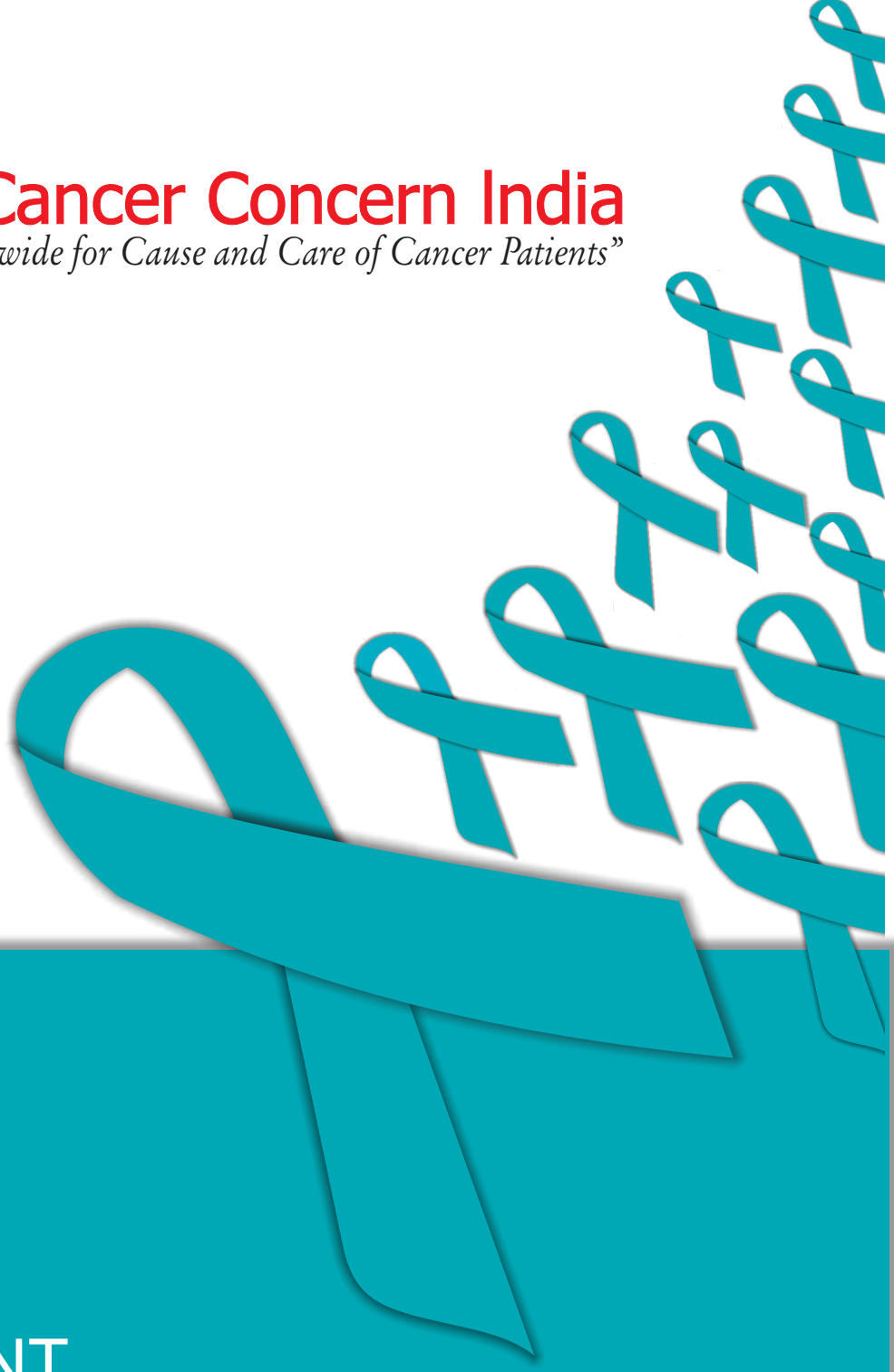
Global Cancer Concern India
"Striving Nationwide for Cause and Care of Cancer Patients"



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Global Cancer Concern India

"Striving Nationwide for Cause and Care of Cancer Patients"

MISSION

"To combat cancer at all stages by seeking prevention, early detection and recognizing palliative care as an important part of cancer care management so that poor cancer sufferers can live quality lives with dignity and self esteem as long as possible."

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Editorial

In the present world which drifting towards commercialism and material progress, the social concerns tend to be relegated to the backseat. There has been erosion in values. Mathew Arnold in his poem Dover Beach, has beautifully expressed this:

"The Sea of Faith
Was once, too, at the full, and round earth's shore
Lay like the folds of a bright girdle furled.
But now I only hear
Its melancholy, long, withdrawing roar…"

In this scenario, the not for profit organisations are expected to continuously expand the horizons of their work to make this world a better place to live. In 2015 Global Cancer Concern India added a new dimension to its multi-faceted cancer care work by bringing out its R & D Journal which was released by Dr. Harsh Vardhan- Hon'ble Union Minister for Science and Technology and Earth Sciences at Anusandhan Bhavan, New Delhi. The present issue is the third issue of R & D Journal. It has always been our endeavour to enrich the content of the Journal. The present Journal aims at confluence of recent research findings on cancer and useful information for the common people so that they are better aware regarding this dreadful disease which is synonymous with intense physical, economic and psychological hardships and take preventive steps.

In addition to the articles on cancer, this issue also contains an interesting article "The Stress and Depression Connection".

We hope that the readers will find this issue a good contributor to their knowledge about cancer, the burden of which is besetting a massive challenge to India.

Dr. Harvinder Singh Bakshi
Chief Executive Officer

About GCCI

Introduction

Global Cancer Concern India (GCCI) is a registered NGO which occupies a prominent place in the vanguard of cancer care NGOs in the country and has been working assiduously for the last 18 years for the well being of the disadvantaged people afflicted with cancer. It was founded by Late Maj Gen R S Pannu.

The Programme spectrum of GCCI includes Health Education/ Awareness about Cancer, Free Home Care Services to terminally ill poor cancer patients, Vocational Training to kith and kin of cancer victims, Provision of school fees under Child Sponsorship Programme and Primary Health Care cum Cancer Screening Centers. GCCI is working nationwide through 15 offices with focus on rural areas and urban slums. It has been accredited by National CSR Hub at Tata Institute of Social Sciences, Mumbai and also by Indian Institute of Corporate Affair (a nodal national CSR agency) setup by Ministry of Corporate Affairs, Government of India.

Mission

"To combat cancer at all stages by seeking prevention, early detection and recognizing palliative care as an integral part of Cancer Care Management so that poor cancer sufferers can live quality lives with dignity and self esteem as long as possible."

Programmes

GCCI since inception has operated directly as well as in collaboration/partnership with other organizations at various locations in the country.

a) Our Current National Level Programmes:

- Cancer Awareness and Detection Camps in rural and urban areas as community out reach programmes.
- Cancer Awareness Programmes in schools, institutions, corporate organizations.
- Child Educational Sponsorship Programme to help under priviledged children of cancer afflicted families to continue with their school education through out country.
- Vocational Training to dependents of cancer afflicted families.
- Financial support for Medical Treatment of poor cancer patients below poverty line.
- Palliative Home Care services to poor cancer patients.
- Training of cancer care givers with a view to mitigate the suffering of cancer patients.
- Primary Health Care Programme in village and urban slums.
- Training Capacity building Programme of Medical and Paramedics in Palliative Home Care setting at National level.

b) Current Regional Level Programmes :

- Running free Primary Health and Cancer Screening Centers at Kishangarh, Vasant Kunj, New Delhi and in Sector-49, Gurgaon.
- Palliative Home Care Services for needy families, including provision of medicines to cancer patients by teams at Delhi, Gurgaon and Noida covering other areas under NCR.
- Palliative Home Care Services at Ludhiana, Punjab supported by Help Age India.
- Vocational Training Program (Computer Hardware & Software) in association with Indian Red Cross Society Punjab Branch Patiala, Punjab.
- Primary Health, Cancer Screening and Palliative Home Care Programmes at Chandigarh supported by Mahindra and Mahindra Limited.
- Vocational Training (Sewing, Tailoring and Computer Education) Programmes in collaboration

with Don Bosco at Chandigarh.

- Vocational Training (Sewing and Tailoring) Programmes in collaboration with Bhai Ghanaiyaji Care Service and Welfare Society, Mohali supported by Indian Oil Corporation.
- Vocational Training (Sewing, Tailoring and Computer Education) Programme with Manav Vikas Samiti and Welfare Society, Chandigarh.
- Palliative and Out-reach Home Care Services at Mumbai and Bangalore in association with Tata Memorial Hospital and Bangalore Hospice Trust, respectively.
- Cancer Screening Programme in association with Adyar Cancer Hospital Chennai, Tamil Nadu.
- Cancer Screening Programme at Kottayam (Kerala) supported by Apollo Tyre Limited.
- Palliative Home Care and cancer screening project at Bathinda (Punjab) supported by Oracle Group of Companies.
- Free Distribution of Oral Morphine Tablets under Palliative Care Project for terminally ill cancer patients at The Gujarat Research and Medical Institute (Rajasthan Hospital) Ahemdabad, Gujarat.
- Mobile Palliative Home Care Unit at Nagpur (Maharashtra) in association with Snehanchal.
- Mobile Primary Health, Cancer Awareness, Cancer Screening and Palliative Home Care Programme at Sitamarhi, supported by National Payment Corporation of India.

