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Comparative clinical studies of G-CSF Vs amifostine in reducing Neutropenia and its complication in cancer patients on chemotherapy

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Cancer is the second most dreaded diseases in the world. Chemotherapy induced neutropenia is a major complication in the treatment of cancer and common side effect. In one in three patients receiving cancer chemotherapy leads to reduction in dose or delay in the next chemotherapy, thus limiting the efficiency of treatment. Neutropenia can be complicated by fever or infection and sepsis.

In order to reduce neutropenia, haematopoietic growth factors like G-CSF are used, that stimulates common stem cells in the bone marrow and thus optimizes the patients host defense and decreases the episodes of febrile neutropenia, hospitalization & number of days on antibiotics treatment.

Chemotherapy does not spare the normal cells, which leads to different toxicities, producing serious morbidity and results in death. In order to minimize the toxicities induced by chemotherapy, cytoprotectant drugs like amifostine are used. It protects the normal cells by entering into the tissue with the help of alkaline phosphatase, thus prevents the toxicity of chemotherapy and radiotherapy.

Amifostine reduces hematological, neurological, ototoxicity and bone marrow toxicity, thus decreases the bone marrow damage. Pretreatment of amifostine, patients spend fewer days in hospital thus significant and more benefit of the patients.

Keywords: Granulocyte colony stimulating factor, Neutropenia, Absolute Neutrophil count, Precursor cells, Amifostine, Myelosuppression.

Biography

M. Anand Kumar works in the Department of Pharmacology and Toxicology, KLE University's Colloge of Pharmacy, Belgaum. He has participated in poster presentation competition in Samskruthi college of pharmacy, India.