

INSULIN LEVELS AND HOMA INSULIN RESISTANCE IN PATIENTS WITH HYPOTHYROIDISM

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Introduction: Insulin regulates the metabolism of carbohydrates, fats and protein. Insulin resistance is a pathological condition in which cells fail to respond normally to the insulin. It is associated with several diseases. In this study we aimed to investigate the insulin levels and insulin resistance in patients with hypothyroidism. **Design:** A total of 140 subjects were included. These patients were divided into two subgroups: 76 patients with hypothyroidism in the study group and 64 healthy subjects in the control group. The institution review board of hospital approved the study. We measured serum TSH, free T4, free T3 concentrations, blood glucose and insulin levels, homeostasis model assessment of insulin resistance (HOMA-IR). Insulin resistance was calculated according to HOMA index and compared between the groups. MedCalc 15.8 statistical package program (Belgium) was used for statistical analysis. **Results:** Average age of 140 patients was 41.2 ± 10.9 years. There were 24 men and 116 women. The mean levels of TSH, insulin, glucose and HOMA-IR were 9.3 ± 3.0 , 14.3 ± 12.3 , 95.0 ± 14.7 and 3.3 ± 2.9 , respectively while they were 1.8 ± 1.2 , 10.6 ± 6.1 , 91.5 ± 12.5 and 2.4 ± 1.5 , respectively in the control group. The p value is 0.001, 0.03, 0.126 and 0.01, respectively. Insulin level and HOMA-IR were high in patients with hypothyroidism. **Conclusion:** Hypothyroidism is a stronger risk factor for insulin resistance. Low adrenergic activity and intestinal glucose absorption and a decrease in liver and muscle glycogenolysis, gluconeogenesis can lead to insulin resistance in patients with hypothyroidism.