Bravehearts

Case Study 1:

As a wife, I was not at all ready for the unexpected development in the life of my deceased husband. He was 73 when we found out that he was suffering from liver cancer – III stage. Being a retired army official (Major), little did he know the other serious health issues that lay ahead, which would create serious new challenges for him over the next few months.

When doctor diagnosed him with liver cancer having 15-16 cm tumour – we learnt that he might have only three months to live. I was stepping into the challenging role of cancer caregiver. Although, the road since then was not easy, I was able to take care of him and handle the rigors of daily life.

He was on treatment and suddenly he started losing his weight alarmingly. Loss of appetite, loss of strength-gave us the reason to get him admitted to the hospital. He needed a walker to walk as he was not able to walk independently. I had to provide a whole new kind of support which was including of helping him with his physical mobility. I closed my boutique in order to take care for him full time and struggled with the efforts of keeping up with his needs.

He had been a strong willed, non-complaining, well-disciplined and jolly person – who lived and enjoyed his life till his last breath. He was never depressed or sad through out his illness. For only in last 3 months, he suffered and complained of pain in shoulders and feet. He went peacefully and left us with his sweet memories.

Case Study 2:

Another one is the case of a 57 yr old female who is still going under the treatment for cancer above cervix. Allopathic and Ayurvedic – both treatments simultaneously are going on.

This is the miraculous case of Mrs. AmarjeetKaur, which was diagnosed on 15thdec., 2015, as on III stage and she has survived because she took allopathic as well as ayurvedic medicines. She was advised to take chemo sessions and lost her hair as the side effects of it. She lost her taste buds also but regained it very quickly as she started taking her ayurvedic treatment. She was advised to not to take chemo sessions as her health was improving due to ayurvedic treatment.

In the starting when she was going through the uneasiness, irregular heartbeat, dizziness – she had never expected that cancer would become an uninvited guest in her body. Awareness and promptness led her to consult a gynaecologistat the earliest and tests gave the result in the early detection of cancer. Cancer is rarely detected at I or II stage and when it is detected it is too late to be cured.

It was a painful journey in which her energy was lost but she kept her enthusiasm alive and fought bravely. She defeated cancer with her zeal and victorious attitude which led her to the win over battle of death. Her support system – her daughters-in-law and sons – were always there when she needed them and took good care of her.

Actually, while going through these case studies, it can be concluded that mainly cancer is diagnosed at III or IV stage only. At this stage, generally doctors tell patients that they have limited period of time. If they pay attention towards the symptoms and take prior treatment for that, it can be cured. Early detection of cancer greatly increases the chances for successful treatment. There are two major components of early detection of cancer - education to promote early diagnosis and screening.

Recognizing possible warning signs of cancer and taking prompt action leads to early diagnosis. Increased awareness of possible warning signs of cancer, among physicians, nurses and other health care providers as well as among the general public, can have a great impact on the disease. Some early signs of cancer include lumps, sores that fail to heal, abnormal bleeding, persistent indigestion, and chronic hoarseness. Early diagnosis is particularly relevant for cancers of the breast, cervix, mouth, larynx, colon, rectum and skin.

Frequently Asked Questions (FAQ) About Cancer

1. **What are the symptoms of cancer?**

   Significant weight loss, fever, fatigue and pain. People also suffer fatigue or severe tiredness that does not improve with rest. Brain tumor causes a recurring headache that does not improve with treatment. When cancer is present, changes in the skin may also occur, such as hyper pigmentation, jaundice, itching, reddened skin, erythema and excessive skin growth.

2. **How do you know if you have cancer?**

   Symptoms of cancer generally include fatigue that does not improve with rest, localized pain in one area of the body that does not respond to medications, changes in the color and texture of skin and unexplained weight loss. Several symptoms are unique to specific types of cancer, such as finding blood in the urine or coughing up blood from the lungs.

3. **What are the end stage symptoms of cancer?**

   Fatigue is a common symptom among the end stages of all kinds of cancer. Another symptom of end-stage cancer is a change of appetite, patients generally lose the desire to eat. This contributes to the chronic fatigue that they experience.

4. **How much food should you eat if you have cancer?**

   Cancer patients should maintain a healthy diet and consume several small meals a day and they should also make sure that they are drinking enough water.

5. **Is cancer serious?**

   Most cancers that are serious can be treated, and some can be cured. Cancer affects different people in different ways. If somebody has been told that he has cancer, he should take advice from the Doctor only.

6. **Will I get cancer?**

   Anyone can get cancer, but some people have a higher risk. Smoking causes many kinds of cancer, and quitting smoking can lower your risk of getting these cancers. Other risks can't be controlled, like getting older or having a family history of cancer.

7. **How can I lower my risk?**

   Things You Can Do - Be active and exercise, and keep a healthy body weight. Learn about hepatitis B and HPV shots, which can prevent cancer. Talk to your doctor about getting screened for breast, cervical, and colon cancers. Protect yourself from the sun when you're outdoors.

   Things You Can Avoid - Don't smoke and avoid smoke from other people's cigarettes. Don't drink too much alcohol.

8. **What is cancer**?

   Cancer is an abnormal growth of a body cell or group of cells. If it is not destroyed or removed, cancer can spread very rapidly, and eventually lead to death.

9. **What is the difference between normal and cancerous growth?**

   There are billions of cells in the human body. Normally, they grow in a well regulated pattern. When cancer sets in, a group of cells suddenly start multiplying haphazardly and form a lump or “Tumour”.

10. **Is Cancer contagious or infectious?**

    No. Since cancer is not caused by a germ, it is not “catching”, and cannot be transmitted from one person to another.

11. **How fast does cancer grow?**

    It takes 2 to 5 years for breast cancer to develop to 1 cm. This is the window period of screening when cancer can be picked up early.

12. **How can you tell if you have cancer?**

    There are 7 early warning signals. But the real tragedy about cancer is that it produces very minor

symptoms at first. So you could have cancer and not know it. The best way to detect cancer is to have a regular yearly check-up.

13. How does a doctor tell if growth is cancerous?

By performing a biopsy or FNAC i.e. examining a small portion of the tissue under a microscope. In advanced cases, physical examination alone may reveal the diagnosis. But the chances of cure at late stage are very poor.

14. Are some people more prone to certain types of cancer?

Cancers involving the oral cavity are more common in India. In women, cancer of the breast, uterus and gall bladder are common.

15. What causes cancer?

Certain substances, known as carcinogens, can definitely increase your chances of getting cancer. For instance, people who smoke or chew tobacco are more prone to mouth, throat and lung cancer. Contrary to popular opinion, beedi smoking is twice as dangerous as cigarettes. Pollution, preserved food, smoked and junk food are also contributory. Cancer is a life style disease.

16. What is the relation of food to cancer?

High fat, low roughage, western diet predisposes to colon cancer. Diet rich in animal fats also contributes to breast cancer. Green leafy vegetables and fresh fruits contain certain antioxidants which prevent cancer. Recently, tomato, ginger and cabbage etc. have been found to have medicinal antioxidant property. Avoid junk food, smoked food and preserved food. Be vegetarian and prevent cancer!

17. Does eating hot food cause cancer?

Too hot food has been correlated with food pipe cancer and spicy food may be related to stomach cancer as is evident from its high incidence in Southern parts of India.

18. Does the use of alcohol bear any relation to cancer?

Alcohol is a predisposing factor for the development of cancer of oesophagus, laryngopharynx and liver.

19. Is cancer hereditary?

The presence of cancer in one or both parents should be a cause for greater alertness in looking for and recognizing suspicious symptoms in the individual. Cancer however is not inherited, except for one type of eye cancer known as Retinoblastoma. Only 5% of breast cancers are considered hereditary.

20. Does radiation cause cancer? / Do cell phones cause cancer?

Indiscriminate use of X-rays frequently may increase your chances of getting cancer. Lately, there are certain reports quoting higher incidence of Leukemia and Brain Tumours in persons using Cell phone.

21. How can one guard against cancer?

Prevention is better than cure. More than half of the cancers are preventable! Avoid smoking and tobacco chewing in any form. Alcohol should only be taken in moderation. It is better avoided. Take low fat, vegetarian diet. Avoid ill fitting dentures. Report to doctor immediately, if you notice any of seven warning signals.

22. What precautions should be taken to avoid cancer of the skin?

Dark coloured moles and warts, which become itchy or bleed or ulcerate should be removed. Fair-skinned people should avoid overexposure to direct sun rays. Recurrent blisters on the lip should be carefully examined. Skin should always be kept clean.

