NonAssociation between rs7903146 and rs12255372 Polymorphisms in Transcription Factor 7-Like 2 Gene and Type 2 Diabetes Mellitus in Jahrom City, Iran.

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Abstract

BACKGROUND:

Transcription factor 7-like 2 (TCF7L2) is a transcription factor in the Wnt signaling pathway. High levels of TCF7L2 have been reported in most human tissues, including the heart, lung, brain, liver, kidney, placenta, adipose tissues, and pancreatic β-cells. The purpose of this study was to assess the association between TCF7L2 polymorphisms (rs12255372 and rs7903146) and type 2 diabetesmellitus in the city of Jahrom, Iran.

METHODS:

This case-control study was conducted with 200 patients referred to Diabetes Clinics and 200 healthy subjects in Jahrom City. Biochemical characteristics were first determined. TCF7L2 rs1255372 and rs7903146 polymorphisms were then genotyped using the polymerase chain reaction-restriction fragment length polymorphism method.

RESULTS:

T-allele frequencies of both single nucleotide polymorphisms (SNPs) were significantly higher in diabetic patients than in normal glucose-tolerant subjects (rs12255372: 20.3% vs. 14.5%; rs7903146: 28.5% vs. 22.25%). The rs12255372 (G/T) polymorphism analysis showed an odds ratio of 0.473 (95% confidence interval [CI], 0.170 to 1.314; P=0.151) for the TT genotype and 0.646 (95% CI, 0.410 to 1.019; P=0.060) for the TG genotype, compared with the GG genotype. The rs7903146 (C/T) polymorphism odds ratios for TT and TC genotypes were 0.564 (95% CI, 0.280 to 1.135; P=0.109) and 0.751 (95% CI, 0.487 to 1.157; P=0.194) compared with the CC genotype, respectively.

CONCLUSION:

The rs12255372 and rs7903146 SNPs of the TCF7L2 gene were not associated with insulin resistance in the evaluated population.

KEYWORDS:

Diabetes mellitus, type 2; Polymorphisms; TCF7L gene; rs12255372; rs7903146