Abstract

Background: Common polymorphisms of the fat mass and obesity associated gene (FTO) have been linked to obesity in some populations. The aim of our study was to analyze the relationship of the rs9939609 FTO gene polymorphism on body weight, cardiovascular risk factors and serum adipokine levels in morbid obese patients. Material and methods: A sample of 129 patients with obesity was analyzed in a cross sectional design. Weight, blood pressure, basal glucose, c-reactive protein (CRP), insulin, insulin resistance (HOMA), total cholesterol, LDL-cholesterol, HDL-cholesterol, triglycerides blood and adipocytokines (leptin, adiponectin, resistin, TNF alpha, and interleukin 6) levels were measured. A tetrapolar bioimpedance and a prospective serial assessment of nutritional intake with 3 days written food records were realized. Genotype of FTO gene polymorphism (rs9939609) was studied. Results: Forty three patients (31.8%) had TT genotype, 55 patients (42.6%) TA genotype and 33 patients (25.6%) AA genotype. Body mass index (43.6 (2.6) kg/m2 vs. 44.1 (2.9) kg/m2; p < 0.05), fat mass (52.0 (12.5) kg vs. 56.3 (11.7) kg; p < 0.05), weight (111.6 (16.2) kg vs. 114.9 (18.9) kg; p < 0.05), levels of C reactive protein (6.1 (4.3) mg/dl vs. 9.8 (7.1) mg/dl; p < 0.05) and levels of leptin (65.9 (52.2) ng/ml vs. 110.9 (74.1); < 0.05) were higher in mutant type group (A allele) than wild genotype group (TT). Conclusion: The FTO gene polymorphism, rs9939609, was found to be associated with weight, fat mass, C reactive protein and leptin levels in morbid obese patients with A allele.

Keywords

Adipokines, Cardiovascular risk factors, rs9939609, Morbid obesity.