23. Why do many people wait before consulting a physician when cancer may be present or suspected?

Primarily because of fear. Ignorance of the signs of cancer and the vital importance of early treatment also play a role. Some people also think there is a social disgrace in having cancer and so hide the fact from their physicians and often from friends and relatives.

24. How can we control cancer?

By a widespread knowledge, both lay man and professional, of the character of cancer, its causes, methods of spread, and by recognizing the

value of early diagnosis and adequate treatment as the means of protection. Most important is prevention of cancer by change of lifestyles.

25. How can you tell if you have cancer without seeing a doctor?

You can only suspect. A regular thorough physical check-up is your best guard against cancer, plus an examination when one of the seven danger signals or warnings appears. You are the first line of defense against cancer because, you alone, can recognize a danger signal.

26. What are some of the early signs of cancer?

There are seven common ones. They are often called the Seven Danger Signals of Cancer.

Change in bowel or bladder habits

A sore that does not heal

Unusual bleeding or discharge

Thickening or lump in breast or elsewhere

Indigestion or difficulty in swallowing

Obvious change in wart or mole

Nagging cough or hoarseness

You should at once consult a doctor upon the appearance of any sign.

27. Why are periodic examinations necessary?

The earlier a cancer is treated the greater are the chances of a cure. Thorough periodic examination may detect cancer in its early stages before the individual has noticed any sign or symptom in himself.

28. Where can you get a Cancer check-up?

Rajiv Gandhi Cancer Institute& Research Centre has all screening facilities. Any individual with or without warning signals can come for check-up

29. What comprises a thorough cancer check-up?

Thorough cancer check-up means examination of all accessible body parts like head and neck, oral cavity, chest, abdomen, breast, vaginal and rectal examination. Cancer screening at RGCI & RC also includes certain blood tests, X-ray chest, US whole abdomen, mammogram, pap's smear, sputum exam and PSA (for prostate). Clinical examination and all investigations are done at nominal rates.

30. Is bleeding always a sign of cancer?

No. Bleeding should be promptly and carefully investigated, to determine if it is due to cancer. A small percentage of patients with blood stained discharge from nipple have cancer. Bleeding from other body openings, such as rectum or bladder, should be carefully investigated to rule out cancer. Unnatural vaginal bleeding, especially after the age of 50 can be suspicious of cancer.

31. Is it true that cancer generally develops among people in poor health?

There is no known relation between the status of one's health and the development of cancer. Poor genital hygiene and poor oral hygiene may be contributory factor in cancer causation.

32. How should cancer be treated?

By surgery, chemotherapy, radiotherapy or a combination of all these.

33. Can the spread of cancer be stopped or retarded temporarily?

At times only. Certain types of cancerous growths, which cannot be expected to be curable, may be controlled temporarily by CT/Hormones/RT. Sooner or later, however, these growths fail to respond to further treatment.

34. What should you do if you think you may have cancer?

Report at once for a thorough examination by the Cancer Specialist.

35. Is cancer curable?

More than 80% of early cancers today are curable if treated early.

36. If you have been cured of cancer, can you develop another cancer? / In the same place? / In some other part of the body?

Yes. Regardless of a patient's past medical history including the successful treatment of a previous cancer, he/she should be examined at regular intervals. Because of the tendency for cancer to re-appear at the place of a previously existing growth or nearby, a patient should have a regular follow up as advised by the Doctor. A new cancer may also appear at another part of the body.

37. Is there any known vaccine cure for cancer?

No. Till today there is no vaccine cure for cancer.

38. What are side effects of Chemotherapy?

Chemotherapy causes temporary side effects like nausea, vomiting, loss of hair and bone marrow suppression.

39. What is the latest and most successful of the recently reported cancer treatments?

Now gene therapy and immunotherapy are upcoming modes of treatment.

40. What are your chances of getting cured?

More than 80% of the patient treated adequately in the early stages can be cured.

41. Can you lead a normal life after cancer?

The sooner you come for treatment, the better the quality of life after cancer. Most cancer patients can return to their normal lives, even during treatment.

42. Does smoking or tobacco and pan chewing cause cancer?

Smoking and tobacco chewing are known to cause cancer of the mouth, throat, lungs etc. Therefore, it is best to play safe. If you smoke or chew tobacco, make

43. Are all breast lumps cancerous?

No. only small percentages of lumps are cancerous. Careful physical examination and mammography can differentiate benign from malignant lump. Biopsy & FNAC of lump by a competent pathologist can clinch the diagnosis.

44. Do uterine fibroids ever become cancerous?

Fibroid tumours only very rarely undergo malignant change.

45. Can cancer develop in children? At what age?

No age is free from cancer. Certain forms of cancer, especially of the eyes and blood are found in young children.

46. If a parent dies of cancer, are the children more likely to have the disease?

The answer is no. In many families where a parent had cancer, the disease does not appear in the children. Again, a person whose family has no record of cancer may develop it. A tendency to develop breast cancer however runs in families. Even colon cancers are known to be familial.

47. Does cancer usually cost more to cure, than other major diseases?

If often does. It depends upon the type of cancer you have and how much must be done to treat it.

48. Is cancer frightening?

Only if you neglect it.

49. What is MRI?

MRI is a painless and harmless way of looking inside your body without using radiation. Instead it uses a large magnet, radio-waves and a computer to scan your body and produce detailed pictures. This provides information that is not available from conventional imaging modalities like x-ray.

It is not possible to have an MRI examination if you have:

- A heart pacemaker
- Surgical clips within your head used for bleeding vessel in the past
- Certain inner ear implants &Some other implants
- Neuro-electrical stimulators
- Metal fragments within eye or head/critical part of body

50. How much I have to pay?

A routine plain MRI of any body part is charged Rs. 6000/- only. Cost of MRI contrast (intravenous Gadolinium 10 ml per unit) will cost additional Rs. 3000/- only. (Except for special cases, one unit is adequate). Special MRI tests like MRCP and packages involving multiple modalities like (PET - CT etc) the cost has been designed with price advantage to the patient.

Source : Google

Newspaper Clippings

1. Everything You Need to Know about Breast Cancer Treatment

The incidence of breast cancer is on the rise in India. In just one decade, it has gone up from 75,000 new cases to 1,30,000 new cases per year.

Why this increase?

This is probably attributable to the changing lifestyles – late marriages, late child bearing, lack of breast-feeding, poor eating habits, pesticides, pollution, stress, etc.

Does having a family history of breast cancer mean that the subsequent generations will have the same?

Family history contributes to only 10% of breast cancers. However, those patients who are carrying a mutation in breast cancer related genes could pass on that rogue gene to the future generations.

At what stage are most breast cancers detected?

About 50-60% of breast cancers come in advantaged stages. Slowly, things are changing, and more urban women are coming in with early stage disease, picked up either on self-screening or by self-examination.

What are the benefits of diagnosing breast cancer in early stages?

Breast cancer detected in stage 0, would mean a 97-98% survival rate, and stage 1 would mean 90% chances of doing well in the long run.

What is the multimodality approach for breast cancer treatment?

It involves surgery, chemotherapy/targeted treatment, radiotherapy and hormonal treatment. The sequence in which these modalities are used depends on the stage of the disease.

What has changed in the surgical management of breast cancer?

A lot has changed in the past two decades. If one has breast cancer, it does not necessarily mean a complete removal of the breast. In suitable early stage disease, it is possible to conserve the breast without compromising on the long-term outcomes. Not just that, by adding oncoplasty to breast conservation, it is possible to restore the shape of the breast to near normal. At Max Cancer Centre, Patparganj, these methods are routinely employed in all the patients undergoing breast conservation surgery.

What about the problem of arm swelling after surgery in breast cancer?

In early breast cancer, a technique that I use is the Sentinel Lymph Node Biopsy (SLNB). This is performed at the same time as the breast surgery. This involves removal of 3-4 lymph nodes from the armpit. The pathologist on frozen section reports on whether the lymph nodes are harbouring the disease or not. Our hospital is one of the very few centres in Northern India where this procedure is undertaken on a regular basis with good results. This technique reduces the incidence of arm swelling to less than 5%.

After going through treatment, is it possible for patients to lead a normal life?

Absolutely! We follow the motto of 'Care beyond Cure'. We hold Breast Support group meetings twice every month. It is also a forum where survivors (champions, as we call them!) meet new patients, allay their fears, and impart the message that life is bigger than cancer, and the beginning of rediscovering one's own self.

- Dr. Geeta Kadayaprath

(***Source : Times of India 18/1/17***)

2. Cancer cases may rise 6 times among women in 20 yrs

Incidence of cancer is projected to be six times more among women over the next two decades, mainly because of obesity, according to an assessment by Cancer Research, UK.

Several of the obesity related cancers only affect women leading to a greater possibility of the disease among them. Besides obesity, smoking is also considered a significant reason for faster rate of cancer among women.

