

Study of Some Adipocytokines and Insulin Resistance in Metabolically Obese, Normal-weight Individuals (MONW)

Adipose tissue secretes a number of proinflammatory cytokines, as interleukin-6. IL-6 appears to play an important role in mediating insulin resistance. Insulin resistance is strongly associated with atherosclerosis and frequently coexists with common proatherogenic disorders. Insulin resistance has been suggested to play a central role in the pathogenesis of metabolic syndrome and diabetes mellitus. The metabolic syndrome was applied to those individuals who have three of the following criteria hypertriglyceridemia, low HDL-cholesterol, hypertension, type 2 diabetes mellitus and central obesity.

MONW individuals, despite having a normal or slightly elevated BMI display metabolic characteristics that may contribute to the development of the metabolic syndrome.

In this research, we tried to study the state of the insulin resistance in MONW individuals and the role of some adipocytokines in the development of MONW syndrome.

Patient and method: Group one (patients group) consisted of twenty patients, who was fulfilling the criteria of MONW (9 female and 11 male), while the control group was consisting of twenty age and sex, matched healthy volunteers

We measure of Fasting serum insulin, calculate insulin resistance according to HOMA model, measure of serum adiponectin and measure serum interleukin-6 using standard ELISA kit.

Result; Serum adiponectin was low in MONW individuals. There was also a positive correlation between serum adiponectin and HDL-C in both

groups. Serum level of IL-6 was found to be higher in MONW individuals group in comparison to normal individuals group. There was a negative correlation between serum adiponectin and serum levels of interleukin-6 in patients group more than the control group. Insulin resistance was higher in MONW group. There was a negative correlation between serum adiponectin level and insulin resistance in control and patients groups. Plasma adiponectin levels reduced in non-obese humans, particularly those with visceral obesity, and to correlate inversely with insulin resistance and IL-6.

Conclusion: We concluded that high IL-6 and low adiponectin levels could indicate insulin resistance in MONW individuals. Also IL-6 and adiponectin concentrations were related to fat mass distribution in the MONW