

Original Paper

Association of homeostasis model assessment of insulin resistance with lipid profiles in type 2 diabetes

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Abstract

Background and Objective: Insulin resistance (IR) is one of the factors affecting dyslipidemia in type 2 diabetes which increases the risk of cardiovascular diseases. This study was done to determine the association of homeostasis model assessment of insulin resistance with lipid profiles in type 2 diabetes.

Methods: This descriptive study was conducted on 72 patients with type 2 diabetes in Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran during 2011. Anthropometric indices, fasting serum glucose, serum insulin and lipid profiles were measured and IR index and atherogenic lipid parameters were calculated. The mean of lipid profiles and parameters were compared across the IR tertiles. The association of homeostasis model assessment and insulin resistance in each tertile with lipid profiles was determined.

Results: The mean±SD of IR index was 0.9±0.3, 2.1±0.4 and 4.4±1.6 in the 1th, 2th and 3th tertiles, respectively. In the 3th tertile, serum triglyceride and atherogenic lipid parameters were significantly high and serum HDL-C level was non-significantly low than normal reference range. IR index in the 2th and 3th tertiles was significantly related to serum Triglyceride (P<0.05). IR index in level of >2.8, was inversely associated with HDL-C and directly associated with atherogenic lipid parameter.

Conclusion: There is association between Insulin resistance with lipid metabolic abnormality in type 2 diabetic patients.

Keywords: Type 2 diabetes, Insulin resistance, Lipid profiles, Atherogenic lipid

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