Cases of ovarian, cervical and oral cancers are predicted

to rise the most, the analysis said. According to World Health Organisation (WHO), around one third of deaths from cancer are due to the five leading behavioural and dietary risks; high body mass index, low fruit and vegetable intake, lack of physical activity and tobacco and alcohol use.

The new data released by WHO, ahead of World Cancer Day on February 4, shows that the disease is now responsible for almost one in six deaths globally with around 8.8 million deaths from cancer reported every year. According to the UN agency, low and middle income countries account for two-thirds of cancer deaths as many of them lack early screening and basic treatment facilities for all.

Over 10 lakh new cases of cancer are diagnosed every year in India. However, due to late diagnosis over 7 lakh people die from the disease every year. Projections by Indian Council of Medical Research show India is likely to have over 17.3 lakh new cases of cancer and over 8.8 lakh deaths due to the disease by 2020.

- SushmiDey

(***Source : Times Of India 4/2/17***)

3. A Cure For Cancer?

Why India must launch a nationwide programme to screen for the dread disease

When it comes to cancer research and treatment we still consider the US numerouno. In January last year President Barack Obama had announced the establishment of a 'Cancer Moonshot' to accelerate cancer research. In 1971 we had another American president, Richard Nixon, declare a 'war against cancer'. "The time has come in America when the same kind of concentrated effort that split the atom and took man to the moon should be turned toward conquering this dread disease."

For too many, for too long, a cure for cancer has felt like wishing on a lucky star. If we are to believe published reports, however, a cure is imminent. Money is being poured into immunotherapy and personalized treatments based on genetic biomarkers, in the hope that a breakthrough is around the corner. Not so fast, warn research scientists who have been wrestling with cancer cells for the past 50 years in the laboratory.

Stephan Tanneberger, a long term cancer researcher, provides a historical perspective in an article in Cancer world. "In a programme that spanned ten years, we realised then that the existence of a single 'cancer state-specific cell defect' is nothing more than a scientific illusion." What he means is that given the biological diversity and continual evolution of tumors it was and continues to be naïve to believe that cancer can be cured using a single targeted therapy. As an illustration, he refers to the disappointing results of cancer drug therapies so far.

In the November 2016 issue of the British Medical Journal. Peter Wise takes up this theme and raises the question of how much of the improvement in cancer survival rates can be attributed to drugs. He cites studies that show that newer drugs, on an average, prolong survival in metastatic cancer by no more than a month or two. This leads him to ponder how ethical it is to continue to invest huge sums and promote more and more expensive drugs with limited efficacy and get patients to take them.

The question is especially pertinent for India. The majority of our cancer patients come with advanced disease, lack information, have limited means and no insurance cover to speak of. On the other hand, we are today witnessing a proliferation in the number of private cancer hospitals fuelled by the scent of money.

With a million cancer patients being added annually to the existing pool of 15-20 million patients there is much lucre to be made. What is a matter of concern is that patients will be ill served by the punitive and expensive treatments offered, which will destroy the quality of their lives, reduce their already straitened circumstances and provide little benefit in terms of significant longer survival. For almost 80% of our patients, who come with disease that has already spread, treatment given with the purpose of keeping them functional and preserving their quality of life without breaking the bank is of utmost importance.

And yet, if newer drugs have not met the expectations they raised, what explains the 20% increase in five year survival rates in US adults with solid tumors in the recent past?

The US has experienced an increase in survival rates for these cancers largely because of prevention and early detection. When you consider that in India the majority of our cancers are preventable and can be detected early, surely this is where our efforts must focus if we are to save lives. We need to launch a nation-wide screening programme for our major cancers.

Tobacco related cancers continue to dominate the landscape by contributing to almost one-third of our

cancers. Cancer of the uterine cervix, for which there is now a vaccine, still takes an unacceptable and avoidable toll on the lives of women.

It has recently relegated to second place in our National Cancer Registry not because of a significant decline in incidence but because of the precipitous rise in breast cancer rates among women in all our major cities. Going by the prevalence rate today, 1 woman out of 28 will develop breast cancer in her lifetime. She will have a 50% chance of survival if she catches it early and gets timely treatment.

The benefits of early detection cannot be over emphasized. By catching cancer early you cut down on the cost of treatment, preserve quality of life and save a life. It is more than doable for our major cancers. The early signs of malignant changes in the oral cavity, the uterine-cervix and the breast can be detected by visual inspection alone. You do not need sophisticated technology.

This is not to say that we should not continue to invest in more research and better cancer treatments, but to argue for an approach that is more suited to our needs. One that is both relevant and ethical. To quote Tanneberger: “My plea, particularly to the new generation of colleagues, is: when you look at someone's tumor to understand its driver mutations, don't forget to also look in their eyes, understand the person, and 'personalise' that human being in the room with you”.

- Harmala Gupta

(***Source : Times Of India 4/2/17***)

4. Successfully Curbing Side Effects of Cancer By Immuno-therapy

Cancer has long been treated with traditional therapies with little or no success. For years, researchers have been trying to find a definitive cure to save patients, curb unsettling side effects and the costs of treatment. There have been cases in the past, where traditional treatments have proven useful for treating cancer and remission is witnessed. But this remission seldom lasts and requires the patient to go through a lot of psychosomatic challenges. Amid all this, Denvax therapy, which is based on enhancing the innate abilities of the immune system, comes as a relief for those suffering from the disease. Developed by Dr Jamal A Khan after years of persistent efforts, immunotherapy involves taking cells from the patient's immune system, developing them in-vitro, and re-injecting in the patients' blood stream to specifically target cancerous growths. Since the therapy is entirely natural in nature, it spares the patient bodily discomforts and distressing side effects like insomnia, loss of appetite and extreme loss of hair and weight, etc.

After several years of administering Denvax Therapy, Dr Khan has been able to produce truly miraculous results with patients under his care who had lost all hopes. One such case is described below:

A 30-year-old female patient came to Dr Khan with a history of metastatic and recurrent liver cancer in June 2014. She was operated earlier in a big tertiary care centre in Delhi in March 2014. She was put on oral chemotherapy after her successful surgery and the diseased portion of her liver was resected. But in three months time she developed the disease in her remaining healthy liver. She had no options for any treatment but try new protocols. She was given four doses of Denvax along with a mild dose of chemotherapy just to check cancer's rapid growth. She was later shifted to high dose of dendritic cells only. During this treatment, she became better physically and her Alfa fetoprotein count also came down to zero from high of 70,000. Her radiology report became normal in December 2014. In 2015, she got pregnant and continued on the advice of Dr Khan. She delivered her third baby and both the mother and daughter are doing fine now. Dr Khan says that this type of success has never been reported in medical literature.

Several such cases outline the success and vitality of immunotherapy in treating cancer. Dr. Khan now educates patients as well as fellow practitioners about the procedure and importance of immunotherapy.

- Dr Jamal A Khan

(***Source : Times Of India 25/2/17***)

5. Gene Editing Could Help Cure Cancer

It Can Also Treat Age-Related Blindness

Gene editing is being touted by scientists across the world as a possible cure for a range of diseases, from blindness to cancer.

While a new study from South Korea has claimed that the gene-editing tool CRISPR-Cas9 may be delivered directly into the eye to treat age-related macular degeneration (AMD), which causes distorted vision and

blind spots, a British expert has said that editing genes may also help human beings beat "all inherited diseases" and malignant tumours.

CRISPR-Cas9 works as a type of molecular scissors that can selectively trim away unwanted parts of the genome, and replace it with new stretches of DNA.

AMD is one of the most common retinopathies, or diseases of the retina that result in impairment or loss of vision. In such diseases, abnormally high levels of the vascular endothelial growth factor (VEGF), a protein that promotes the growth of new blood vessels, are secreted.

Injections of anti-VEGF drugs are the most common treatment against AMD, but at least seven injections per year are required because VEGF is continuously over expressed by the cells of the diseased retinal pigment epithelium.

Scientists at the Institute for Basic Science (IBS) in Korea used CRISPR-Cas9 to perform "gene surgery" in the layer of tissue that supports the retina of living mice.

"The injections tackle the effects, but not the main cause of the problem. By editing the VEGF gene, we can achieve a longer-term cure," said Kim Jin Soo, director of the Centre for Genome Engineering at IBS.

"I think in the coming decades gene editing will become super important, and we will see it being used to cure all inherited diseases, to cure cancers, to restore sight to people by transplanting genes," University of Exeter bio scientist Dr EdzeWestra was quoted as saying in an 'Independent report not related to the study. "...It will definitely have massive importance," he added.

His statement came two days after an influential US science advisory group lent its support to the controversial proposition of modifying human embryos, albeit just to prevent babies from acquiring genes known to cause "serious diseases and disability".

(***Source : Times Of India 18/2/17***)

6. Maha May Test Device that Detects Cancer in 15 Mins

Mumbai: The state government may carry out a pilot project to test the efficacy of a new blood test-based device that claims to detect breast cancer within 15 minutes.

State health minister Dr Deepak Sawant said at the global launch of the device, MammoAlert, in Mumbai, "We will run a pilot in areas where the incidence of breast cancer is high."

