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Association of variant rs7903146 (C/T) single nucleotide polymorphism of TCF7L2 gene with impairment in wound healing among north Indian type 2 diabetes population: a case-control study.

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Abstract

The variants of transcription factor 7-like 2 (TCF7L2) gene have been shown to be associated with type 2 diabetes mellitus (T2DM) and its several secondary complications. Here, we aimed to examine the possible role of one of the common variant of this gene, rs7903146 (C/T), with impairment of wound healing in cases with T2DM. A total of 750 individuals, including 322 patients with T2DM and 120 patients with diabetic foot ulcers (DFUs) and 308 controls, were analyzed for rs7903146 variant of the TCF7L2 gene. Genotyping was done by polymerase chain reaction-restriction fragment length polymorphism. For rs7903146 variant, TT genotype frequency in patients with DFU was 10.8% and in controls was 5.2%. Risk genotype (TT) frequencies showed statistically significant difference between the DFU patients versus non-DM control group (odds ratio = 2.44, P = .037, 95% confidence interval = 1.05-5.64) compared with nonrisk genotype (CC + CT). In the present study, a positive significant association between DFU and the TT genotype of rs7903146 (C/T) variant of TCF7L2 gene was found.

KEYWORDS:

T2DM; diabetic wound healing impairment; polymorphism; rs7903146; transcription factor 7-like 2 (TCF7L2)

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