking chills.
3. Severe night sweats.
4. Nausea and vomiting, especially if accompanied by fever.
5. Diarrhoea, especially with fever or with blood in stool.
6. Burning sensation or pain when urinating, which indicate bladder infection.
7. Coughing, shortness of breath or chest pain, all of which may be first signs of pneumonia or bronchitis.
8. Sore throat.
9. Tenderness, redness, swelling, pain or discharge at the site of a permanent intravenous catheter used during chemotherapy.
10. Headache or neck stiffness with fever which could indicate meningitis.

Diagnosis of infections done is on the basis of signs and symptoms which indicate the origin of infections. Shaking chills and fever clues that sepsis may be present wherein a blood culture should be done immediately. A cough might indicate pneumonia which can be confirmed by a chest x-ray or by culture of the sputum. Abdomen should be examined for signs of enlargement or tenderness in organs, which may be involved with infection.

Diagnostic test like complete blood count (CBC), stool and urine test, chest X-rays, CT, MRI, or PET scans or nuclear medicine studies such as gallium or indium scan can help to find out the source of infection.

There are certain times during the course of the illness when the patient is more susceptible to infections, particularly when the white blood cell count is at the lowest. It has now become a standard practice in many chemotherapy programs to raise WBC counts by giving colony stimulating factors, such as G-CSF and GM-CSF. These are synthetic form of substances the body naturally secretes to stimulate bone marrow to produce WBCs.

Following are the guidelines for the patients to be followed in order to prevent infection:

1. Personal cleanliness and good hand washing are the essential practices that help immune-suppressed patients to avoid infections. At home, washing and bathing with plain soap and water are perfectly adequate ways to maintain cleanliness and avoid infections. The use of antibacterial soap adds no significant benefit; instead it greatly increases the risk of colonization with antibiotic resistant microorganisms.
2. Stay away from people with colds and flu. Many respiratory viruses can also be spread by hand-to-hand contact, so avoid shaking hands with people with upper respiratory infections or wash your hands immediately after doing so.
3. Avoid intimate contact with people with open sores such as cold sores or other viral or bacterial infections.
4. Avoid enclosed public areas where there is little ventilation.
5. Cut nails carefully to avoid small nicks.
6. Shave with an electric razor rather than a blade.
7. Use gloves for protection when doing physical work that might damage the skin.
8. Avoid dental work or cleaning while undergoing chemotherapy or if the WBC or platelet count is low.
9. Avoid rectal thermometers and any other manipulation of the anus or rectum.
10. Avoid all contact with the animals.
11. Use colloidal silver to wash foods from the market. Also, 1 teaspoon or more daily of good quality colloidal silver (greater than 20 ppm) may be

taken by mouth daily to help prevent infections.

12. Preventing food-borne illness:
    a. Avoid raw vegetables and any fruits that cannot be peeled. Vegetables can harbour enormous numbers of potentially dangerous bacteria on their surfaces. Wash all raw fruits and vegetables well. If it can't be well washed, avoid it. Scrub rough surfaces, like the skin of melons, prior to cutting.
    b. Avoid lettuce completely when white blood cell count is very low. There is no way to clean bacteria from the surface of lettuce leaves.
    c. Carefully wash the hands and food preparation surfaces before and after preparing food, especially after handling raw meat.
    d. Thaw meat in the refrigerator, not on the kitchen counter. Be sure to cook meat and eggs thoroughly; do not eat under cooked meat and poultry. Raw meat products can contain dangerous microorganisms such as *Toxoplasma* and *E. coli*. Nearly all uncooked poultry contains *Salmonella*.
    e. Avoid raw shellfish and use only pasteurised or processed ciders and juices and pasteurised milk and cheese.

Pain Control in Cancer Patients

Pain is a terrifying and debilitating suffering in cancer patients that may lead to depression, loss of appetite, irritability, withdrawal from social interaction, anger, and loss of sleep. It can be. Pain remains a major problem, about 30–50% of cancer patients undergoing active cancer treatment suffer with pain and 70–90% of patients with advanced cancer suffer from moderate to severe pain due to the barriers to pain control.

