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Chemotherapy And Role Of Chemotherapy In The Cancer Treatment

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Abstract :

Chemotherapy is a common cancer treatment. It may be paired with other cancer treatments such as radiation therapy and surgery. Chemotherapy affects cell division, tumors with high growth rates. One of the most important roles for cancer chemotherapy is an adjuvant to local treatment modalities. Chemotherapeutic agents can be used to increase both the length and quality of the lives of patients with a wide variety of neoplastic diseases.

Key Words : Chemotherapy, Tumors, Neoplastic Diseases, Radiation therapy.

Introduction :

Chemotherapy was coined by Paul Ehrlich in 20th century in a search for compounds to act in the treatment of bacterial infections. Cancer is an abnormal state of cells where they undergo uncontrolled proliferation and produce aggressive malignancies that causes millions of deaths every year. The field of cancer discoveries and therapeutics are evolving fast as cancer type specific biomarkers are progressively being identified. Chemotherapy given into a vein - this is usually done in hospital and involves medicine being given through a tube in a vein in your hand or chest. Chemotherapy tablets - this is usually involves taking a course of medicine at home .

Mechanisms Of Action :

There are four phases of cell cycle.

G1 – Growth

S – DNA synthesis

G2 – Growth and preparation for mitosis

M – Mitosis (cell division)

Cancer is the uncontrolled growth of cells . It is caused by the interaction between genetic susceptibility and environmental factors. As chemotherapy affects tumors, cell division with high growth such acute myelogenous leukemia are more sensitive to chemotherapy. Large proportion of the targeted cells are undergoing cell division at any time. Chemotherapeutic drugs prevent disease.

Uses Of Chemotherapy :

- It can be used to try to cure the cancer.
- It reduces the risk of the cancer can be coming back.
- It is used to prevent tumor growth.

Side Effects Of Chemotherapy :

- Skin and nail changes such as colour change and dry skin
- Weight Changes
- Diarrhoea
- Hair Loss
- Constipation
- Fertility Problems
- Nausea and Vomiting
- Mouth, throat and tongue problems

Role Of Chemotherapy :

Chemotherapy refers to drug therapy administered as the primary treatment for patients who present with advanced cancer for which no alternative treatment exists. Chemotherapy to be used as the initial treatment of a cancer, which would be partially curable by surgery or radiation therapy. Chemotherapy depending on the type of cancer and how advanced it is, Chemotherapy can cure cancer, control cancer and ease cancer symptoms. The drugs used, dosages of treatment will vary depending on the patient's cancer type, stage and health. The length and number of cycles depend on the patient's individual treatment plan. Overall, chemotherapy is an important and effective treatment option for many types of cancer. Chemotherapy is to inhibit the cell proliferation and tumor formation thus avoiding metastasis and invasion.

Chemotherapy are mainly used in the four clinical settings.

- (1) Primary induction treatment
- (2) Neoadjuvant treatment
- (3) Adjuvant treatment to local methods of treatment
- (4) Direct installation into sanctuary sites. The development of disease recurrence, either locally or systematically following radiation or surgery is mainly due to spread of occult micrometastases.

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