Abstract

Background: Considering the evidence that endogenous cannabinoid system plays a role in metabolic aspects of body weight and metabolic syndrome components such as non alcoholic fatty liver disease (NAFLD). The aim of our study was to investigate the influence of this polymorphism on insulin resistance, liver histological changes, anthropometric parameters and adipokines in patients with NAFLD. Material and methods: A population of 71 patients with NAFLD was recruited in a cross sectional study. A biochemical analysis of serum was measured. Genotype of G1359A polymorphism of CB1 receptor gene CB1 receptor was studied. Forty one patients (36.9%) had the genotype G1359G (wild type group) and twenty nine (26.1%) patients G1359A or A1359A (mutant type group). Results: Twenty four 24 patients (32.3%) had a Brunt grade > 4 and 12 patients (17%) had a significative fibrosis (F ≥ 2). HOMA values were higher in wild type group than mutant type group. Adiponectin and visfatin levels were higher in mutant type group. Moreover, TNFalpha and resistin levels were higher in wild type group than mutant type group. Patients with mutant genotype showed less frequently elevated levels of AST. AST > 40 UI/L was detected in 28.5% of patients in the mutant vs. 53% of patients with wild genotype, p < 0.05. Patients with mutant type group presented a percentage of Brunt grade > = 4 less frequently than patients with wild type group (28.5% vs 7.1%). Conclusion: A variant of the polymorphism G1359A CBR1 is associated with lower levels of HOMA, TNFalpha, resistin and higher levels of adiponectin than patients with the wild variant of this polymorphism. Besides, patients with A allele variant shown lower Brunt grade in liver biopsy.

Keywords

Adipokines, Cannabinoid receptor gene, Steatosis, Polymorphism, Insulin resistance.