Breast cancer is a kind of cancer that begins as a growth of cells in the breast tissue. As new treatments, research and therapies have been developed thus breast cancer survival rates have been increasing.

Systemic drug therapy is a crucial treatment option for breast cancer, aiming to eliminate or inhibit the growth of cancer cells. Unlike localized treatments, systemic therapy targets cancer cells that may have spread beyond the breast to other parts of the body. This therapy is often used in conjunction with other treatments, such as surgery or radiation, to enhance effectiveness.

The drugs used in systemic therapy are administered through various methods, including intravenous (IV) infusions, oral pills, or injections. These drugs work by interfering with the growth and division of cancer cells, either by directly killing them or by blocking specific pathways that cancer cells rely on to grow.

Systemic therapy includes different types of treatments, such as chemotherapy, hormonal therapy, targeted therapy, and immunotherapy, each tailored to the patient's specific cancer type and stage. The ultimate goal is to reduce the risk of cancer recurrence, manage its spread, and improve the patient's overall survival and quality of life.

With advancements in medical research, systemic therapies have become more personalized, increasing their efficacy while minimizing side effects. This approach provides hope for better outcomes in the fight against breast cancer.
Therapy has different types based on how breast cancer is treated, what are the precautionary measures you should be taking while going through the therapy.
below we have explained the four types of systemic therapy for breast cancer:
https://cancerblog.mayoclinic.org/2024/10/01/the-4-types-of-systemic-therapy-for-breast-cancer/

Chemotherapy

Chemotherapy is a common treatment for breast cancer that works by slowing or stopping the growth of cancer cells. It can be used to shrink tumors before surgery or eliminate remaining cancer cells afterward. Chemotherapy helps reduce the risk of cancer recurrence, even in hidden or undetectable cells. It is often combined with other treatments, such as surgery, radiation, or hormone therapy. The treatment is typically given through a vein, allowing the drugs to reach cancer cells throughout the body.

Precautions

•Don't eat raw meat or seafood

•Avoid foods that may aggravate cancer treatment side effects

•Don't start taking any new medications or supplements

•Don’t smoke or drink alcohol

•Avoid excessive UV exposure

•Don’t risk pregnancy or chemotherapy exposure with sexual partners

•Caregivers should take precautions when doing laundry and cleaning

•Don’t socialize with sick people

•Avoid trying to do too much

Side-effects

Cancer cells tend to grow fast, and chemo drugs kill fast-growing cells. But because these drugs travel throughout the body, they can affect normal, healthy cells that are fast-growing, too. Damage to healthy cells causes side effects. Side effects are not always as bad as you might expect, but it's normal to worry about this part of cancer treatment.

The normal cells most likely to be damaged by chemo are:
•Blood-forming cells in the bone marrow
Hair follicles
•Cells in the mouth, digestive tract, and reproductive system
•Some chemo drugs can damage cells in the heart, kidneys, bladder, lungs, and nervous system.
•Menstrual changes and fertility issues
For younger women, changes in menstrual periods are a common side effect of chemo.

Sometimes, you can take medicines with the chemo to help protect your body’s normal cells. There are also treatments to help relieve side effects.
https://cancerblog.mayoclinic.org/2024/10/01/the-4-types-of-systemic-therapy-for-breast-cancer/
https://www.mayoclinic.org/tests-procedures/hormone-therapy-for-breast-cancer/about/pac-20384943

Hormone Therapy

Hormone therapy for breast cancer is a treatment for breast cancers that are sensitive to hormones.Hormone therapy is a cancer treatment that slows or stops the growth of cancer that uses hormones to grow. Some forms of hormone therapy for breast cancer work by blocking hormones from attaching to receptors on cancer cells. Other forms work by decreasing the body's production of hormones.

Breast cancer can be influenced by natural hormones like estrogen or progesterone. Tests can identify hormone-sensitive cancer types, enabling treatment with hormone therapy.

Hormone therapy for breast cancer can help to:
•Prevent cancer from coming back.
•Reduce the size of a cancer prior to surgery.

