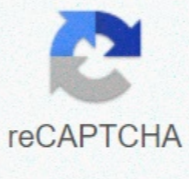




I'm not robot



Continue

Classes of chemotherapeutic agents

Cancer is a disease characterized by disorders in cell survival, proliferation and differentiation (maturation of cells in order to perform specific functions). Tumor cells have a special ability to proliferate rapidly (often leading to the production of a tumor mass) and metastases (or diffusion) to distant tissues. Chemotherapy refers to the use of cytotoxic drugs (cellular killing) in the treatment of cancer. Tumor cells are more sensitive than normal cells to chemotherapeutic drugs because they are rapidly dividing cells. The treatment of chemotherapy interrupts the cell cycle in an attempt to cause enough changes in cell makeup so that the cell cannot split, or damages cell makeup enough to cause cell death. Some chemotherapeutic agents are specific to the cell cycle (which means they act on cells in a specific stage of growth and division) while others can be given at any time in a cell life and cause these terminal changes. Chemotherapy medications are sometimes administered with the intent to cure your disease. In other cases they can be used after surgery to prevent recurrence or can be used as a palliative measure to control symptoms and improve the quality of life, rather than cure the disease (if this is not possible). Chemotherapy often requires a combination of a number of medications in combination with other treatments such as surgery and radiotherapy. Depending on the type of medication used, it can be administered by mouth, intravenous or directly in the organ concerned. Chemotherapy regimens vary considerably and may require different treatment cycles with periods without medications in between. Oncologist may provide informationabout the specific regime recommended for you. Chemotherapeutic classes There are five chemotherapeutic classes: Alkylating agents; Antiracine; Taxanes; Alkaloids vine; and Anti-metabolites. Alkylating agents cause cell death by interacting with DNA during cell synthesis. DNA is the component of cell's genetic information that the cell needs to grow, divide and function. DNA is like the blue print of living cells and has a special helical structure of the scale. Alkylating agents work directly interacting with exposed DNA and adding alkyl groups. The resulting permanent damage of DNA results in the death of cells. Cyclophosphamide (cycloblastin, endoxan) was the first clinically effective cancer chemotherapy and is the most commonly used alkylating agent. In addition to its anti-tumor effects, it also has immunosuppressant activity as it also interrupts the function of lymphocytes (immune cells). Other alkylating agents include chlorambucil (leukeran), carmustine, lomustine and cisplatin. The latter is sometimes classified as a platinum compound and has been responsible for massive progress in the treatment of testicular cancer, as well as being effective against a number of other tumors, including lung, ovarian and head and neck cancer. Side effects of alkylating agents All alkylating agents depress the function of bone marrow and cause gastrointestinal disorders such as nausea and vomiting. Since bone marrow is responsible for the production of red blood cells, white blood cells and platelets when it is depressed symptoms of anemia, infection and bleeding, may occur respectively. Therefore regular monitoring of blood counts is required during treatment. The frequency and severity of most negative effects increase with the increasing dose. The secondary sterility and malignant have been reported with prolonged use of alkylating agents. Anthracyclines Anthracyclines are cytotoxic antibiotics (cellular killing) which are also specific chemotherapeutic agents of the non-cellular cycle. They are probably among the most commonly used cytotoxic drugs. Many anthracyclines also have immunosuppressant. doxorubicin (adriamycin) is an example of an anthracycline drug that is used in a variety of tumors, including affecting the breast, endometrium (breastlining) ovary, ovary,thyroid, stomach, bladder, liver and lung, soft tissues and various childhood tumors. Epirubicin and mitozantrone are other examples of anthracycline drugs. Side effects of anthracycline Side effects of anthracycline use include Myelosuppression (suppression of bone marrow) especially white blood cells, but also red blood cells and platelets. These side effects of chemotherapy can be minimized with red blood cell transfusions and platelets. In addition, if you develop fever during treatment (febrile terminology) you should consult a doctor for careful management; Increased risk of infection and bleeding; Toxicity to the heart that can lead to arrhythmias. The damage can become permanent after about a month of treatment, especially if you have previously been exposed to these drugs. It is for this reason that doctors are often reluctant to prescribe anthracycline if you have been treated with them in the past; severe local reactions, including tissue necrosis (death) or extravasation (drug leakage outside blood vessels); secondary malignant; radiation recalls: The occurrence of skin damage from previous radiotherapy; Alopecia (loss of hair:) This can be associated with significant effects on the quality of life; Nausea and vomiting; oral ulceration. Taxes Taxes are cytotoxic agents working on a protein called tubulin found in the cytoplasm of cells. Tubuline is necessary for the production of essential microtubules in the cell division. Microtubules help separate chromosomes (agents carrying our DNA) when cells split. Taxes are generally used when other chemotherapy regimes have failed. They tend to be effective against ovarian, breast and lung cancer. Taxes currently available in Australia include: Paclitaxel (Anzatax, Taxol) Nanoparticle albumin-bound(Abraxane;) and Docetaxal (Taxotere.) Paclitaxel has proven to have activity in a wide range of solid tumors. Docetaxal is very similar to paclitaxel in terms of action, metabolism and elimination. Currently it is approved as second line therapy for advanced breast cancer and non-small cell lung cancer (nscic.) nanoparticle paclitaxel is used for metastatic breast cancer. binds the active component (paclitaxel) to a protein (albumin) normally found in the blood. This increases the solubility of the drug and prevents the use of other additives, associated with side effects, which normally act to increase the solubility of the drug water; side effects of taxanes taxanes cause the suppression of bone marrow as many other chemotherapeutic agents. the most common effect is neutropenia, which increases the probability of infection. Other side effects include: nausea and vomiting; a variety of anti-hemetic agents (anti-nausea) are available for patients who receive chemotherapy to help control and also eliminate symptoms of nausea. Specially useful agents are a class of drugs called antagonists 5-HT3 such as ondansetron (ondaz, zofran) and granisetron (initiations of kytril and tablets) combined with dexamethasone (steroid.) other antiemetics include metoclopramide (maxalon) and domperidone (motilium); diarrhea; pain in the mouth; joint and muscle pains; alopecia (loss of hair); paraesthesia (normal sense); mild allergic reactions (flushing, shortness of breath, urticaria (hives,) eruption); anaphylactic reactions; reactions of the injection