A Genetic Variant of KOZAK Region in Annexin-V Gene in Premature Myocardial Infarction: A Case Control Study

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Abstract

Purpose: Atherosclerosis is the major underlying cause of cardiovascular diseases. Recently has been revealed a genetic role in the occurrence of coronary artery disease (CAD). Annexin V is one of the genes which may play roles in early-onset CAD and has anti-coagulatory roles. The aim of this study was to determine the association between -1C>T polymorphism of KOZAK region in annexin-V gene and premature CAD.

Methods: This case-control study was done on 100 patients with premature acute myocardial infarction, patients matched with healthy people with sex and age-matched and some other cardiovascular risk factor. Genomic DNA was extracted from WBC and then the polymorphism was genotyped using PCR-RFLP method. The collected data were analyzed by SPSS.

Significant findings: There was no significant difference between genotypes of annexin-V gene and occurrence of premature CAD (P = 0.840) and there is a significant difference between alleles of the annexin-V gene (C and T) and occurrence of premature CAD in case and control groups (P = 0.013).

Conclusions: According to the results derived from this study, it seems like the existence of the genotype carrying the mutated allele (CT+TT) in -1C>T of KOZAK region in the annexin-V gene is not associated with an increased risk of premature myocardial infarction.

Key words : Coronary artery disease (CAD) Annexin-V -1C>T polymorphism