Chemotherapy

Generic Name: Multiple

Drug Class: Chemotherapy Medications

Company: Multiple

Approval Status: Approved

Generic Version Available: Yes

Drug Indication

Cytotoxic chemotherapy, the oldest and most commonly used type of cancer treatment, halts cell division and kills rapidly growing cells. For a full list of chemotherapy drugs, click here.

General Info

Chemotherapy works by interfering with cancer cell multiplication. Normal cells undergo a regular cycle of growth, division and resting phases, but cancer cells grow out of control. Some chemotherapy drugs only affect only actively dividing cells, while others are most effective during the resting phase.

Many chemotherapy drugs interfere with DNA, the cell's genetic blueprint. Medications known as alkylating agents cause cross-links in DNA strands that prevent copying and repair of genetic material. These include drugs derived from mustard gas (for example, cyclophosphamide and mechlorethamine) and platinum (for example, cisplatin and carboplatin).

Drugs known as antimetabolites (for example, capecitabine and methotrexate) inhibit enzymes needed to produce DNA or RNA or act as defective DNA building blocks. Others interfere with microtubules, tiny structures that play a role in cell division. Several cancer medications (for example, vincristine and paclitaxel) are alkaloids derived from plants. Some antibiotics have antitumor activity (for example, doxorubicin and bleomycin). Certain steroids (for example, dexamethasone and prednisone) both have anticancer activity and are used to help manage side effects.

Dosage

Dosing Info:

Usually, the chemotherapy medications that have been shown to offer the best balance of effectiveness and tolerability are tried first, known as first-line therapy. If this doesn't work or if the cancer becomes resistant or relapses, second-line drugs may be tried. Sometimes older and sicker patients start with less intense chemotherapy to minimize side effects.

Chemotherapy may be given as the first treatment to shrink cancer before surgery or radiation therapy. This is known as neoadjuvant chemotherapy. It may also be used after surgery to kill any remaining cancer cells and reduce the risk of recurrence. This is known as adjuvant chemotherapy. Chemotherapy that delays disease progression or shrinks tumors can help relieve symptoms even if it is not expected to lead to a cure. This is known as palliative therapy.

Often a combination of chemotherapy drugs works better than a single medication used alone, and this can reduce the development of drug resistance. Sometimes additional medications are administered before, during or after chemotherapy to help prevent or manage side effects.

Chemotherapy may be given in a variety of ways, including pills, injections and intravenous (IV) infusions. Infusions are usually administered at a medical facility while pills can be taken at home. People who receive ongoing infusions may get a catheter inserted into a vein (called a PICC line) or a port inserted under the skin to allow treatment to be administered without puncturing a vein each time. In some cases, chemotherapy drugs may be injected directly into a tumor or administered to a specific part of the body, for example, into the abdominal cavity or the fluid surrounding the brain and spinal cord. Some medications are topical, or applied to the skin.

Chemotherapy is typically given in cycles, for example one week of treatment followed by three weeks off. The timing of cycles is based on cancer cell growth rates and other factors. These cycles allow breaks from side effects and give normal cells a chance to recover. Chemotherapy is often given for a set period (for example, six months or a year), but sometimes it continues as long as it is still working.

Side Effects

Because chemotherapy harms rapidly dividing healthy cells along with cancer cells, it can cause side effects throughout the body. These include cells in the mouth lining, hair follicles and bone marrow, leading to side effects such as mouth sores, hair loss and low blood cell counts. Loss of germ-fighting white blood cells can leave you more susceptible to infections, and loss of platelets can lead to easy bleeding.

Other common chemotherapy side effects include fatigue, nausea and vomiting, loss of appetite, diarrhea, headaches, cognitive problems (chemo brain or brain fog), muscle or joint pain, heart damage and peripheral neuropathy (nerve damage in the hands and feet). Because some drugs can impair fertility, younger people may wish to discuss ways to preserve their reproductive options.

To help prepare for chemotherapy, ask your doctor or nurse about the kinds of side effects you can expect during and after treatment. But remember that people respond differently; side effects may range from mild to severe, and not everyone will experience all of them.

There are many steps you can take to lessen chemotherapy side effects. Sometimes symptoms can be managed by adjusting your dose or treatment schedule. Chilling the scalp or hands and feet during treatment can reduce hair loss and neuropathy. Additional medications (such as anti-nausea drugs) and complementary therapies (such as acupuncture) may be used to manage side effects. Management is often easier if started early, and this may help prevent long-term effects. Let your medical team know if you experience side effects so they can help you find ways to cope with them.

For More Info: https://www.cancerhealth.com/basics/health-basics/chemotherapy

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