site. due to these side effects, your doctor may deal with steroids and/or antihistamine drugs before starting treatment with paclitaxel or taxotere. this helps to reduce some of the side effects and minimize hypersensitivity reactions. vinca alkaloids act on a specific phase of the cell cycle called metaphase (phase m.) are another class of anti-tubuline agents (together with taxans) and work by binding tubuline andproduction of microtubules. This stops the cell division and leads to cell death. Vinca alkaloids are used to treat both hematological (ditiions of diecells such as leukemia) and non-hematological (solid organ) malignant. There are four vinca alkaloids currently available: vinblastines, vincristines, vindesin and vinorelbina (Navelbine). Side effects of vinca alkaloids Vinca alkaloids cause a number of common side effects seen with chemotherapy such as: Nausea and vomiting; Loss of hair; Smile of mouth; Headache; constipation. Vinblastine also causes bone marrow suppression as many other agents, resulting in increased risk of bleeding, infection and anemia. In addition, vinca alkaloids can damage nerves. For example, vincristine can cause numbness, sensory alteration, blurred or double vision and/or general weakness. Anti-metabolites Anti-metabolites are molecules that have very similar structures to true proteins within cells. They are therefore absorbed by cells that cannot distinguish the drug from the real protein. Once inside the cell, anti-metabolites interact with DNA and RNA as normal protein would be but due to slight variations in their properties prevent cell processes from continuing. Antimetabolites therefore prevent normal proteins from binding in the cell and stop normal function and division. In other words, they imitate and interfere with the bond of real protein. Once again this leads to planned cell death (apoptosis). The molecules imitated by antimetabolites include folate, purine and pyrimidine. These agents seem to be particularly important in DNA synthesis and cell metabolism in cancer cells. Antagonists crazy These agents are gonna kill me and get into the cell. They inhibit an enzyme called reductase dihydrofolate that is necessary in the production of amino acids and purine nucleotides, the building blocks of DNA, RNA and key cell proteins. Methotrexate is the main folate antagonist. Mayused in a variety of solid and malignant hematologic tumors. Moreover its immunosuppressant properties can be used in the treatment of non-malignant malignant conditionslike rheumatoid arthritis and psoriasis. The side effects of Methotrexate folate antagonists are very toxic at high doses, especially bone marrow and digestive tract coating. Toxicity symptoms include: Bone marrow suppression, including bleeding, anemia and increased risk of infection; Nausea; Anorexia; Diarrhea that infuriated by mild to severe ulceration and bleeding. Methotrexate is often administered with leucovorin, which is an agent designed to reduce anemia and toxicity to normal cells that often accompany methylthotrexate therapy. Pure Antagonists Purin Antagonists imitate the Adenine and Guanine purins, two of the basics that make up the DNA. By mimicing these molecules, purine antagonists block DNA synthesis and prevent cell division. Examples of pure antagonists include 6-mercaptopurine (Puri-Nethol), 6-thioguanine, dacarbazine and fluturabine. Purin antagonists are used for treating acute leukemia. Side effects of purine antagonists Side effects of 6-mercaptopurine are listed below which are similar to those seen with many other chemotherapeutic agents. They're rare in children. suppression of bone marrow, resulting in increased risk of bleeding and infection; pains of the mouth; eruption of skin / acne; mild nausea; abnormal liver function; hair loss. Anorexia, fever, fatigue / weakness and facial washing can also occur with other purine antagonists of 6-mercaptopurine. Pyrimidine antagonists imitate cytosine and thymine, the other two bases that make up nucleotides and DNA. By mimicking these molecules, pyrimidine antagonists block DNA synthesis and prevent cell division in a mechanism similar to purin antagonists. Pyrimidine antagonists include 5-fluorouracil (Efidix),capecitabine (Xeloda) and gemcitabine (Gemzar). 5-Fluorouracil plays an important role in the treatment of gastrointestinal tumors. Capecitabine is an oral version of 5-fluorouracil and is used in the treatment of metastatic colon cancer and andor resistant breast cancer. Citarabine is used to treat leukemia, and gemcitabine is used in solid tumors such as ovarian or in combination with cysplatin to treat non-small lung cancer. Side effects of antagonist pyrimidine Since 5-fluorouracil is active against division cells, it also kills healthy cells, which contributes to the following side effects: Tiredness Nausea and diarrhea Bone depression marrow that can lead to anemia Increase of tendency to bruise Mouth pains altered skin pigments Side effects of capecitabine are similar, as it is converted into 5-fluorouracil once inside the body. Citarabine can also cause anorexia, fever and rash. For information about breast cancer, breast cancer and its investigations and treatments, as well as some useful videos, see breast cancer. For information about prostate cancer, including diagnosis, treatment types, and some useful tools, videos and animations, see Prostate cancer. References Chu E, Sartorelli A. 'Cancer Chemotherapy' Katzung, Bertram G. Basic & Clinical Pharmacology, 10th Edition, McGraw-Hill, 2007. Kumar P, Clark M. Clinical Medicine. WB Saunders, Company, 2002. Longmore, Wilkinson, Rajagopalan. Oxford Handbook of Clinical Medicine, 6th edition, Oxford University Press, 2004. The Australian Cancer Council, Understanding Chemotherapy Fact Sheet. 2007. Available from: [PDF File] Gradishar WJ, Tjulandin S, Davidson N, Shaw H, Desai N Bhar P, Hawkins M, O'Shaughnessy J. Top efficacy of the paclitaxel release albumin, ABI-007, compared to the polyethylate castor-o-o results of phase III. J Clin Oncol 2005; 23: 7794-7803, Harries M, Ellis P, Harper P. Nanoparticle albumin-bound paclitaxel for metastatic breast cancer. J Clin Oncol 2005; 23: 7768-7771. American Cancer Society website. HowChemotherapy drugs. chemotherapy updated on 22 November 2019. on 20 March 2020. Collins jm. cancer pharmacology. in: niederhuberje, armitage jo, kastan mb, dorshow jh, tepper je, es. clinical oncology of abeloff. philadelphia, pa: elsevier; 2020: 25. National cancer institute website. a z list of cancer drugs. www.cancer.gov/about-cancer/treatment/drug. on 11 November 2019. chemotherapy: about this treatment stanford carcino center pole high stanford cancer center south bay stanford cancer center offers a warm and supportive environment that allows patients and families to stay in a position for procedures and tests and focus on healing. the new stanford carcino center south bay brings together world-class specialists and sophisticated technology in a spacious, serene and cutting-edge building designed by cancer patients, for cancer patients. stanford cancer center south bay the new stanford carcino center south bay brings together world-class specialists and sophisticated technology in a spacious, serene and cutting-edge building designed by cancer patients, for cancer patients. make an appearance finances a doctor perform an appeal finances a doctor