Common barriers to pain control are:

1. Patients may be unwilling to report the extent of their pain. They often underreport the level of pain on a 1–10 scale.
2. Few patients fear that increased pain may reflect disease progression, and this makes them want smaller amounts of pain medications.
3. They do not want to appear as complainers.
4. Pain control sometimes has a lower priority.
5. Another reason could be that, it may be difficult for many people to accurately articulate the quality, texture, and intensity of their pain– sharp or dull or electrical or sporadic or insistent type of pain.
6. Moreover, the memory of pain is inexact. Between the attacks of pain, people tend to forget about the level of intensity and other specifics.

Pain can be either somatic (originating from the tissue, bones or organs) or neuropathic (resulting from the damage to or pressure on nerves) or a combination of both. Somatic pain is often described as ‘achy, dull and localised’ when it results from broken bone associated with tumour involvement, or as ‘crampy and diffused’ when it results from an obstruction in the intestine or urinary tract. Neuropathic pain is usually described as sharp, burning, electrical, shooting, or buzzing. These sensations typically occur in areas served by the injured nerves, which can be either in the peripheral nerves or in the central nervous system. Such an injury can be caused by the direct spread of a tumour, such as in colon cancer the nerves to the legs may be involved being situated in the pelvis. It can also be caused by the pressure on the nerves, e. g., spinal tumours pinch or press on nerves to the arms or legs. Other types of neuropathic dysfunction include hypersensitivity of the skin or an exaggerated, painful response to nerve stimuli, and an occasional motor change such as weakness or atrophy of an

affected muscle group. Surgery, various chemotherapeutic drugs and radiation treatment can also produce temporary side effects of somatic and/or neuropathic pain or discomfort.

While recommending palliative measures for pain, Allopathic physicians use guidelines set forth by WHO - mild, moderate, and severe pain. The following medications are recommended for different levels of pain:

1. **Mild Pain:** Non-narcotic medications such as aspirin, acetaminophen (Tyelenol), and other aspirin-like drug (NSAIDs).
2. **Moderate Pain:** A combination of NSAIDs and weak narcotics, such as codeine, hydrocodone (Vicodine or Lortab), Percocet, Percodan, and propoxyphene.
3. **Severe pain:** Strong opioids such as morphine, Dilaudid, fentanyl and methadone in combination with an NSAID.

Emotions and psychological issues are also components of pain. Psychological support through counselling can help to reduce a sense of loneliness and isolation. Counselling can help the patient to control his situation and help in planning for the future.

Relaxation exercises, massage, trans-cutaneous electrical nerve stimulation, biofeedback, acupuncture, and acupressure can all be of help in controlling pain. Music has been rated to have an analgesic effect. Music can help to feel relax, raise one’s spirits, give great joy and control the pain.

Palliative Care

Cure may not be possible in all cancer patients. The most appropriate method of treatment in such cases is palliation. The primary concern of palliative care is quality of life. Palliative care is provided so that people who are dying can be helped to maintain the best possible level of physical, emotional, mental, spiritual, vocational and social life during their remaining time, in spite of the limitations that may be imposed by their advancing disease.

Both patient and family are involved in palliative care to ensure that the patient can live as fully as possible in the face of impending death and the most satisfactory quality of time together can be achieved. Goals of palliative care are:

1. **To provide relief from pain and other distressing symptoms:** Individuals with advancing disease can experience a variety of symptoms, depending on the specific type of disease. The most common symptoms include pain, loss of appetite, fatigue, difficulty in breathing, confusion, nausea, vomiting, cough and dry or sore mouth. One of the most commonly experienced symptoms is pain, no matter how chronic or severe, it can almost always be controlled. Each patient may have pain for different reasons and respond to pain differently.
   One of the changes that can occur for cancer patients as their disease advances is loss of weight and wasting of body tissues. This can be accompanied by changes in skin colour and loss of appetite. Watching these changes can be difficult both for the patient and for family members. These changes are a part of the normal course of the advancing disease. As death draws closer, all bodily functions slow. Weakness and fatigue can be profound and there may be periods of confusion.
2. **To provide psychological and spiritual care:** Facing one's own death, releases a range of emotions. In such a situation, each person will react in a different way - there could be shock and disbelief that this could be happening, or anger that it is happening at this time in one's life or acceptance that one's appointed time has come. A range of worries will usually emerge as the person begins to imagine the ending of life and what will happen to his loved ones. There may be financial concerns,

