

There was no significant difference in TG, and serum sex hormones (Table 3).

Table 3: The biochemical parameters in the BMI subgroups of the post-menopausal women

Parameters	Premenopausal > 25 (kg/m ²)	Premenopausal 25-29.9 (kg/m ²)	Premenopausal > 30 (kg/m ²)
Number	12	14	15
Age (years)	55.0±3.84	62.07±7.53	61.8±7.42*
BMI (kg/m ²)	23.18±1.37	27.74±1.67	33.55±3.05*
WC (cm)	75.5±3.53	90.29±7.18	100.07±8.17*
TC (mg/dl)	186.5±20.95	206.71±37.87	225.0±31.45*
TG (mg/dl)	111.17±55.91	151.64±44.28	154.53±59.46
HDL-c (mg/dl)	51.75±5.91	46.36±5.96	43.87±6.67*
LDL-c (mg/dl)	113.17±21.52	126.5±36.14	152.53±32.7*
AI	2.24±0.61	2.98±1.13	3.63±1.15*
OX-LDL(U/l)	61.38±16.4	71.09±24.71	102.81±42.96*
LH (pg/ml)	37.98±11.21	40.11±12.21	45.85±10.83
FSH (pg/ml)	48.34±12.44	56.66±12.63	59.83±10.69
E ₂ (pg/ml)	61.63±12.99	57.61±16.6	51.25±15.59

* $p < 0.01$ by ANOVA test.

In table (4) the comparison between the obese pre- and post-menopausal women shows, in addition to higher age, FSH and LH, a significantly higher WC, TC, LDLC, AI and Ox-LDL ($P <$) with a significant reduction in HDL-C and E₂ ($p < 0.01$)

The estradiol E₂ was significantly negatively correlated with obesity (BMI) in the pre-menopausal women only (figure 1). While WC was positively correlated with each of serum TG and Ox- LDL (Figures 2 and 3).

Table 4: comparison between the obese subgroups in the pre- and post-menopausal women.

Parameters	Pre BMI>30 Mean ±SD	Post BMI>30 Mean ±SD
Number	11	15
Age (years)	36.82±7.6	61.8±7.42*
BMI (kg/m ²)	32.5±2.96	33.55±3.05
WC (cm)	91.27±6.81	100.07±8.17*
TC (mg/dl)	184.73±22.67	225.0±31.45*
TG (mg/dl)	163.45±39.24	154.53±59.46
HDL-c (mg/dl)	49.45±6.73	43.87±6.67*
LDL-c (mg/dl)	102.82±26.95	152.53±32.7*
AI	2.16±0.084	3.63±1.15*
OX-LDL(U/l)	73.91±25.71	102.81±42.96*
LH (pg/ml)	5.12±2.22	45.85±10.83*
FSH (pg/ml)	6.44±2.21	59.83±10.69*
E ₂ (pg/ml)	166.54±54.15	51.25±15.59*

* $p < 0.01$