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Association of metabolic syndrome components with insulin resistance in normal weight population: the Qazvin Metabolic Diseases study.

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Abstract

PURPOSE:

Metabolically obese but normal weight (MONW) is associated with higher risk of type 2 diabetes, dyslipidemia, and hypertension. The aim of this study was to evaluate the association of metabolic syndrome components with MONW in each sex in Iranian population.

METHODS:

This cross-sectional study was performed on 417 normal weight subjects in Qazvin, Iran between September 2010 and April 2011. MONW was defined by insulin resistance (IR) using the homeostatic model assessment (HOMA). Cut off point for IR was defined as the lower limit of top quintile of HOMA-IR values in normal weight population without any metabolic risk factors. Data were analyzed using T test, Mann-Whitney U test, and multi-variant logistic regression analysis.

RESULTS:

Of 417 subjects, 44.3 % were female. The prevalence of MONW was 33.8 % in men and 39.8 % in women. Triglycerides levels were significantly higher in both men and women with MONW. Waist circumference was significantly higher in men with MONW, while high-density lipoprotein cholesterol levels were significantly lower in women with MONW. In logistic regression analysis, hypertriglyceridemia in women (OR 3.398; 95 % CI 1.306-8.846) and waist circumference (per 5 cm increment) in men (OR 1.653; 95 % CI 1.279-2.136) had independent association with MONW.

CONCLUSION:

Association of metabolic syndrome components with MONW is different in men and women. Waist circumference had an independent association with IR in men but not in women. IR and its complications should be considered in lean women with hypertriglyceridemia.

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