legal issues and worries about how one's family will manage. As the bodily changes occur and dependence on others increases, many people have concern about not contributing to the family in their usual way or they worry being a burden. Regrets about things one did, as well as things left undone, can create a sense of guilt and remorse. Sometimes people feel that they are very alone, that no one could possibly understand what they are going through. This can also be a time for inner growth and reaching a sense of profound peace. Not everyone will experience all these feelings, but they are all natural and it is helpful to talk about them. Some people find it helpful to talk with their close friends or family members. These feelings are difficult to face and to talk about, so they do not go away. Finding a comfortable way to acknowledge and express them will be helpful. While some people will talk to another person, write a diary, paint a picture or and write a poem, others may find solace by listening to music, reading, or meditation. Feelings can be expressed in many ways. What is useful to one person may not be helpful to another. Every person needs to find the way that works best for them.

3. **To provide support to family during the illness:** Family and friends also experience a range of emotions. They too share the shock and disbelief, the feelings of unfairness and anger, and the overwhelming sense of helplessness to change the course of events. Loved ones will experience their own concerns about the future, fear about how they will face the challenges alone. The world without one's spouse or parent or child is impossible to imagine. There could be an overwhelming sense of dread and despair, an emerging sense of profound loss. Talking with one another, or with someone else, about one's feelings can be helpful.

Bibliography

1. Allen HC.—Materia Medica of the Nosodes with the Proving of X-ray. Calcutta: Sett, Dey, 1973.
2. Alschuler L N. Gazella K A. The definitive guide to Cancer: an integrative approach to prevention, treatment and healing. Ten Speed Press, 2010
3. Barthel, H—Synthetic Repertory - Volume II - 3rd edition - B. Jain Publishers.
4. Blackwood—Materia Medica, Therapeutics, and Pharmacology, Boericke &Tafel, 1922.
5. Boericke, William—Pocket Manual of Homoeopathic Materia Medica with Repertory - 9th edition - B. Jain Publishers.
6. Boger, CM.—Boenninghausen's Characteristics and Repertory - 2nd edition - M.V. Kulkarni for Roy and Company.
7. Boger, CM.—A Synoptic Key of the Materia Medica 4th edition - B. Jain Publishers.
8. Burnett, J.C—Curability of Tumours by Medicines - B. Jain Publishers.
9. Cheraskin, E., and Clark, J.W.—Diet and Disease. Emmaus, PA: Rodale Books, 1968.
10. Clarke, J.H.—Dictionary of Practical Materia Medica Volumes I, II, III - 1988 - B. Jain Publishers.
11. Clarke, J.H.—The Therapeutics of Cancer - 1990 - B. Jain Publishers.
12. Close Stuart. —"Curability of Cancer". The Homoeopathic Recorder (August 1927).
13. Coping Within The Family. [Internet]. Available from:

http://www.caregiverslibrary.org/caregivers-resources/grp-diseases/hsgrp-cancer/coping-within-the-family-article.aspx

