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TOXICITY PROFILE OF MULTIPLE MYELOMA PATIENTS TREATED WITH DIFFERENT THERAPEUTIC REGIMENS

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Abstract

Background: Multiple myeloma (MM) is a neoplasm of the plasma cells that affects approximately 6.5 / 1,00,000 and is the second most common haematological malignancy.Pharmacologically MM is managed by targeted therapy, chemotherapy, steroids, and stem cell transplantation. Choice of regimen depends on the baseline characteristics and progression stage. However, increased toxic events can decrease the prognosis

Objective: To study the toxicity profile of multiple myeloma patients treated with different therapeutic regimens.

Methodology: 45 patients with newly diagnosed MM from a multi – specialty hospital from 2015 to 2019 were retrospectively analyzed. MM patients completed the regimens (Lenalidomide and Dexamethasone – RD, cyclophosphamide, bortezomib and dexamethasone – CyBorD; bortezomib and dexamethasone – BD; Thalidomide and Dexamethasone – TD, bortezomib, lenalidomide and dexamethasone - VRD) and follow up of at least 6 months were selected. Toxicity profile was categorized by using National Cancer Institute Common Terminology Criteria for Adverse Events (CTCAE) version 5.0.

Results: A total of 293 toxicity events were found. Toxicity profile of TD, BD, VRD, RD and CyBorD were 21.5%, 27.64%, 35.83% and 15.01% respectively. About 147 grade *1* toxicities, 92 grade *2* toxicities, 46 grade *3* toxicities and 8 grade *4* toxicities were identified. Among this, 209 were hematological, 43 were CNS, 39 were hepatobiliary and urinary system, and few other adverse effects noted were pedal edema, alopecia, cutaneous and skin infections.

Conclusion: The RD had comparatively greatest toxicity profile while CyBorD showed least toxicity profile. The study also pinpoints the need for systematic ADR profiling and follow-up in Cancer patients.

Keywords: Multiple myeloma, bortezomib, toxicity profile.

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THE USE OF ARTIFICIAL INTELLIGENCE IN CLINICAL DIAGNOSIS OF HEPARIN INDUCEDTHROMBOCYTOPENIA

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Abstract

Heparin induced thrombocytopenia (HIT) is a life threatning condition due to immunemediated side effect of heparin. HIT must be suspected when a patient who is receiving heparin has adecrease in the platelet count, particularly if the fall is over 50% of the baseline count. Diagnosis ofHIT needs both clinical and laboratory evaluation and remains a challenge . The combination ofclinical findings, thrombocytopenia characteristics and laboratory studies of HIT antibodies help indiagnosing HIT.Artificial intelligence use in bayesien algorithm help in early detection of HIT. Thebaysien algorithm for HIT incorporated 'four Ts' (4Ts) scoring and a stratified interpretation of ananti-PF4/H enzyme-linked immunosorbent assay (ELISA).

Objective: The use of artificial intelligence in clinical diagnosis of heparin inducedThrombocytopenia. Method The incorporation of artificial intelligence in interpreting early markers in HIT the 4Ts scoring(thrombocytopenia,timing of platelet count fall,Thrombosis or other sequelae .Other causes ofthrombocytopenia) 0-3: Low probability 4-5: Intermediate probability 6-8: High probability of HIT helps as a tool .This scoring system help in initiating steps to prevent the incidence of HIT when the scoring is in theprobable range and therapeutic management of the patient.Further laboratory tests like anti-PF4/H ELISA and serotonin release assay (SRA) can done in the highly probable cases to conform the diagnosis.

Conclusion: The incorporation of artificial intelligence would increase the monitoring on patients using heparin and decrease the incidence of heparin induced thrombocytopenia.

Keyword: HIT ,artificialintelligence,diagnosis,baysien algorithm.

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