(1) WHAT IS CANCER AND WHAT ARE EARLY SIGNS OF CANCER AND HOW IT IS DIAGNOSED.

WHAT IS CANCER?

Cancer is uncontrolled growth of cells of our body.

It happens due to mutations (some changes at cellular levels) in our cell growth mechanisms, it may occur due to spontaneous mutation, it may occur to due to Tobacco and Alcohol, and in many cases, exact cause is not found.

Due to these mutations, cell growth cycle become uncontrolled and results in uncontrolled growth, leading to cancer.

WHAT ARE EARLY SIGNS AND SYMPTOMS OF CANCERS?

CANCER CAUSES SIGNS AND SYMPTOMS ACCORDING TO ORGAN OF BODY FROM WHERE CANCER STARTS.

Cancer causes local pressure symptoms due to growth of cancer cells.

Lung cancer causes chest pain, cough, blood in cough, breathlessness.

Breast cancer causes lump in breast or axilla (side arms), redness or ulcer in breast, discharge from nipple or retraction or change in nipple.

Head and neck cancer causes non healing ulcer in mouth and pain in mouth while eating and drinking and swelling and nodes in neck.

Cancers of colon, stomach, pancreas, gall bladder and intestine causes vague symptoms like abdominal pain, weakness, weight loss and sometimes bleeding in stool.

Blood cancer may have fever, bleeding from mouth, weight loss and neck nodes.

Gynecological cancers can cause lower abdominal pain, discharge or excessive bleeding.

We should not ignore any problem like unintentional weight loss, cough, abdominal pain, low grade fever, blood from stool or blood in cough, which is lasting for long duration and not relieving with general treatment. We should not ignore them, they may be signs of early cancer.

HOW IS CANCER DIAGNOSED?

Cancer is diagnosed with help of Imaging and biopsy.

Local part imaging like CT Scan, MRI or USG is done and if there is some mass or suspicion of cancer on these imaging, then biopsy is done from suspected cancer site to confirm the diagnosis of cancer

DOES CANCER OCCUR ONLY IN PEOPLE WHO DOES SMOKING, EAT TOBACCO OR DRINK ALCOHAL?

Cancer occurs most commonly in patients with addiction of tobacco, cigarette, bidi or alcohol, but there are a large number of patients in whom there is no addiction and there are many cancers in which there is no relation of cancer with tobacco or alcohol.

(2) HOW IS CANCER TREATED

Once a cancer is diagnosed in biopsy report, we have to first stage the cancer.

Staging of cancer is done with help of Imaging like PET CT Scan, MRI or CT Scan.

There are 4 stages of cancer -

Stage 1 is very early and confined to small part of organ involved and has very good results with treatment and very high cure rates.

Stage2 has spread more, but limited to one organ only, it also has very good results with treatment and high cure rate.

Stage 3 is more spread as compared to stage 2 and has local nodes involved, it is also treated with curative intent and majority of patients get cured in this stage also.

In stage 1, 2 and 3 different modalities of treatment like chemotherapy, surgery and radiotherapy are used in different combinations to cure the cancer.

In stage 4 cancer, the disease has spread to distant organs like liver, bone, lung, brain or distant nodes. Unfortunately these patients cannot be cured, but there are lot of treatment options available to treat these patients .Once cancer is relapsed, then also we cannot cure, but can treat with lot of drugs.

In stage 4 and relapsed and metastatic cancer patients, there are lot of treatment options available, like chemotherapy, targeted therapy and immunotherapy.

We use these drugs in different combinations according to type of cancer and we can prolong life of patient for many years, and can give relief of symptoms like pain, cough, breathlessness or bleeding.

Most patients can live for many years without much sufferings, even in stage 4 or relapsed cancers.

(3) WHAT IS CHEMO THERAPY AND HOW IT IS GIVEN

Traditionally the drugs used for cancer treatment are known as chemotherapy drugs.

Now with advances in science, a lot of newer drugs have come in to market to fight against cancer.

Apart from traditional chemotherapies, a lot of newer drugs are used now a days, like targeted therapies, monoclonal antibodies, and immunotherapy.

Chemotherapy drugs kills cancer cells but are little non-specific, so they have some side effects.

Targeted drugs and Monoclonal Antibodies are very specific drugs and are used in patients only when specific target is present in cancer.

Immunotherapy drugs kill cancer cells by increasing immunity of patients.

All these drugs and chemotherapies are used in patients according to specific indications and different types of drugs are used in different combinations according to type of disease.

These drugs are mostly given by injections in infusions; the time of infusion may vary according to type of drugs and may be from 30 minutes to few hours.

Most of drugs are given in day care and patients can be discharged on same day of chemotherapies. Some protocols require drugs to be given over 2 or 3 days.

Injections itself are not painful and patient remains normal during drug infusion, they can talk normally and can eat and drink during drug infusion.

