



CHEMOTHERAPY AND ME

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- **What is chemotherapy?**

Chemotherapy (chemo) is the use of drugs or medications to treat cancers **Why do you need chemotherapy?**

Chemotherapy is needed to destroy the cancer cells. It is used to cure cancer and when that is not possible it is used to control the spread of cancer, reduce the tumor size and improve patients symptoms and quality of life. **How does chemotherapy act?**

Most chemotherapy acts by killing cells that rapidly grow and divide like cancer cells. They also affect other rapidly dividing cells like those which line the mouth and gut or hair.

- **How will it be given to me?**

Chemotherapy may be given in many ways.

- Injection: The chemotherapy is given by a shot in a muscle (Intramuscular or IM) in your arm, thigh, or hip, or right under the skin (subcutaneous or SC) in the fatty part of your arm, leg, or belly.
- Intravenous (IV): The chemotherapy goes directly into a vein.
- Oral: The chemotherapy comes in pills, capsules, or liquids that you swallow
- Intrathecal (IT): Chemotherapy is given into the fluid surrounding the spinal cord by doing a procedure called a lumbar puncture.
- More on IV Chemotherapy: IV is the most common route of administering chemo and is usually done by placing a small cannula on the hand or lower arm by a nurse.

For more prolonged or frequent schedules or when the medications are irritant in nature then indwelling devices are used.

- Catheters: also called a central line or PICC (Peripherally inserted central catheter). These can be inserted in the wards, operation theatres, or radiology department. The various sites are in the arm or neck or chest. It is a thin soft tube with one end inside the vein and the other end outside the body. Most catheters stay in place until all your chemotherapy treatments are done. Catheters can also be used for drugs other than chemotherapy and to draw blood.
- Ports : A port is a small, round disc made of plastic or metal that is placed under your skin. A catheter connects the port to a large vein, most often in your chest.

Your nurse can insert a needle into your port to give you chemotherapy or draw blood. This needle can be left in place for chemotherapy treatments that are given for more than 1 day.

- The doctor might remove the catheter or PORT if there is a suspicion of infection or malfunction.

- **What are Pumps?**

Most chemotherapies have to be given over a specified period. Pumps are devices that speed of chemotherapy entering the body when it is connected to a catheter or pump. Pumps can be carried home for the specified time and duration.

- **What medication will I get?**

Most cancers are treated with multiple drugs that are put together in particular doses and timings in such a way that the cancer cells are killed most efficiently with as little toxicity as possible. This is often called a protocol or regimen. This will be decided by the treating doctor in discussion with the patient. Some factors that are used in deciding which drugs are used are stage and type of cancer, patient fitness, presence of pre-existing illnesses (e.g. Kidney or heart disease), and current infections (e.g. pneumonia), need for further treatments like transplant and financial capabilities.

- **How often will I get it?**

Treatment schedules vary depending on the protocol used. Most often it will be a period of treatment followed by a period of rest (for the healthy cells to recuperate) and this is called a cycle. For example, one week of chemo followed by three weeks of rest. These four weeks are called as one cycles.

How will I know if the chemotherapy is working?

Physical examination by the doctor along with blood tests, bone marrow examinations, imaging studies like CT scans at prefixed time points in the treatment schedule are used to monitor response to therapy.

Are there any special diet recommendations during chemotherapy?

Clean and freshly cooked food is essential to avoid infections. It is advisable to steer clear of uncooked salads and as these can be contaminated. However, cooked meat is not a contraindication during chemotherapy. Foods with fibre help prevent constipation while clear

liquids and liquid foods can help when there is no appetite. Sometimes doctors may advise foods high in calories if there is a much weight loss.

In special instances when the patient is unable to take eat due to severe side effects, necessary calories and proteins will be provided intravenously (IV) called Total Parenteral Nutrition (TPN) or through a feeding tube inserted in the nose called nasogastric (NG) feeds.

- **Can I travel during chemotherapy?**

Travel must be undertaken with precautions to prevent coming in contact with crowds. It is preferable to avoid long-distance travel when blood counts are low or while having an infection or other complications.

