Frequency of Allele and Genotype AdipoQ + 45 T>G Polymorphism and Obesity Indicators

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INTRODUCTION. Polymorphisms in genes encoding adiponectin (ADIPOQ) have been associated with adiposity and obese-related phenotypes. We explored allelic frequencies and genotypic and potential associations of single nucleotide polymorphism (ADIPOQ +45T>G, rs2241766) with obesity indicators and biochemical profile. **OBJECTIVES:** Evaluate the allelic and genotypic frequency of AdipoQ + 45 T>G polymorphism and their association with biomarkers and indicators of obesity. **MATERIAL AND METHODS:** A total of 60 subjects were involved in this study, including 50 female and 10 male individuals, aged 18 to 90 years. The study protocol was approved by the National Committee of Ethics and Research, protocol 977827. Anthropometric measurements were taken and whole blood samples were collected by venipuncture with fasting 12h. Serum and plasma after centrifugation were used for biochemical analysis. Whole blood was used for DNA extraction with commercial kits, and the polymorphism was diagnosed using PCR-RFLP. The restriction fragments were identified by 2,5% agarose gel eletrophoresis. The gene and genotypic frequencies were calculated. In statistics, Chi-square test was used to compare categorical variables and the agreement of genotypes frequencies with Hardy-Weinberg equilibrium, continuous variables were compared by t-test and it was assumed significance level of $p < 0.05$. **RESULTS AND DISCUSSION**: The frequency of genotypes was as follows: TT=81.7%, TG=13.3% e GG=5.0%. The frequency of the T allele was 88.3% and G allele was 11.7%. As a risk group was considered the group of TG + GG genotypes, corresponding to frequency of 18.3%. Anthropometric and biochemical variables were crossed with the frequency of alleles, and only glucose was associated with the risk genotype (TG+GG=141.36±27.53mg/dL; TT=114.94±23.58mg/dL; p=0,04). **CONCLUSIONS:** The risk group that has at least one G allele was associated with elevated levels of glucose, indicating that this may be a useful marker for identifying susceptibility to diabetes mellitus.

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