Most of patients are discharged on same day and can travel back to their homes after drug infusion.

Some chemotherapies and targeted therapies can be given in form of oral tablets and patients can take them at home.

These drugs are given in number of cycles, each time a drug is given, it is counted as one cycle.

Each cycle is given at fixed interval, mostly every seven days, or every fifteen days or every 21 days.

Number of cycle and duration of treatment vary according to disease and patient, but generally drugs are given for 4 to 6 months.

While on treatment, evaluation of disease is done regularly at every 3 or 4 months to see response of treatment.

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(4) CARE OF PATIENTS WHILE ON CHEMOTHERAPY

We understand, that it's very stressful, once a person is diagnosed with cancer, and is advised for chemotherapy. Family goes through lot of questions, when one is advised for chemotherapy, we will try to give some answers of commonly asked questions.

HOW MANY CYCLES OF CHEMOTHERAPY ARE GIVEN?

It depends on type and stage of cancer. Generally 4 to 6 cycles of chemotherapy are given. It may vary from patient to patient.

WHAT HAPPENS ONCE CHEMOTHERAPY IS GIVEN TO PATIENT?

Once chemotherapy infusion is completed, patients are discharged and patients can go home.

Depending on drugs given, patients may feel mild weakness, some amount of nausea and vomiting, mild fever or body ache for 5 or 6 days after chemotherapy. We always give medicines for these minor side effects, if patient has more side effects, you can tell us; we can always increase supportive medicines, so that these minor side effects also get resolved. Most of patients feel better and feel normal from second week of chemotherapy.

Only few patients may have serious side effects, these side effects and warning signs are explained in section of side effects of chemotherapy.

WHAT IS QUALITY OF LIFE WHILE PATIENT IS ON CHEMOTHERAPY?

Generally, most of times chemotherapy is well tolerated.

We advise rest for 1 week post chemo cycle. In first week patients can remain normally in home and can stay normally with family members.

They can watch TV, use mobile phones and computers and can do mild house hold works to keep them busy.

They can play indoors with family members and children. This is not infectious disease; no other family member will get this disease.

If patient wants to do his office work from home, they can do it, but we advise not to do too much exertion.

After one week, patients can do light outdoor office work provided CBC is normal.

WHAT PRECAUTIONS SHOULD BE TAKEN BY CHEMOTHERAPY PATIENTS?

Throughout duration of chemo, patients should avoid over exertion.

They should avoid close contacts with any person suffering from fever, respiratory illness and seasonal viral fever.

Patients should avoid closed and crowded spaces like malls, movie theaters and packed spaces and crowded parties and gatherings.

Regarding food, see section on food for cancer patients.

Patients should eat cooked food and avoid raw and outside food and take fruits after properly washing them and after peeling them.

Patients should engage themselves in non-exerting activities like reading, watching TV, light house hold activities or online Office work, to keep them in fresh mood.

WHAT HAPPENS WHEN ALL CHEMOTHERAPY CYCLES ARE FINISHED?

Once all chemo cycles are finished, patients need to come at regular interval for check-up.

Follow up is different for each patient.

Generally no major precautions are needed after chemo is finished and patients can live normally, the way they used to live before being diagnosed with cancer.

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(5) SIDE EFFECTS OF CHEMOTHERAPY

We all know chemotherapy drugs are associated with side effects.

There are 2 types of side effects, serious and non-serious side effects.

NON SERIOUS SIDE-EFFECTS

These side effects are more common. These side effects are:

Nausea, vomiting, weakness, uneasiness, body ache, headache, malaise, constipation, difficulty in sleeping, loss of appetite, mouth ulcers, itching.

Generally, they occur for 5 to 8 days after chemotherapy and subside after that. We give supportive medications for these side effects and most of patients tolerate these side effects well.

If some patient has more amount of theses side effects, we can give more supportive medications and ultimately most of patients tolerate these side effects very well and hardly any patient leaves chemo cycles in between, because of these side effects.

Apart from these, there may be hair loss, skin and nail changes with some chemotherapy drugs, which are transient and gradually subside, once chemo is over. In most of patients, hairs come back, once chemo is over.

SERIOUS AND LIFE THREATENING SIDE EFFECTS

Generally serious side effects occur in very few patients and with help of modern supportive medications, we can manage them easily. These side effects are:

- 1. Hypersensitivity reactions while giving chemo, which are very rare.
- 2. Chemotherapy drugs are associated with chances of lowering Haemoglobin, total WBC counts and platelets. Most of time, there is mild degree of marrow suppression with chemo drugs but sometimes there may be high degree of marrow suppression and patient may develop complications due to that.

Infections can cause fever and symptoms according to where infection is, like lung infection can cause fever, dyspnoea, cough, abdominal infection can cause abdominal pain with diarrhoea and fever, urinary infection can cause high grade fever and urinary burning.