•Slow or stop the growth of cancer that has spread.
•Decrease the risk of cancer developing in other breast tissue

Additionally, hormone therapies have proven effective as a preventive measure for women at high risk of developing breast cancer, based on findings from clinical trials.

Precautions

Side-effects

Side effects of hormone therapy for breast cancer are different for each medicine. Side effects of the most common medicines include:

Tamoxifen
•Hot flashes.
•Night sweats.
•Vaginal discharge.
•Irregular periods in premenopausal women.
•Fatigue.

Aromatase inhibitors
•Joint and muscle pain.
•Hot flashes.
•Night sweats.
•Vaginal dryness or irritation.
•Fatigue.

Impotence in men with breast cancer.
Less common, more serious side effects of hormone therapy may include:

Tamoxifen
•Blood clots in veins.
•Cataracts.
•Endometrial cancer or uterine cancer.
•Stroke.

Aromatase inhibitors
•Heart disease.
•Thinning bones.
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Targated-drug Therapy

Targeted drug therapy uses medicines that are directed at (target) proteins on breast cancer cells that help them grow, spread, and live longer. Targeted drugs work to destroy cancer cells or slow down their growth. They have side effects different from chemotherapy.

Targeted therapy for HER2-positive breast cancer

Targeted drug therapy uses medicines that are directed at (target) proteins on breast cancer cells that help them grow, spread, and live longer. Targeted drugs work to destroy cancer cells or slow down their growth.Some targeted therapy drugs, for example, monoclonal antibodies, work in more than one way to control cancer cells and may also be considered immunotherapy because they boost the immune system.

In about 15% to 20% of breast cancers, the cancer cells make too much of a growth-promoting protein known as HER2. These cancers, known as HER2-positive breastcancers, tend to grow and spread more aggressively than HER2-negative breast cancers. Different types of drugs have been developed that target the HER2 protein.

Precautions

Oral targeted durga i.e pills your take through your mouth are mostly taken at home and some of them can be hazardous.There might be special precautions for storing and handling a targeted drug. You might be told to be careful not to let others come into contact with it or your body fluids while taking it and for a time after taking it.

You should wear gloves while touching the pills or capsule. When you are taking an oral targeted drug,you should talk to your cancer care team about whether special precautions are needed at home.

Side-effects

Targeted therapy side effects are different for each specific drug. Some examples of possible side effects include:

•Elevated liver enzymes: This happens when your liver releases more enzymes than needed, possibly damaging your liver.
•Cardiotoxicity: This is damage to your heart muscle.
•Extreme sensitivity to ultraviolet (UV) light (photosensitivity).
•High blood pressure (hypertension).
•Problems with wound healing and blood clotting.
•Interstitial lung diseases
•Heart rhythm changes.
•Neurologic changes.

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Immunotherapy

Immunotherapy is the use of medicines to boost a person's own immune system to recognize and destroy cancer cells more effectively. Immunotherapy typically works on specific proteins involved in the immune system to enhance the immune response. These drugs have side effects different from those of chemotherapy.

Some immunotherapy drugs, for example, monoclonal antibodies, work in more than one way to control cancer cells and may also be considered targeted therapy because they block a specific protein on the cancer cell to keep it from growing.

Precautions

As immunotherapy drugs are newer, there is not as much information about long-term effects of exposure.
To be safe, many experts recommend treating immunotherapy drugs as hazardous and taking the same precautions. This is especially true when immunotherapy drugs are given to treat cancer in combination with other drugs that are known to be hazardous, so your cancer care team will take precautions to protect themselves and others from exposure to them.

Side-effects

•Trouble breathing
•Low or high blood pressure
•Swelling and weight gain from retaining fluid
•Heart palpitations
•Sinus congestion
•Diarrhea
•Infection
•Organ inflammation
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'It's about the right drug, at the right dose, for the right patient.' That's what we need to focus on", says Dr. Richard Weinshilboum

Reference:-

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