OP 4:

Serum lipid profiles, anthropometric parameters and sex hormone concentrations of postmenopausal breast cancer patients

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Overweight or obese, postmenopausal women are said to be at high risk of developing breast cancer. Literature cites that BC women have elevated serum lipid profiles and different sex hormone concentrations. We studied the serum lipid profiles, anthropometric parameters and sex hormone levels of consenting postmenopausal BC patients (n=100). Their serum lipid profile, estradiol II, progesterone and testosterone were measured. Data were compared against age matched healthy women. Weight, height, BMI, WC, HC and WHR of each BC patient was measured/ calculated. BMI ≥23 and >25 were considered as overweight and obese respectively. Over 80 cm of WC and WHR of ≥ 0.80 were considered as risk category and significances were analyzed.

The mean TC, HDL-C, LDL-C, TG and TC-HDL-C of postmenopausal BC women were 239± 44 mg/dL, 43±11 mg/dL, 169±40 mg/dL, 140±64 mg/dL and 5.9±1.7 respectively. Majority (70%) had TC above 200mg/dL and 45% had TC above 240 mg/d and were unaware. 12% were on cholesterol lowering drugs but had significantly high levels of TC, LDL-C, TG and TC: HDL-C (P<0.05). With respect to WC and WHR, 67% and 90% were in risk category respectively. Mean (±SEM) testosterone, estrogen and progesterone concentrations were 0.22 ng/mL (±0.16), 27.8 pg/mL (±0.52) and 0.57ng/mL (±0.15) respectively. Significant associations between lipid parameters and anthropometric measures/sex hormones were not observed (p>0.05).

Estrogen showed significant positive associations with BMI (r=0.3, p=0.02), MUC (r=0.4, p=0.00) and weight (r=0.4, p=0.00) despite levels being closer to lower limit of normal in most of the individuals. Progesterone showed significant positive associations with BMI (r=0.3, p=0.02), MUC (r=0.3, p=0.03) and weight (r=0.3, p=0.01) and testosterone showed a significant association (r=0.28, p=0.02) only with BMI. Majority of postmenopausal BC women have high TC, LDL-C and TC: HDL-C and were either overweight or obese with lower estrogen levels. Measuring serum lipid profiles and maintaining healthy anthropometric measures would be beneficial in reducing risk of BC among postmenopausal women.

Key words: post-menopausal, breast cancer, lipid profile, sex hormones