We give injections, for preventing low counts during chemo, with drugs in which there are high chances of neutropenic (lower counts).

Apart from these side effects, there may be some side effects which are unpredictable and idiosyncratic and can cause damage to lung, live, kidney or brain, but they are very, very rare.

WHAT CAN WE DO TO DECREASE CHANCES OF INFECTION?

Patient should take care of personnel hygiene, should take daily bath or sponge if bathing not possible.

Patient should eat healthy food as advised in food section.

Patient should avoid going in crowded places and should avoid contact with persons having respiratory illness, cough or cold.

Patient should do light exercise or walking, if possible and feasible.

WHAT ARE WARNING SIGNS OF SEVERE INFECTION AND WHEN PATIENT SHOULD CONTACT DOCTOR IMMEDIATELY?

If there are following signs, you should contact your doctor:

High grade fever, sever coughing, chest pain, breathlessness, diarrhoea, burning pain while urinating and fever, extreme weakness, severe vomiting, and unexplained uneasiness and hypotension.



(6) WHAT FOODS SHOULD BE GIVEN TO CANCER PATIENTS

Patients who are undergoing chemotherapy and cancer treatment have low immunity and they have more chances of getting infection, keeping this thing in mind we should give them food, accordingly.

- 1. As such, we can give all foods, provided, they are properly washed and hygienically prepared.
- 2. All things which are properly cooked, boiled or fried can be given.
- 3. All vegetables should be washed with clean water and properly cooked.
- 4. We can give all types of cereals in form of Roti, Rotla, Puri, Paratha, Bhakhri, etc
- 5. We can give Dal, Rice, Curry, Khichdi.
- 6. We can give Eggs and Non Veg food but it should be properly cooked and should be bought from reliable and clean and neat sources.
- 7. Milk can be given after proper boiling, butter and ghee can be used and homemade curd and buttermilk can be given.
- 8. Fruits which can be properly washed and properly peeled off can be taken, like Apple, Watermelon, Banana, Oranges, Mausambi, Pomegranate and Papaya.

Fruits which cannot be properly peeled off should be avoided like, Grapes, Cheeku, Strawberry.

- 9. Food which is freshly prepared on same day, should be given.
- 10. Non cream biscuits and home prepared Namkeens and Matthri can be given.
- 11. Foods to be avoided are, raw foods, salads, pickle, previous day foods and outside food.
- 12. While travelling, homemade food should be given, and if not available then can take tea, hot milk, with non-cream biscuits.
- 13. Vanilla and Chocolate ice creams can be given.
- 14. Utensils of cancer patients can be shared with family members as cancer is a non-infectious disease.

(7) HOW TO DIAGNOSE CANCER EARLY AND BODY CHECKUP FOR EARLY DIAGNOSIS OF CANCERS

Cancer patient's relative are concerned about chances of cancers in them and very frequently want to get body check-up done for cancer in them.

In healthy persons, there are no routine tests to diagnose cancers as such.

Cancer screening is done for specific cancers and at specific time to diagnose cancer early, apart from them there are no specific tests to detect cancer.

We advise for check-up, if any problem occurs and persists for longer duration even after general treatment. Like long standing cough, abdominal pain, chest pain, menstrual problems, swelling in any part of body, body ache, weakness, and fever should be checked for cancer, if these problems persist for more than a month even with treatment.

There are specific screening guidelines; screening is helpful for detecting cancer in early stage in asymptomatic patients.

<u>Screening for breast cancer</u>: every female above 35 years of age should get breast examination and mammography at every 12 months interval. In some high risk females, screening needs to be started early.

<u>Screening for cervical cancer:</u> females from 30 to 65 years should go HPV testing and PAP smear examination every 5 years.

<u>Screening for colon cancer</u>: colon cancer screening should be started after 45 years of age, with help of colonoscopy or stool based test, after discussion with your doctor.

<u>Screening for prostate cancer</u>: prostate cancer screening should be started in people above 45 years of age in form of Serum PSA testing and Per Rectal Examination every 2 years, after discussion with your doctor.

(8) HEREDITARY CANCERS AND SCREENING OF FAMILY MEMBERS FOR CANCERS

Many times patient relatives are concerned and confused about genetic and hereditary cancers.

All cancers are due to some genetic alteration, most of which are acquired and not transferrable to next generation.

Hereditary cancers are those cancers which can be transmitted to next generation,

Overall only 2-3 percent cancers are hereditary and can be transmitted to next generation.

One very common question arises in patient relatives mind is – can I get cancer due to cancer in my relative, answer to this is ---very few cancers are hereditary and transferrable from one generation to another generation and there are specific indications and types of cancers in which, tests regarding hereditary cause are required.

Most of cancers are not hereditary.

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