Abstract:

Type 2 diabetes mellitus (T2DM) is a complex heterogeneous group of metabolic disorders including hyperglycemia and impaired insulin action and/or insulin secretion. T2DM is the most common form of diabetes and accounts for approximately 85–90% of all diabetic patients.
Some studies in genetics field of T2DM proposed that many genes are involved in susceptibility to T2DM. Recently, *PINK1* gene is one of these genes that has approved its relationship with Type 2 diabetes. This gene encodes a serine/threonine protein kinase that localizes to mitochondria. It is thought to protect cells from stress-induced mitochondrial dysfunction. In this study, we analyzed the role of *PINK1* gene polymorphism in T2D patients of Sistan and Baluchestan province. Firstly, we performed some epidemiologic studies in this region and select the suitable patients for our analysis. The informed consent was obtained from all patients and controls and 5ml peripheral bloods were collected in EDTA tubes. In the following, for analyzing of Ala340Thr and Asn521Thr polymorphisms in *PINK1* gene, the DNA extracted from all samples and genotyping performed by PCR-RFLP method.Results showed that There were no statistically significant differences in allele frequencies of SNPs 340 and 521 comparing control with Type 2 diabetic subjects (P=0.885 for SNP Asn521Thr, P=0.649 for SNP Ala340Th). Therefore, the risk allele of these SNPs had no association with the risk of Type 2 diabetes in Sistan and Balochestan population of Iran.

Keywords: Type 2 diabetes, polymorphism, *PINK*1 gene

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Title:

Study of relationship between polymorphisms Ala340Thr and Asn521Thr *PINK1* gene with type 2 diabetes in Sistan and Baluchestan province

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