He said over 1.5 lakh women are diagnosed with breast cancer across India every year and 70,000 die due to its complications every year. Breast cancer is the most common among India women. "With this innovation, we can aspire to save many lives. This technology makes cancer screening within the reach of the common man across geographies," Sawant added.

The Centre recently announced a population-based screening programme to detect cancers of the breast, cervix and oral cavity.

A Silicon Valley company on Wednesday unveiled the device that "can be carried on a motor bike" from village-to-village for testing, said owner SanjeevSaxena. He added that the test has over 95% accuracy and zero rate of false positive. He likened the test to a rapid blood sugar test to detect diabetes.

The inauguration was also attended by Amruta Fadnavis, wife of chief minister Devendra Fadnavis, and women and child development minister Vidya Thakur.

Saxena said the test will soon get USFDA and European CE clearances, and they are looking at a July launch.

(***Source : Times Of India 16/3/17***)

7. Breast Implants can Cause Cancer: Report

US FDA Finds Link with 9 Deaths, Australia and France Report Rare Lymphoma Cases Too

A rare cancer first linked to breast implants in 2011 has now been associated with nine deaths in the US, the nation's Food and Drug Administration (FDA) said on Tuesday.

As of February 1, the agency had received 359 reports of the cancer associated with the implants. The deaths were not caused by breast cancer, the agency said, but by a rare malignancy in the immune system, anaplastic large-cell lymphoma (ALCL).

In cases linked to implants, this rare form of cancer grows in the breast, usually in the capsule of scar tissue that forms around an implant. It is usually treatable and not often fatal.

The problem is more likely to occur with textured implants, which have a pebbly surface, than with

smooth implants, the agency said.

Of the 359 reported cases, 231 included information about the implant surface; 203 were textured, 28 smooth.

The contents of the implants appeared much less important: Of 312 cases where the contents were known, 186 were filled with silicone gel, and 126 with saline. Cases generally come to light when symptoms develop, like lumps, pain, fluid buildup and swelling.

The FDA said it was impossible to say how many cases existed, because of limited reporting of problems and a lack of worldwide sales data on implants. But in December, Australia's Therapeutic Goods Administration reported 46 confirmed cases of breast implant-associated ALCL, including three deaths. France's national cancer institute warned two years ago that there was a "clearly established link" between ALCL and silicone implants, noting 18 cases since 2011. In many cases when the lymphoma occurs, just removing the implant and the tissue around it eliminates the disease. But some women may need chemotherapy and radiation.

The FDA said that if a woman with implants had no breast problems, there was no reason to remove them, emphasizing that the lymphoma seemed to be very rare. But women receiving implants should be aware of the potential problem, the FDA added

(***Source : Times Of India 23/3/17***)

8. Pill 'cuts' Cancer Risk for 30 Years

Women who have taken contraceptive pills get protection from some types of cancer for as long as 30 years, a new study claims. The results of the "world's longest study" into the effects of the pill showed that women who had ever used it were less likely to have colorectal, endometrial or ovarian cancer than those who never had. The results of the study, conducted by the University of Aberdeen in the UK, showed that using the pill during reproductive years did not produce new cancer risks later in life, when more cancers occurs. The findings relate to 46,000 women, followed for up to 44 years. "Because the study has been going (on) for such a long time we are able to look at the very long-term effects, if there are any, associated with the pill," said Dr. Lisa Iversen of the University of Aberdeen. "The protective benefits from using the pill during their reproductive years are lasting for at least 30 years after women have stopped using the pill."

(***Source : Times Of India 23/3/17***)

7 Ways to Boost Immune System

Building the Immunity

Staying fit and eating whole foods—along with getting satisfying sleep and regularly washing your hands—are some of the best ways to keep the sniffles and sneezing away this winter. But when a hectic schedule starts wearing you down, a little immune system boost may be in order.

1. Elderberry

This flavonoid-filled fruit is thought to work by reducing congestion and upping perspiration. One study in Alternative Medicine Review found that elderberry extract reduced the length of flu symptoms by almost three days. "Elderberry has also been shown to help kill viruses, and it contains anthocyanins, plant compounds known to help support the immune system," says Kamal Patel, M.P.H., director of examine.com.

2. Probiotics or Yogurt

Probiotics—or beneficial bacteria—are known for helping with gut health, but one of their lesser-known possible benefits is immune regulation. "Around 70% of our immune system cells are actually in our gut, and probiotics could help make our guts healthier," explains Patel. But because each probiotic strain may have different attributes, experts aren't fully clear on which probiotic can do what. There is evidence that both the Lactobacilli and Bifidobacteria strains may reduce the symptoms of some allergic diseases.

3. Spirulina

This blue-green algae often pops up in those greens powders that are chock-full of health claims, but there is evidence for a variety of potentially helpful uses, including immunity, says Patel. Though there hasn't been much human evidence, one 2008 study showed that taking two grams of spirulina a day for a few months helped people with nasal allergies. "Spirulina is pretty safe, and it may also lower systemic inflammation to help with general health," he adds.

Use it: In capsules or pills, 1 to 8g a day

4. Mushrooms

For centuries, people around the world have turned to mushrooms for a healthy immune system. Contemporary researchers now know why. "Studies show that mushrooms increase the production and activity of white blood cells, making them more aggressive. This is a good thing when you have an infection," says Douglas Schar, DipPhyt, MCPP, MNIMH, director of the Institute of Herbal Medicine in Washington, DC.

5. Garlic

Numerous studies have shown that garlic is antiviral and anti-inflammatory, which can stimulate the immune system. The cloves release a compound called allicin when it's sliced or chopped, but you should let it sit for about 15 minutes after preparing to allow maximum amounts to form. A study published in the journal Advances in Therapy reported that subjects taking a garlic supplement had fewer colds and less sick time.

Use it: 1 to 2g sliced garlic cloves or 600 to 1,200mg garlic extract twice a day.

6. Vitamin C

There's evidence this classic cold fighter can help boost immune function, but taking massive doses once you have a cold won't hasten your recovery. Vitamin C is important for a properly functioning immune system, and not getting enough vitamin C may be putting you at risk, says Patel. One 2013 meta analysis of 30 studies and more than 11,000 people showed that those living with episodes of high stress, like marathon runners, were 50% less likely to catch colds if they took a daily supplement of 200mg of vitamin C.

Use it: Find C naturally in pills or foods like sweet peppers, berries, and oranges; or take up to 250mg a day in supplements (RDA is 75mg daily for women over age 19).

7. Zinc

This essential mineral is needed by the immune system to function at an optimal level, says Patel, and studies have shown that taking zinc can help to reduce the duration of colds. A 2016 meta analysis published in the British Journal of Clinical Pharmacology found that cold symptoms in subjects taking zinc lozenges cleared up in nearly three days, compared with seven days for those who took only a placebo.

Use it: As a lozenge (avoid using sprays, which are known to affect the sense of smell); 4 to 25mg every three hours for three to 14 days.

Source : Google

Hereditary Breast Cancer

- Dr Rajeev Agarwal*

Hereditary breast cancer constitutes 5 to 10 % of all breast cancer cases. Mutation in two autosomal dominant genes namely, BRCA 1 and BRCA 2 have been linked to 60% and 85% of familial breast cancer and 26 and 52% of ovarian cancer respectively. This mutation occurs at a very high frequency of 18.0% among breast or ovarian cancer families of Ashkenazi Jews and among 1% of Ashkenazi Jews in the general population. Other genes associated with breast cancer include p53 (Li Fraumeni syndrome), pTEN (Cowden syndrome), STK11 and LKB1 (Peutz Jegher syndrome).

Chances of BRCA 1 and BRCA 2 gene mutation are higher, if a woman with personal history and/ or familial history of breast cancer has been diagnosed at young age and from her pedigree analysis, it is found that two or more first-degree or second-degree relatives have breast or ovarian cancer or breast cancer has occurred before the age of 50 (premenopausal) in a close relative or she has male relative with breast cancer. These women should be advised to attend specialized hereditary breast cancer clinic for risk assessment and genetic counseling.

Primary prevention is aimed at reducing the risk of developing breast and ovarian cancer with BRCA 1 and BRCA 2 mutation in asymptomatic carriers. This includes screening surveillance with modification of non genetic factors, risk reducing surgery and chemoprevention. These options should be discussed in detail with the patient to make an informed decision regarding their health care. Screening surveillance for breast cancer should start in female BRCA mutation carriers from the age of 18 with monthly breast self examination, 6 monthly or yearly examination by a clinician starting from the age of 25 years or 10 years earlier than the age of first diagnosed cancer in the family. Surveillance with imaging should be started from age of 25 with yearly magnetic resonance imaging (MRI) scans of both breasts and yearly MRI alternating every 6 months with mammograms, beginning at age 30. Modification of non genetic risk factors includes breast feeding for 1 year or more. Screening for ovarian cancer should include pelvic examination, trans-vaginal ultrasonography with color doppler, and CA-125 blood test every 6 months, beginning at age 30.