- **Can I take my other routine medication and any other Over The Counter (OTC) medication?**

Any pre-existing medical condition and routine medications (e.g. tablets for high blood sugar or blood pressure, inhalers for asthma) must be informed to the doctors and nurses at the initial visit. It is good to bring all routine medications at every visit to the hospital. As the need arises even these “usual” medicines or their doses may be changed. Any new ailment should ideally be informed to the treating team before self-medicating with over the counter remedies.

- **Can I take herbal supplements/ayurvedic products at the same time?**

Most allopathic doctors are not trained in herbal and ayurvedic systems of medicine, hence they will not be able to give you correct information regarding efficacy and side effects of these products. Further, there may also be interactions between these products and chemotherapy. For these reasons, it may not be advisable to combine these treatments.

- **The treating team and me**

The treating team usually comprises of a team of doctors of which one will be the primary treating physician who will be involved with all the major decision-making process. The other doctors will be involved with the day to day assessment and treatment of minor ailments or complications.

Next are the nurses who form the backbone of any chemotherapy set up. They are responsible for the primary assessment of patients during chemotherapy and also for administering the drugs. They are trained to help with the management of side effects and complications arising from chemo especially during the infusion.

Some teams have pharmacists and psychologists who are involved in the everyday care of patients. In most institutions, they are called upon as needed.

Some guidelines to have a fruitful meeting with the doctor

- Make a list of all questions beforehand
- Ask all questions – nothing is stupid or inconsequential
- Take one or maximum of two close caregivers who will be jointly responsible for major decisions for each visit
- Get a printed copy of the proposed treatment plan preferably personalized for your case.
- Get contact information of the doctor/nurse and hospital especially if there is an emergency
- Make an appointment to see the doctor a next visit

- **My Mental Health During Chemotherapy**

A diagnosis of cancer brings along with its varied emotional and mental changes which can be very challenging and difficult to cope with. Some common feelings that are experienced at various time points are fear, denial, sadness, anger, loneliness, frustration, anxiety, guilt, and hopelessness.

An additional burden of inability to carry out routine responsibilities at home or at the workplace along with dependence on others to varying degrees may cause difficult feelings.

There is no right way to deal with a diagnosis of cancer and changes in moods and feelings are normal. It is important however to admit to these emotions and find ways of accepting the changes and moving towards a calm and peaceful state of mind.

There are many different coping mechanisms. Talking the problem over with family, friends, trained psychotherapists, and even the treating team can often help in alleviating distress. Techniques to relax such as light exercise, music, and pursuit of hobbies are helpful. Joining support groups and connecting with cancer survivors with a similar diagnosis can go a long way in staying mentally healthy.

Despite all these, overwhelming feelings can seem insurmountable and unmanageable. At such times most institutions have trained oncology nurses, psychologists, and psychiatrists who can be of assistance in offering psychotherapy and occasionally appropriate pharmacotherapy.

- **Some common side effects of chemotherapy**

- **Anaemia**

Caused by low levels of oxygen-carrying red blood cells. This manifests early on as fatigue and can progress to shortness of breath and dizziness. Getting plenty of rest, avoiding physical exertion, standing up slowly are all steps to cope with anaemia. The doctors will decide if blood transfusions are necessary.

- **Bleeding**

Bleeding spots on the skin and mouth, excessive menstrual bleeding can be seen when the platelet count is decreased. Any bleeding should be informed to the treating team. Medicines to decrease bleeding, topical application of powdered tablets over bleeding points and transfusion of Platelets are common remedies that your doctor will prescribe. Preventive measures include using a soft brush and maintaining good oral hygiene, avoiding cuts and nicks by shaving carefully, wearing slippers, handling knives and other sharp objects with care.

- **Nausea and Vomiting**

Different chemotherapy drugs cause different degrees of nausea and vomiting. Accordingly, medications will be given pre-emptively or along with chemotherapy to prevent this. With the same medications, different people have varying degrees of symptoms and hence medication used, and doses used will vary. Eating small frequent meals at scheduled times, avoiding spicy and oily foods and occasionally having liquid-only diet.

