Original Paper

Association of rs531564 SNP in miR-124-1 with type 2 diabetes in Iranian population

Khodabandeh M (B.Sc)[1], Tahmaseb M (Ph.D)*[2]

[1]M.Sc Student in Genetics, Department of Cell and Molecular Sciences, Faculty of Biological Sciences, Kharazmi University, Tehran, Iran. [2]Associate Professor, Ph.D in Genetics, Department of Cell and Molecular Sciences, Faculty of Biological Sciences, Kharazmi University, Tehran, Iran.

Abstract

Background and Objective: Micro RNAs (or miRNAs) control gene regulation and different biological processes in various tissues and therefore play an important role in various diseases. In some cases, either a single nucleotide polymorphisms (SNPs) in miRNAs or in complementary sequences in their target mRNAs play significant role in human diseases. In this study, the relationship between rs531564 G>C in mir-124-1 with the susceptibility to type 2 diabetes in the Iranian population was examined.

Methods: In this case-control study, 173 individuals affected with type 2 diabetes and 162 healthy individuals were selected. Extracted DNA from peripheral blood was amplified by a pair of relevant primers and then digested by BsmAI restriction enzymes. The obtained electrophoretic patterns were used for genotyping.

Results: The genotype frequencies of GG, GC and CC for rs531564 in the patient group were 0.92, 0.06 and 0.02 respectively, 0.96, 0.04 and 0.00 in the controls. Statistical analysis showed no significant difference between the two groups regarding the genotype frequencies, however the allelic frequencies were significantly different between those groups ($P<0.05$).

Conclusion: There was no genotype difference between diabetes and healthy individuals, but the allelic C is related with type 2 diabetes among Iranian population.

Keywords: Has-mir-124-1, Single nucleotide polymorphism, Type 2 diabetes

*** Corresponding Author: Tahmaseb M (Ph.D), E-mail: tahmaseb@khu.ac.ir**

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