Relation between serum ghrelin concentration and blood glucose levels in type-2 diabetic obese males

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Abstract

Background and Objective: Ghrelin is an acylated 28-amino-acid peptide that is the most recently identified adipocytokines, but its role in diabetes is poorly clarified. The objective of this study was to determine the relation between serum ghrelin and blood glucose levels in type 2 diabetic obese males.

Materials and Methods: This descriptive study was done on 45 adult obese males with type-2 diabetes in Saveh city, Iran during 2010. Fasting blood glucose, insulin and ghrelin concentrations and Glycosylated hemoglobin HbA1C were measured after overnight fasting. Multiple regression was used for determine ghrelin in relation to glucose, insulin and HbA1C.

Results: The multiple regression analyses revealed that HbA1C is not correlated with serum ghrelin levels, while, fasting blood glucose level had positive correlation with serum ghrelin concentration (P<0.05). Serum ghrelin level had high negative correlation with insulin (P<0.05).

Conclusion: This study indicated that elevated endogenous ghrelin led to hyperglycemia. Therefore, serum ghrelin is a precise index of blood glucose level in obese male patients with type-2 diabetes.

Keywords: Ghrelin, Glucose, Insulin, Obesity, Type-2 diabetes

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