Risk reducing surgical options includes bilateral prophylactic mastectomy and prophylactic bilateral salpingo oophorectomy by age 40 or once child-bearing is complete. Prophylactic surgery in these patients reduces the risk of breast and ovarian cancer by 90%. Use of Tamoxifen in primary prevention of hereditary breast cancer can reduce the incidence of breast cancer by 50%. Prophylactic surgery remains the most effective modality for preventing breast and ovarian cancer in this group of patients. Limitations of genetic testing, effectiveness of risk reduction and complications with these interventions, and their impact on survival and quality of life, should carefully be considered. Management of patients with hereditary breast cancer is similar to patients with non hereditary breast cancer. Though these patients in early stage can be offered prophylactic contralateral mastectomy and risk reducing bilateral oophrectomy at initial treatment plan.

Optimal management of women with familial susceptibility to breast and ovarian cancer has not been prospectively validated, so individualized clinical management should be provided by an experienced team.

References

1. NCCN Guidelines Version 2.2016 Panel Members Genetic/Familial High-Risk Assessment: Breast and Ovarian cancer.
2. Genetic and the management of women at high risk for breast cancer. Betty A. Mincey. The Oncologist 2003; 8: 466- 473.

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The Lost Tribe - Cancer in Adolescents and Young Adults

- Dr Neetu Singhal*

She was feeding her infant when she suddenly felt giddy, followed by bout of vomiting. She had earlier experienced such episodes but ignored it thinking it to be part of morning sick ness, but now? Now she had already delivered the baby and her child was four month old by the morning sickness was continued and now worsened with episodes of intolerable headaches. She shared with her husband and they decided to see the physician.

Physician advised certain tests and oh god! She had a brain tumor lying in her important part of brain, she had never imagined that she could be that sick. She was planned for surgery right away and when they saw the histopathology reports, her world was shattered. She had a grade IV tumor of brain with survival barely one and a half year. She was just 28 and she had counted days to live.

Malignant tumor in adolescents and young adults is another vulnerable age group when our children and youngsters are undergoing physical and emotional changes and when we hardly think of malignancy but unfortunately as the risk factors and lifestyle modification is taking place, increasing incidence of malignancy is seen in this age group and the most challenging to tackle as they are neither too young to not understand nor too old to accept the fact.

According to American statistics the incidence of cancer in teenagers and young adults (15-39 years) is about 5-7% which is about 6 times higher than the younger age group of 0-14 years and is the leading cause of disease related death in this age group. There is paucity of data in developing countries. This population poised between children and adults has been called the "lost tribe."

Among the common cancers in young adults are leukaemia, lymphomas kind of blood cancers, brain tumours, testicular cancers, sarcomas and bone tumours among 15-24-year-olds. Among 25-39 year olds, breast cancer and head and neck cancers and Gastrointestinal malignancies are the most common.

Amongst 1400 patients seen at Asian institute of medical sciences, Faridabad, in year 2016, about 14% patients belonged to this age group(15-39 years). About 6% patients were younger than 30 years. Most common cancers we saw were leukaemia or blood cancers in this age groups

Teenagers' and young adults' cancers risk factors are not well understood, mainly because this group of cancers are relatively rare and diverse, evidence suggests that some cancers in adolescents and young adults may have unique genetic and biological features. Researchers are working to learn more about the biology of cancers in young adults so that they can identity molecularly targeted therapies that may be effective in these cancers.

It is important to focus on this age group for any subtle changes and symptoms for timely diagnosis and effective treatment. Symptoms may vary from type of malignancy, it may be prolonged fever, weight loss, loss of appetite, bleeding tendencies or petechial rashes, back pain or body pains, tired ness or anaemia or sometimes palpable lump in neck, armpits or groin region and even sometimes palpable abdominal masses due to organ enlargement etc. in case of leukaemia, there could be neurological symptoms in case of brain tumor like headache, vomiting, poor learning, visual blurring, loss of power or weakness of particular limb. Other symptoms are like lump, gastrointestinal symptoms, swelling or pain in sarcomas and bone tumors with physical disability and pain etc.

Treatment in this age group is challenging and mostly aggressive. They and are by multimodality with surgery, chemotherapy, radiation therapy or combination as per the disease protocol and age. Rehabilitation, psychological support and counselling are essential part of the treatment to make them confident and strong survivors.

Cancer is a serious problem in today's era with a lot of modification in lifestyle, early introduction of risk factors like smoking, alcohol, pollution, unhealthy dietary habits, sedative lifestyle, adulterated food etc. sometimes alone or in combination with genetic modifications are making early age group vulnerable to this disease and it is very important not only to help our youngsters avoid such habits but also to be watchful for any subtle symptom for early diagnosis and prompt treatment for better cure and survival.

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Cancer and Diet Therapy

- Dr Sushmita Biswas*

Cancer is a disease which is dreaded by general population.it more correctly refers to a disease process where development is thought to be the multistep, both reversible as well as irreversible.

Environment is one of the strong factor that contributes to 80-90% of human cancer.

The environment includes lifestyle factors including diet, social and cultural practices and various studies show around one third of the total incidences can be related to some dietary components.

Diet Influence on Carcinogenesis:

1. Diet provides carcinogen or their immediate precursors.
2. Diet can facilitate or inhibit the endogenous production of carcinogens.
3. The modification of carcinogen by metabolic activation or inactivation can be affected by other dietary components.
4. Diet can alter the susceptibility of tissues to cancer induction or growth by dietary effects on tissue metabolism.
5. Diet may alter the body's capacity to eliminate transformed cells.

Why is Eating Well During Cancer Treatment Important?

It is well known that a nutritious diet is vital for the body to work at its best and it is even more important for people suffering from cancer.

1. Patients who eat well can tolerate the higher dosage of certain treatments and are also able to cope up with the side effects of the treatment well.
2. A healthy diet help keep up the strength, prevent body tissues from breaking and rebuild the tissues that cancer treatment can harm.
3. When a person is not able to take it good nutrition, the body uses its own stores as a source of energy, which can result in weaker immune system.

What Kind of Food to be Eaten?

A good rule to follow is to eat a variety of different foods everyday.

No one food group contains all of the nutrients one needs. A diet to keep the body strong will include daily servings from these food groups.

Fruits & Vegetables: Raw or cooked vegetables, fruits, juices have Vitamins like A& C who also are potent antioxidants.

Proteins: Protein helps the body to heal itself and fight infection. Meat, fish, poultry, eggs, milk, curd and cheese can provide protein as well as various minerals.

Grains: Grains such as breads, rice, cereals provide a variety of carbohydrates and B vitamins. Carbohydrates provides a source of energy.

Dairy: Milk & milk products provide calcium &protein.

Matter of fact is Good Nutrition cannot cure the cancer but helps in coping with the side effects caused by treatments.

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Immunotherapy for the General Public

- Dr Sumant Gupta*

Immunotherapy is a type of cancer treatment that helps your immune system fight cancer. The immune system helps our body fight infections and other diseases. It is made up of white blood cells and organs and tissues of the lymph system.

Types of Immunotherapy

Many different types of immunotherapy are used to treat cancer. They include:

- Monoclonal antibodies which are drugs that are designed to bind to specific targets in the body. They can cause an immune response that destroys cancer cells.

- Other types of monoclonal antibodies can "mark" cancer cells so it is easier for the immune system to find and destroy them. These types of monoclonal antibodies may also be referred to as targeted therapy.

- Adoptive cell transfer, which is a treatment that attempts to boost the natural ability of your T cells to fight cancer. T cells are a type of white blood cell and part of the immune system. Researchers take T cells from the tumor. They then isolate the T cells that are most active against your cancer or modify the genes in them to make them better able to find and destroy your cancer cells. Researchers then grow large batches of these T cells in the lab.

- Cytokines, which are proteins that are made by your body's cells. They play important roles in the body's normal immune responses and also in the immune system's ability to respond to cancer. The two main types of cytokines used to treat cancer are called interferons and interleukins.

- Treatment Vaccines, which work against cancer by boosting your immune system's response to cancer cells. Treatment vaccines are different from the ones that help prevent disease.

- BCG, which stands for Bacillus Calmette-Guérin, is an immunotherapy that is used to treat bladder cancer. It is a weakened form of the bacteria that causes tuberculosis. When inserted directly into the bladder with a catheter, BCG causes an immune response against cancer cells. It is also being studied in other types of cancer.

Uses of Immunotherapy

However, immunotherapies have been approved to treat people with many types of cancer like lung cancer, oral cancer, renal and urinary bladder cancer.

Mechanism of action in Cancer

Certain immunotherapies can mark cancer cells so it is easier for the immune system to find and destroy them. Other immunotherapies boost our immune system to work better against cancer.

Side Effects

Immunotherapy can cause side effects, which affect people in different ways. The side effects will depend on how healthy we are before treatment, our type of cancer, how advanced it is, the type of therapy you are getting, and the dose.