14. Cooper, R.T.—Cancer and Cancer Symptoms - 1990 - B. Jain Publishers.
15. Corea, C.V.S. —Homoeopathy and Cancer. The Hahnemannian Gleanings (June 1974).
16. Crile, G.W. —A Bipolar Theory of Living. New York: Macmillan, 1956.
17. Devita, V.T., Hellman S.; Rosenberg, S.A.—Cancer - Principles and Practice of Oncology - 3rd Edition J.B. Lippincott Company.
18. Dhawale, M.L.—Symposium volume - Area F-lst edition Institute of Clinical Research.
19. Dubos, Rene.—Mirage of Health. New York: Harper and Brothers, 1968.
20. Fortier-Bernoville.—"General Review of the Homoeopathic Treatment of Cancer. "L" Homoeopathic—Moderne (February 1933).
21. Fortier-Bernovillie and Grimmer, A.H.— Homoeopathic Treatment of Cancer - 1965 - M.V. Kulkarni for Roy and Company.
22. Foubister, D.M.—The Carcinosin Drug Picture - 1975. B. Jain Publishers.
23. Gilchrist, J.G.—The Homoeopathic Treatment of Surgical Diseases. Boericke & Tafel, 1873.
24. Grimmer, A.H.
    a. "Cadmium Cures of Cancer". The Homoeopathic Recorder(September 1929):606.
    b. "Cancer Cures and Specifics". Editorial in the Homoeopathic Recorder 66 (12) (1951): 357.
    c. "Further Results in the Homoeopathic Treatment of Cancer". The Homoeopathic Recorder 46 (9) (1931).
    d. "The Homoeopathic Philosophy of Cancer Abuse". Homoeopathic

Recorder 47 (2) (February 1932): 134.

e. “Homoeopathic Treatment of Cancer”. Journal of the American Institute of Homoeopathy 43(6X1950): 121-123.

f. “Remedial Measures Homoeopathic and Diet”. The Homoeopathic Recorder (March 1931).

g. “Some Cancer Remedies and Their Indications”. The Homoeopathic Recorder 52 (4) (April 1937).

25. Hahnemann, S.—Organon of Medicine - 6th Edition - B. Jain Publishers

26. Hamilton, J.—“Emotional Stress in the Aetiology of Cancer”. The British Homoeopathic Journal (April 1972).

27. Harrison, T.R. - Principles of Internal Medicine - 12th edition - McGraw Hill International Book Company.

28. Hering, C.—The Guiding Symptoms of our Materia Medico volumes I to X -1971B. Jain Publishers.

29. James, Bushrod W.—Tumours -1985 - Manu Jain for Rational Life Publications.

30. Kanjilal. J.N.—“The Basic Nature of the Three Fundamental Miasms”. Journal of the American Institute of Homoeopathy (March 1979).

31. Kasad, K.N.— Iscador Therapy of Cancer - 1990 - Progressive writers Combine.

32. Kent J.T.

a. Lectures on Homoeopathic Materia Medica 4th Edition - Boericke and Tafel.

b. Repertory of the Homoeopathic Materia Medica - 6th edition - B. Jain Publishers.

c. Lectures on Homoeopathic Philosophy. Calcutta: Sett, Dey & Co., 1961.

d. New Remedies, Clinical Cases, Lesser Writings, Aphorisms and Precepts. Calcutta: Sett, Dey & Co., 1961.

e. Repertory of the Homoeopathic Materia Medica. 4th ed. Chicago: Ehrhart & Karl, 1935.

33. Kroeger, Hanna - Recipes from Physicians, Scientists and laymen in the fightagainst Cancer.
34. Master, F.J.—Homoeopathy in Cancer - 1989 - B. Jain Publishers
35. Mosby's Medical Dictionary - 2nd Edition - C.V. Mosby Company.
36. Nash, E.—"Leaders in Homoeotherapeutics". Lee. on Bell.
37. Natenburg, M.—The Cancer Blackout. Chicago: Regent House, 1959.
38. Neiswander,A.C.—"Cadmium: Old and New Research". Journal of the AmericanInstitute of Homoeopathy (December 1978).
39. Phatak, S.R.— A concise Repertory of Homoeopathic Medicines-2nd edition - B. Jain Publishers.
40. Robbins S.L; Kumar V. —Basic Pathology - 4th edition W.B. Saunders Company.
41. Roberts, H.A.—The Principles and Art of Cure by Homoeopathy.
42. Simonton, C.—"Belief Systems and Management of the Emotional Aspects of Malignancy". The Holistic Health Handbook. Berkeley, CA: And/or Press. Getting Well Again. Los Angeles, CA: J.P. Tarcher.
43. Vithoulkas, G.—The Science of Homoeopathy. Athens, Greece, 1978.
44. Webster - English Dictionary - 2nd Edition.
45. Wright Hubbard, E - Brief Study Course in Homoeopathy.