

Biochemical and Hematological Profiles of Breast Cancer Patients Attended to Out-Patient Department of Cancer Unit, Mandalay General Hospital

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Abstract

The biochemical alteration of the cancer cell in an extreme situation could lead to a complete deletion of a critical macromolecule, resulting in something akin to a localized and acquired error of metabolism. This hospital and laboratory-based, cross-sectional comparative study was conducted to assess the biochemical and hematological profiles including glucose, hepatic enzymes, renal biomarkers, uric acid, zinc and blood for complete picture of 36 newly-diagnosed cases of female breast cancer patients from Out-Patient Department of Cancer Unit in Mandalay General Hospital. The parameters were compared before first cycle and after third cycle of chemotherapy. Then, these parameters measured before chemotherapy were compared with 36 of apparently healthy control subjects. It was found that GPT, creatinine, neutrophil and monocyte levels of patients before first cycle of chemotherapy were significantly higher than those of control subjects whereas urea, uric acid, Hb% and lymphocyte levels of patients before chemotherapy were significantly lower than those of control subjects. Uric acid, zinc, neutrophil and eosinophil levels of patients before first cycle of chemotherapy were significantly higher than after third cycle of chemotherapy whereas lymphocyte and monocyte levels of patients before chemotherapy were significantly lower than after third cycle of chemotherapy. According to these results, some biochemical and hematological parameters were different between control and before chemotherapy and between before and after chemotherapy. However, they all were within normal values. This may be due to rehydration, correction for reduction of hemoglobin and white cell counts and rebuilt management during chemotherapy. In this study, study limitations were the withdrawal of patients before third cycle of chemotherapy and limited study period leading to obtaining insufficient sample size. Therefore, biochemical and hematological parameters should be monitored during management of breast cancer for effective supportive treatments.