LEPTIN AND SOLUBLE LEPTIN RECEPTOR AMONG OBESE PATIENTS IN THE GAZA STRIP

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Abstract

Leptin is a lately detected adipocytes derived protohormone. It plays an important circulating signal for the regulating body weight. Soluble leptin receptor (OB-Re) makes up the main binding compound for leptin in the blood plasma. This study aimed to ascertain whether an association exist between leptin and OB-Re among obese individuals in the Gaza Strip. Study sample was convenience one and obtained from two biggest obesity clinics in the Gaza Strip. It consisted of 83 obese individuals without history of other diseases (case group). Control group consisted of 83 eligible normal weight individuals that was selectively chosen from the same clinics. Self reported structure interview and serum blood sample were obtained from the both groups. Human leptin and soluble leptin receptor were determined by competitive ELISA kits. Logistic Data were analyzed by SPSS WIN. The results showed a significant positive correlation between body mass index (BMI) and leptin hormone among the case individuals ($r =0.64$, $P$-value $<0.001$). In contrast, the results showed that OB-Re has inverse statistical relationship with BMI for the same individuals ($r =-0.26$, $P$ value $=0.017$). The results, surprisingly, showed no significant correlation between OB-Re and leptin among the case individuals ($r =-0.16$, $P$ value $=0.14$). For the case individuals, the leptin was also significantly higher ($t =-4.2$, $P$ value $=0.00$) for the females (mean $= 72.4$ ng/ml) than for the males (mean $= 44.05$ ng/ml). On the other hand, for the same individuals, OB-Re was slightly higher for the females (mean $= 9.75$ ng/ml) than for the males (mean $= 8.91$ ng/ml) which was not statistically significant. Serum leptin, cholesterol, triglyceride and LDL-c levels were increased with increasing BMI. Conversely OB-Re and HDL-c were decreased with increasing BMI.

Key words: leptin, soluble leptin receptor, obesity, the Gaza Strip.