

Assessment of Serum Selenium Levels in Breast Cancer Patients

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Abstract

Selenoproteins have roles that support immune function and, through specific cellular pathways, may play a preventive role in both the initiation and promotion of specific cancers. Selenium exerts its chemoprevention effect in different ways, such as a protective effect against oxidative damage by decreasing the amount of free radicals and increasing the synthesis of glutathione peroxidase. In Myanmar, breast cancer is annually increasing during these years. Therefore, the present work was taken up to assess serum selenium levels in breast cancer patients before first cycle of chemotherapy and after third cycle of chemotherapy. This hospital and laboratory-based, cross-sectional comparative study was conducted at Cancer Unit in Mandalay General Hospital. Study population was 37 new cases of female breast cancer patients above 20 years of age who did not suffer from any major illness in the past. Serum selenium was measured by using Atomic Absorption Spectrophotometer. Our finding showed that mean serum selenium level in breast cancer patients was significantly lower than that of controls and significantly higher than that measured after third cycle of chemotherapy. From the obtained results, it could be concluded that, the deficiency of selenium may lead to increase in risk of cancer incidence and effect of chemotherapy may increase reactive oxygen species with decreasing antioxidant activity.