ORIGINAL RESEARCH

Toxicity Profile of Chemotherapeutic Agents among Cancer Patients Receiving Care in a Nigerian Tertiary Health Care Facility

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ABSTRACT

Background: Chemotherapeutic agents are among the mainstay of managing cancer patients. However, they are associated with various degrees of toxicity.
Objectives: To evaluate the toxicity profile of chemotherapeutic agents among cancer patients receiving care in Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria.
Method: Retrospective cross-sectional design and systematic random sampling were used in selecting the records of patients that met the eligibility criteria for the study. Five-year records (2014–2018) of Full Blood Count (FBC), Serum Electrolyte Urea and Creatinine (SrEUCr) and Liver Function Test (LFT) were evaluated for changes from baseline to the end of chemotherapy. The data were compared with standards and analysed using descriptive, *t*-test and correlation analyses at $p<0.05$.
Results: The mean age of the 260 patients evaluated was 47.1±16.3 years. *T*-test analysis showed that the percentage changes in the patients' parameters under FBC and SrEUCr tests were normal while the ones under LFT were abnormal. Patients on platinum-based combinations especially Cisplatin+Fluorouracil+Paclitaxel (87.5±87.4%) and Carboplatin+Paclitaxel (68.4±114.5%) had the highest percentage increase in their overall LFT results while those on Doxorubicin+ Cyclophosphamide+ Vincristine (4.8±18.7%) and Doxorubicin+ Cyclophosphamide+ Paclitaxel (12.3±27.9%) had the least. The number of chemotherapy cycles was weakly correlated with hepatotoxicity (r=0.165, $p=0.046$).
Conclusion: The patients had essentially normal FBC and SrEUCr results, however, LFT was abnormal due to the elevation of liver enzymes. Platinum-based combinations especially Cisplatin+Fluorouracil+Paclitaxel and Carboplatin+Paclitaxel had the highest elevation in liver enzymes while Doxorubicin+Cyclophosphamide+Vincristine and Doxorubicin+Cyclophosphamide+Paclitaxel had the least. These findings should be considered by clinicians in managing cancer patients to minimise their medication-related toxicities.

Keywords: Cancer; toxicity profile; chemotherapy; chemotherapeutic agents; platinum-based combinations.