APELIN RECEPTOR G212A GENE POLYMORPHISM AND TYPE 2 DIABETES IN TUNISIAN POPULATION

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Introduction: Apelin is produced by adipocyte tissue and influences glucose and lipid metabolism. This peptide acts through G proteins coupled receptor termed APJ and seems to be associated with impaired glucose metabolism, particularly in newly diagnosed diabetes type 2 patients. In the present study, we investigated the impact of the G212A APJ receptor gene polymorphism on risk of type 2 diabetes by RFLP-PCR in a sample of Tunisian population. Results: We analyzed the allelic and genotypic frequencies of G212A APJ receptor polymorphism in 150 patients with type 2 diabetes and 230 healthy controls. The genotypic frequencies of the G212A polymorphism of APJ receptor gene in diabetic and control groups were 61.0%, 37.4%, 1.6% and 60.0%, 33.9%, 6.5%, (GG, GA, AA) respectively. There were no significant differences between these frequencies in patients in respect to the controls for this variant ($\chi^2=2.82$, $p=0.243$) and the genotype was not associated with diabetes, OR=0.698, 95%CI=0.367-1.325, $p=0.271$ for GA heterozygous and OR=0.873, 95%CI=0.407-1.875, $p=0.728$ for AA homozygous. Additionally, the clinical characteristics were not related to the APJ receptor G212A polymorphism in multivariate analysis. Conclusion: Our findings indicated no association between the apelin receptor G212A gene polymorphism and type 2 diabetic patients in Tunisian people.