



Serum lipid profiles of newly diagnosed breast cancer patients in Sri Lanka

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Cholesterol is believed to be associated with the breast cancer (BC) risk, the commonest carcinoma among women in Sri Lanka. However the exact impact of lipid parameters on breast cancer onset and progression still remains undisclosed. The objective of the study was to assess the serum lipid profile of newly diagnosed BC patients and compare with apparently healthy individuals.

Consented, newly diagnosed BC patients (n=140) and apparently healthy age matched females (n=70) participated in the study. Serum total cholesterol (TC), high density lipoprotein cholesterol (HDL-C), Low density lipoprotein cholesterol (LDL-C), very low density lipoprotein cholesterol (VLDL), triglyceride (TG) and TC: HDL-C were measured using appropriate biochemical kit methodologies (Ethical approval no. 651/32).

Among the BC patients majority (67%) was postmenopausal. The mean TC, HDL-C, LDL-C, VLDL-C, TC: HDL-C, TG concentrations of BC patients were 234 mg/dL (± 51), 43 mg/dL (± 10), 164 mg/dL (± 44), 27 mg/dL (± 14), 5.7 (± 1.7) and 135 mg/dL (± 69) respectively. A significant difference of lipid parameters according to the menopausal status was not observed ($p > 0.05$) among breast cancer patients. Apparently healthy females had mean TC, HDL-C, LDL-C, VLDL-C, TC: HDL-C, TG concentrations as 180 mg/dL (± 24), 43 mg/dL (± 8), 112 mg/dL (± 23), 23 mg/dL (± 6), 4.2 (± 0.9) and 110 mg/dL (± 34) respectively. TC, LDL-C, TC: HDL-C were significantly high ($p = 0.000$) among BC patients. However, the LDL-C, VLDL-C and TG levels were not significantly different ($p > 0.05$).

In conclusion it can be noted that newly diagnosed BC patients have significantly higher serum concentrations TC, LDL-C and TC: HDL-C. Thus screening the serum lipid profiles irrespective of the menopausal status and appropriate interventions, dietary or pharmacological as necessary may be of benefit in reducing the risk of development of BC.

keywords: Breast cancer, lipid profile, menopausal status