The most common side effects are skin reactions at the needle site. These side effects include:

- Pain
- Swelling
- Soreness
- Redness
- Itchiness
- Rash

People may have flu-like symptoms, which include:

- Fever
- Chills
- Weakness
- Dizziness
- Nausea or vomiting

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- Muscle or joint aches
- Fatigue
- Headache
- Trouble breathing
- Low or high blood pressure

Other side effects might include:

- Swelling and weight gain from retaining fluid
- Heart palpitations
- Sinus congestion
- Diarrhoea
- Risk of infection

Immunotherapies may also cause severe or even fatal allergic reactions. However, these reactions are rare.

Methods of Administration

Different forms of immunotherapy may be given in different ways. These include:

- **Intravenous (IV)**
  The immunotherapy goes directly into a vein.
- **Oral**
  The immunotherapy comes in pills or capsules that you swallow.
- **Topical**
  The immunotherapy comes in a cream that you rub onto your skin. This type of immunotherapy can be used for very early skin cancer.
- **Intravesical**
  The immunotherapy goes directly into the bladder.

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The Stress - Depression Connection

- Dr Poonam Vats*

Stress has two types of effects : direct effects and indirect effects. It has direct effects on mood and early initial symptoms of lowered mood can include irritability, sleep disruption and cognitive changes as impaired concentration. However, the indirect effects of stress are often what causes **depression** to take hold when people experience, they somewhat stop using healthy coping strategies like going to yoga, talking to someone, reading a book, meditation etc. They start making small mistakes like missing an appointment or leaving some important documents at home before an important meeting. Slowly stress is accompanied with anxiety, poor memory functioning and developing a sense of incapable person.

Stress whether chronic, such as taking care of a parent with Alzheimer's or acute, such as losing a job or the death of a loved one – can lead to major depression in susceptible people. Both types of stress lead to over activity of the body's stress response mechanism. Stress reduces the brain's innate ability to keep itself healthy. As a result, the hippocampus – a vital part of the brain- shrinks impacting negatively on both - our short term memory function and our learning activities. Stress leads to elevated hormones such as "stress hormone", and reduced serotonin and other neurotransmitters in the brain including dopamine, has been linked to depression. When these chemical systems are working normally, they regulate biological processes like sleep, appetiteetc but when the stress response fails to shut off, it can lead to depression in susceptible people. Grieving is considered a normal healthy response to loss, but if goes on for too long, it can trigger a depression. People may get addicted to smoking, more drinking (alcohol). "This gives us a good model for explaining why depression is so widespread in our modern, stressed society", says OveWidborg, an associate professor at the department of Clinical Medicine, Centre for Psychiatric Research, at Aarhus University.

Depression is a common disease. Atleast 15% of people develop a depression during their lifetime. Twice as many women as men get depression. "Stress or being stressed out leads to behavior and patterns that in turn can lead to chronic stress burden and increase the risk of major depression", says Bruce McEwen – PHD, author of **The End of Stress as We Know It.** If a stressful experience causes a person to become depressed, it may happen indirectly. In other words, if a young woman with a family history of major depression suffers from the death of a loved one, she may become clinically depressed. In this situation, it is not necessarily the traumatic loss itself that cause the development of depression, but the combination of a genetic predisposition with the stressful event that makes her vulnerable to become depressed.

Some people may become depressed as a result of having to struggle with chronic stress. These constant difficulties may come in the form of having to juggle multiple roles at home and work, making major changes in lifestyles, being in an abusive environment for long. It may also come with important and normal transitions in life such as late adolescence and early adulthood when many people separate from their families to establish their own independence. Middle age may require adjustment to changes in fertility and virility, children leaving home, concerned about job advancement and re-evaluation accomplishments in life. Retirement is another time of major change as some people struggle with a reduction of position and finances. If a person is under continuous stress, a single difficult event may be more likely to induce a depressive episode. For instance, if a middle aged woman is in an estranged marriage, she may be more likely to become more depressed after her youngest child leaves home for the college. The event of her child leaving home may not be only reason to lead depression, but the constant stress of an estranged marriage combined with this event (fear of losing all loved ones) may be enough to trigger clinical depression.

In studying how stressful events may lead to depression, researchers have developed a theory called 'learned helplessness', which states that when people experience repeated stressful events, they learn to feel helpless and this feeling makes them think that they are not capable of anything which further changes or leads

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to depression. People with depression have negative beliefs about their ability to manage aspects of their lives based on perceived failures.

I would like to end my article with a beautiful saying:

"Stress is temporary. It may last for a minute, an hour, a day or a year but eventually it will subside and something better will take its place. If you quit, however, the suffering will last forever. So please, come up, accept it as normal and talk about it as maybe it cannot help you but inspire one beautiful life"

References

1. Bennett. P. (2011).Abnormal and Clinical Psychology : An introductory Textbook, McGraw Hill.
2. Carr, A. (2004). Positive Psychology : The Science of Happiness and human strength, UK : Routledge
3. Ciccarelli. S.k. and Meyer, G.E. (2010). Psychology : South Asian Edition, New Delhi : Pearson Education.
4. Neiten, W. and Lloyd, M.A. (2007). Psychology Applied to Modern Life. Thomson Detmar Learning.
5. Passer. M.W. and Smith, R.E. (2010). Psychology : The science of mind and behavior. New Delhi : Tata.

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Some Prominent Cancer Hospitals

Bangalore

1. **Sri Shankara Cancer Hospital & Research Centre.**
   Address: 1st Cross, Behind Rangadore Hospital, Shankarapuram, Basavanagudi, Near Chikkanna Garden, Bengaluru, Karnataka - 560004, India
   Phone:+91 80 2698 1101
2. **Kidwai Memorial Hospital of Oncology.**
   Address: Dr. M.H Marigowda Road, Hombegowda Nagar, Bengaluru, Karnataka - 560030, India
   Phone:+918026094000
3. **Mazumdar Shaw Medical Center.**
   Address: 258/A Bommasandra Industrial Area AnekalTaluk, Road, HSR Layout, Bengaluru, Karnataka - 560099, India
   Phone:+91 8071 222 222

Chennai

1. **Cancer Institute.**
   Address: No 1, East Canal Bank Road, Gandhi Nagar, Adyar, Chennai, Tamil Nadu - 600020, India
   Phone:+91 44 2491 1526
2. **Apollo Speciality Cancer Hospital.**
   Address: New No.6, Old No.24, Cenotaph Road, Teynampet, Chennai, Tamil Nadu 600035, India
   Phone:+91 44 2433 4455
3. **Dr. Rai Memorial Medical Centre**.
   Address: No. 562, Century Plaza, Anna Salai, Teynampet, Chennai, Tamil Nadu - 600018, India
   Phone:+91 44 2434 9594

Kolkata

1. **Chittaranjan National Cancer Institute.**
   Address: 37, S.P.Mukherjee Road, Kolkata, West Bengal - 700026, India
   Phone:+91 33 2475 9313
2. **Netaji Subhas Chandra Bose Cancer Research Institute.**
   Address: 16A, Park Lane, Behind Park Street Police Station, Kolkata, West Benga -700016, India
   Phone:+91 33 2227 6388
3. **Bengal Oncology Centre.**
   Address: 172, Behind Deshapriya Park/Priya Cinema, Motilal Nehru Rd, Kolkata, West Bengal - 700029, India.
   Phone:+91 33 2465 4576

Rajasthan

1. **Bhagwan Mahaveer Cancer Hospital & Research Centre.**
   Address: Jawahar Lal Nehru Marg, Jaipur, Rajasthan - 302017, India
   Phone:+91 141 270 0107
2. **Geetanjali Cancer Centre, Udaipur.**
   Address: Hiranmagri Extension, Manwakhera NH-8 Bypass, Near Eklingpura Chouraha, Udaipur, Rajasthan - 313002, India
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Cancer Facts

1. At least half of all cancers and cancer-related deaths are preventable.

2. Cancer is the single name assigned to more than 100 diseases, and is the result of abnormal cells that multiply and spread out of control, damaging healthy cells along the way.

3. Less than 5% of cancers have a genetic link, so when the "experts" tell us that most cancers are genetic, the majority aren't.

4. Environmental factors can increase your risk of cancer. Pollution, heavy metal toxicity, and even household cleaning products can increase your risk of cancer.

5. Smoking causes more than 90% of all lung cancer cases. Quitting is the number one preventive measure you can take right now to decrease your cancer risk.

6. Less than 6 hours of sleep per night increases your risk of colon cancer. The healing benefit of sleep is one of the most underestimated ways to keep your body strong and cancer-free.

7. If nitrate-filled processed meats are prepared with high heat and ingestion, it causes a chemical reaction with the digestive fluids in your body, converting nitrates to nitrites – a famous carcinogent.

8. Globally, approximately 1 in every 8 deaths is caused by cancer, more deaths than malaria, tuberculosis and AIDS combined.

9. Breast cancer is the leading cause of cancer deaths among women.

10. Lung, prostate and stomach cancer are the most common diseases for which men are diagnosed. Survival rates for lung cancer are less than 20%.