- **Diarrhoea**

If there are loose watery stools more times than is normal, then it is considered as diarrhoea. This can be caused by damage to the cells lining the intestine by chemotherapy or by infections. Home remedies include small frequent meals, plenty of liquids that contain sodium and potassium like fresh fruit juices, coconut water, oral rehydrating solution. Avoid mild and milk products, laxatives and high fibre foods. If there is abdominal pain, fever or blood in the stools, if it lasts more than one day, if there is significant fatigue which prevents usual activities or if you are concerned then it is required to contact the medical team.

- **Constipation**

When stools are less frequent, hard and painful it is called constipation. This is most often caused by lack of movement, poor oral intake with fewer liquids and foods low in fibre. Tips to prevent constipation include intake of 6 to 8 glasses of water, high fibre containing foods and laxatives. If there is fever, severe pain or bleeding while passing stools, associated vomiting or bloating of the abdomen, presence of an ulcer around the anal region then urgent medical help must be sought.

- **Fatigue and Tiredness**

This can be caused by a wide variety of reasons like anaemia, low blood counts, low mood and anxiety, infection, fever and lack of sleep. Practical tips include maintaining a consistent intake of calory rich foods, enough water and maintaining proper sleep hygiene. Consistent exercise and regular relaxation outlets will also help. Limiting responsibilities and seeking help from caregivers during such times will help. Medical help must be sought when there is breathlessness, fever, bleeding and inability to carry out self-care.

- **Hair loss**

This is also called as alopecia. Some types of chemotherapy damage the cells that cause hair growth. Hair loss often starts two to three weeks after chemotherapy begins. The scalp may hurt at first followed by hair loss. It takes about one to two weeks for all the hair to fall out. Almost always, the hair will grow back two to three months after chemotherapy is over. The doctors and nurses will inform you if alopecia is likely prior to starting chemotherapy. It is more manageable and hygienic to cut or shave off the hair prior to the onset of hair fall. Use of wigs can be discussed with the treating team and most hospitals have contact details of places it can be acquired. Use of mild shampoos and gently washing and drying hair will help to maintain comfort.

- **Infection**

This occurs when one of the white blood cells called neutrophil which is responsible for preventing and fighting against infection is decreased during chemotherapy and this is called neutropenia. The blood counts will be regularly monitored by the doctors and during periods of neutropenia, injections called growth factors may be given to increase the blood count. To prevent infections at this vulnerable period it is necessary to wash your hand with soap and water often, use sanitizers over frequently used objects, eat clean fresh and cooked food, avoid crowded places and people who are sick. Skin must be kept well moisturised. Inform your doctor if the central line or port site has discolouration, pain or bleeding. If there is any fever during periods of neutropenia patient must seek urgent medical care.

- **Nervous system changes**

Mild symptoms include numbness or tingling of extremities, tremors, mild hearing loss but they can also be severe like headache, blurring of vision, altered consciousness, seizures and speech disturbances. Some of these are directly related to the medications while some are due to infections, immune reactions, and imbalances in electrolytes. It is important to let the doctor know right away as soon as any of these symptoms manifest as early evaluation and treatment can be effective in preventing further complications.

- **Pain**

Some types of chemotherapy can cause painful side effects like burning, shooting pain in the hands and feet. Cancer itself can cause localised body pains like headache or back pain depending on the site of disease while infective complications can cause chest pain. Any new onset of pain or pain which is increasing in intensity must be discussed with the treating doctor or nurse. There are highly effective medicine and non-pharmacological methods to relieve pain. Most institutions also have specialised pain services which can be accessed.

- **Pregnancy and Infertility**

Chemotherapy can cause serious side effects to the baby; hence it is very important to prevent pregnancy during chemotherapy. Women who are of childbearing age must discuss contraceptive options prior to starting treatment.

Many chemotherapy agents cause infertility which results in women being unable to bear children and men being unable to father children. This is because chemotherapy causes damage to the cells producing the eggs in women and sperm in men. If a patient desires to have children in the future this must be communicated to the doctors and a referral to fertility expert can be arranged. Sometimes however the urgent nature of a diagnosis of cancer and the need for immediate therapy may prevent sophisticated fertility-preserving options.

References:

1. Book of hope – Understanding and overcoming cancer. TATA Medical centre
2. Chemotherapy and You – Support for people with cancer – NIH