Abstract

Background: A silent intragenic biallelic polymorphism (1359 G/A) (rs1049353) of the CB1 gene resulting in the substitution of the G to A at nucleotide position 1359 in codon 435 (Thr), was reported as a common polymorphism in Caucasian populations. Objective: The aim of our study was to investigate the influence of the missense polymorphism (G1359A) of CB1 receptor gene on obesity anthropometric parameters, cardiovascular risk factors and adipocytokines in patients with obesity and diabetes mellitus type 2. Design: A population of 60 naïve diabetic patients was analyzed. An indirect calorimetry, tetrapolar electrical bioimpedance, blood pressure, a serial assessment of nutritional intake with 3 days written food records and biochemical analysis (lipid profile, adipocytokines, insulin, CRP and lipoprotein-a) were performed. The statistical analysis was performed for the combined G1359A and A1359A as a group and wild type G1359G as second group, with a dominant model. Results: The mean age was 57.44 ± 11.7 years and the mean BMI 37.84 ± 6.4, with 14 males and 46 females. Thirty-five patients (58.3%) had genotype G1359G (wild type group) and 25 (42.7%) patients G1359A (mutant type group). Age was similar in both groups (wild type: 56.3 ± 11.8 years vs mutant group: 58.7 ± 10 years: ns). Sex distribution was similar in both groups (wild vs mutant type groups), males (22.9% vs 24%) and females (77.1% vs 76%). No differences were detected between groups in anthropometric parameters, cardiovascular risk factors, dietary intake and adipocytokines levels. Conclusion: The finding of this study is the lack of association of G1359A polymorphism of CB receptor 1 gene with obesity, cardiovascular risk factors and adipocytokines.

Keywords

Cannabinoid receptor gene, Diabetes mellitus, Insulin resistance, Polymorphism.