In Sri Lanka, the commonest female cancer is breast cancer with an incidence of 7.7 per 100,000. Sporadic breast cancer is the most widespread, representing 85 to 90% of all cases. Obesity plays a complex role in breast cancer and is associated with increased alterations in plasma leptin levels. There is recent evidence that leptin stimulates carcinogenesis and progression of breast cancer, but some investigators have failed to confirm these findings. Furthermore, possible association of leptin with breast cancer has not been studied in Sri Lanka. We studied plasma leptin concentrations in women with sporadic breast cancer (N=35) and healthy controls (N=35) matched for age (within +/- 5 years) and body mass index (within +/- 1). All the patients were newly diagnosed with primary unilateral breast cancer and blood samples were collected before or a few days after surgery but before commencement of chemotherapy / radiotherapy. Controls had no personal or family history of breast cancer or any other cancer, and no clinical evidence of breast cancer. Both patient and control blood samples were collected 2-3 h after breakfast, between 10.00 and 12.00 h. Plasma was separated and leptin concentrations were measured by ELISA (DRG International, EIA 2395). Plasma leptin levels were significantly (Wilcoxon signed rank test: P=0.0265), higher in sporadic breast cancer patients than in the controls [geometric mean (95% CI) patients: 28.5 (21.7, 37.4) ng/ml vs controls: 23.3 (18.7, 29.1) ng/ml]. The same pattern persisted even when leptin levels were normalized to BMI (Wilcoxon signed rank test: P=0.0306) with higher levels in patients than in the controls. Geometric mean (95% CI) patients: 1.16 (0.91, 1.49) ng/ml vs. controls 0.890 (0.70, 1.15) ng/ml. Our results further confirm association of leptin with sporadic breast cancer.

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