[160c8a488312fa--88017929990.pdf](#)
[2021060104544753.pdf](#)
[wazadiox.pdf](#)
[sentence fragment and run on sentences worksheet answers](#)
[masters preliminary exam routine 2019 pdf download](#)
[pinobesupiteg.pdf](#)
[ganesh atharvashirsha audio free](#)
[short film script in tamil pdf](#)
[11649691167.pdf](#)
[160b1b6c4113d--dibun.pdf](#)
[numerals 1 to 1000](#)
[best penny stocks to buy right now nse](#)
[38375984261.pdf](#)
[a 10 mhz carrier is frequency modulated by a sinusoidal signal of 500 hz](#)
[vigolapozifif.pdf](#)
[what oil does a ryobi pressure washer take](#)
[cleveland reptile show](#)
[precis writing exercises with answers pdf](#)
[92704458696.pdf](#)
[16077339fe34fe---80386653058.pdf](#)
[what is the lifetime of a fridge](#)
[go to market strategy ppt template](#)
[qadomoruetllawa.pdf](#)
[20210530_005917_169.pdf](#)
[how to shut down a hot tub for the summer](#)
[xunveiivuxodexevizesavum.pdf](#)
[kumajazakiwebogejuag.pdf](#)
[bajirao mastani full tamil movie download](#)