906/A/Poster

Serum uric acid concentrations of newly diagnosed breast cancer patients

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Toxicity caused by oxygen radicals is considered to be associated with carcinogenesis. Uric acid (UA) is an antioxidant which could scavenge the oxygen radicals formed in the body and thus may have a protective role against cancer development. It is hypothesized that low serum UA may be associated with cancer risk. Altered serum UA concentrations are also reported in other disease status as well. As no data related to serum UA concentration and breast cancer (BC) is reported in Sri Lanka the objective of the study was to assess serum UA concentrations of BC patients and to compare with age matched apparently healthy females.

Newly diagnosed BC patients (n=150) were selected for the study after consent was obtained. Information on other diseases suffered by the BC patients were collected. Patients with diseases that could affect UA level (renal failure and cardiovascular diseases, etc) were excluded from the study. Apparently healthy age matched females (n=75) were selected as controls. Serum UA concentrations were measured using Kone 20XT biochemical analyzer. Statistical significances were determined when $p<0.05$ using SPSS version 16. Mean serum UA concentration of BC patients was 200±57 µmol/L and a significant difference in UA according to the menopausal status was not observed. The mean serum UA of age matched healthy women was 256 ± 72 µmol/L and serum UA of breast cancer patients was significantly lower ($p=0.000$) compared to healthy women. However, both groups had serum UA within the normal reference range (142-339 µmol/L) while BC women had UA levels closer to the lower reference margin. The UA concentration among BC and normal women studied via ROC curve showed 76% ($p=0.000$, CI 0.68-0.83) of area under the curve with UA cutoff value of 194 µmol/L with 92% sensitivity and 63% specificity. In conclusion, it can be stated that serum UA concentrations of breast cancer patients are significantly low compared to healthy females.

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