11. Approximately 77% of all cancers diagnosed are found in people aged 55 or older.

12. Obesity increases your risk of cancer and affect your chances of survival should you be diagnosed.

13. Anyone may experience no symptoms of ovarian cancer, lung cancer, or colon cancer until the cancer cells spread to other areas of your body.

14. The number of detected skin cancer cases increases steadily every year. Contrary to popular belief, sun exposure is actually good for you. 30 minutes of early morning or late afternoon sun on your hands and face is enough to get your recommended dose of vitamin D.

15. Healthy cells have a built-in ability to self-destruct to protect the rest of the body when damage is present. This is known as apoptosis or "cell suicide".

16. Green tea, berries, turmeric, avocados, garlic, kale and even dark chocolate can naturally trigger damaged cancer cells to self-destruct via apoptosis.

(Source : Google)

Recent Advancements in Screening & Diagnosis and in Therapeutics

1. **High Throughout tumor genomic sequencing for targeting cancer**

   Advances in high throughput tumor genomic sequencing have aided more accurate molecular phenotype mapping. They have potential as predictive tests for tumor responsiveness to targeted therapy.[1]

2. **Cell cultures and mouse avatar models to ease cancer treatment selection**

   Testing of chemotherapeutic agents in cell cultures obtained from patient's cancer and use of mouse avatar models have emerged for identifying most appropriate treatment, thereby avoiding needless toxicity.[1]

3. **Reverse profiling for effective cancer diagnosis**

   Genetic profiling has been recently tested to transform genomic expression data into disease diagnostic categories with 95% accuracy. This is called "reverse profiling". It can aid overall diagnostic and therapeutic assessment of cancer by identifying the type of cancer accurately. Gene expression profile and transcriptome signature analysis have emerged to identify the site of origin of metastatic tumors with more than 95% accuracy.[1]

4. **A novel STATseq method to diagnose genetic disease related to cancer**

   Recently, a rapid 26-hour whole genome sequencing method called as STATseq, in combination with the clinical phenotype, has aided a complete molecular diagnosis of inherited genetic diseases with more than 99% sensitivity.[2]

5. **Liquid biopsy test to identify genetic changes in tumor**

   The Food and Drug Association (FDA) has approved the first liquid biopsy in 2016. In this, circulating tumor DNA is collected from bodily fluids and analyzed to obtain information about genetic changes in the tumor. It provides a snapshot of the full landscape of genetic changes present in a tumor.[2]

6. **The micro RNAs as an emerging biomarker for cancer detection**

   The micro RNA (miRNAs) are emerging biomarkers as they actively regulate the evolution, development, progression, and metastasis of cancers.[2]

7. **EGFR mutation test v2 to identify cancer metastasis**

   The FDA has approved epidermal growth factor receptor (EGFR) Mutation Test v2 in June 2016 to identify patients with metastatic neuroendocrine tumor eligible for treatment with erlotinib.[3]

8. **Evolution of imaging techniques to understand tumor physiology**

   New developments in imaging of treatment include integrated PET/MRI, PET/CT, and [18F] FDG PET, that combine functional and anatomic imaging, as well as advances in understanding of tumor physiology.[3]

9. **Omnyx Precision Solution : A new tool in cancer detection**

   The computer system known as The Omnyx Precision Solution, can help pathologists see the small differences in cells in the same way as it looks through microscope, allowing them to make sound decisions on many aspects of cancer diagnosis.[4]

10. **A new computerized diagnostic tool for early cancer detection**

    Dynamic Spectral Imaging System (DySIS) is a next generation colposcope, offering important advancements that improve the examination procedure for both doctors and patients.

11. **Immunotherapy : A new promising treatment of cancer**

    From November 2015 through October 2016, FDA

has approved 20 therapies for different types of cancers, most of them are immunotherapy based drugs. Immunotherapy enables control tumor growth with fewer side effects than chemotherapy.[3]

12. Tailored treatment for genetically induced cancer

Studies have suggested that matching genetic changes in the tumor with specific treatments that target genetic changes can improve out comes in patients with advanced cancer.[3]

13. Olanzapine to prevent side effects of cancer treatment

Olanzapine is shown to prevent chemotherapy-triggered nausea. Vomiting and Nausea are the common side effects of chemotherapy and can lead to the patient refusing to continue treatment.[4]

References

1. Ahmed A, Abedalthagafi M. Cancer diagnostics: the journey from histomorphology to molecular profiling. Oncotarget. 2016; 7(36): 58696-58708
2. Kalia M. Biomarkers for personalized oncology: recent advances and future challenges. Metabolism. 2015;64 (3) : S16-21
3. Burstein H, Krilov L, Aragon-Ching J, Baxter N, Chiorean E, Chow W et al. Clinical Cancer Advances 2017: Annual Report on Progress Against Cancer From the American Society of Clinical Oncology. 2017; 35 (12): 1341-1367.
4. New advances in Cancer diagnosis [Internet]. ScienceDaily. Available from : www.sciencedaily.com Accessed on : May 8, 2017

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ध्येय–साधना

ज्योति ध्येय–साधना की जलती रहे।
हिम निराशा की सदा पिघलती रहे।

ध्येय जीवन का सार होता है।
ध्येय रहित जीवन निस्सार होता है।

ध्येय है मानव आकांक्षाओं का अभिव्यंजन;
जीवन का दर्शन; अनुरागी मन का स्पन्दन।

कठिनाईयों की वनस्थली में कल्पतरू उत्पन्न होते हैं,
जो होते हठी, साकार उनके स्वप्न होते हैं।

परिस्थितियों का चक्रव्यूह यदि करे ध्येय–मार्ग अवरुद्ध,
अर्जुन समान उठो उच्छवसित वेग से, करो दुर्धर्ष युद्ध।

जब ध्येय और सफलता का अभिसार होता है,
पीड़ा होती है पुरस्कृत, जीवन में निखार होता है।

– डॉ. हरविन्दर सिंह बक्शी
(जुलाई 06, 2015)
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Cancer Related Terminology

1.	An aspect which needs a change to reduce the risk of developing cancer	**: Lifestyle**
2.	An uncontrolled growth of Abnormal cells in the body known as	**: Cancer**
3.	The method to screen for breast cancer	**: Mammography**
4.	The way to educate the community about the symptoms of cancer	**: Awareness Programme**
5.	The effective way of checking for early signs of breast cancer	**: Breast Self Examination**
6.	Genetic material inside our body called	**: DNA**
7.	Study of Cancer	**: Oncology**
8.	One of the leading causes of oral cancer	**: Tobacco**
9.	Virus associated with cervical cancer	**: HPV**
10.	Cancer of Bone, soft and connective tissue, muscles known as	**: Sarcoma**
11.	In this abnormal cells divide without control and can invade nearby tissues	**: Malignancy**
12.	The most common type of cancer seen in males world-wide	**: Lungs**
13.	(Fine Needle Aspiration Technology) Technique involves inserting a very small needle into the lesion in question to aspirate small number of cells	**: FNAC**
14.	Sun emits UV radiation in this form	**: Rays**
15.	The most common type of cancer seen in females world-wide	**: Breast**
16.	The common test for cervical cancer called	**: Pap Smear**
17.	The spreading of cancer to the other parts of the body	**: Metastasis**
18.	The Diagnostic test for prostate cancer	**: PSA**
19.	The abnormal growth of tissue, whether benign or malignant	**: Tumor**
20.	The colourless fluid part of blood that consists mostly of water	**: Plasma**
21.	The abbreviation for cancer/carcinoma	**: CA**
22.	Sample of tissue taken from the body in order to examine it more closely	**: Biopsy**
23.	Early Cancer Detection	**: ECD**
24.	A surgical procedure in which a fibre-optic instrument is inserted through the abdominal wall to view the organs in the abdomen	**: Laproscopy**
25.	The food that removes potentially damaging oxidizing agents in a living Organism	**: Anti-Oxidant Food**
26.	The treatment of disease by the use of chemical substances, especially the treatment of cancer by cytotoxic and other drugs	**: Chemotherapy**
27.	The treatment of disease, especially cancer, using X-rays or similar forms of radiation.	**: Radiotherapy**

Information for the Contributors

Global Cancer Concern India "Research and Development Journal" is the official Journal of Global Cancer Concern India and is published thrice a year. It is devoted to publication of contributions that focus on the information pertaining to many issues concerned with cancer.

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The paper should be only on issues concerning cancer in India. The manuscript should be typed in double space with a wide margin and should not exceed 2000 words. The title page should carry the title of the paper, name and affiliation of the author/s. The official designation and official address should be typed at the bottom of the first page of the script. The paper should be divided into Abstract, Introduction, Material and method, Results and Discussion, Conclusion, Acknowledgements (if any) and References. Tables should be given in Arabic, serial number and each table on a separate page. References should be listed at the end of the paper in alphabetical order and they should include only works referred to in the text. The format for the reference is :

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