

CD 28 Gene Polymorphism is not Associated with Susceptibility to Coronary Artery Disease

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Abstract

Background- Coronary artery disease (CAD) is one of the most common health problems facing health care services in all societies. Despite the established significance of the classic risk factors for CAD, a large number of patients present without them. It has recently been identified that elevated inflammatory markers and involved immunological mechanisms are associated with atherosclerosis. CD 28 is the main co-stimulatory receptor for secondary signals delivering for T-cell activation. The aim of this study was to evaluate the polymorphism of CD 28 gene as a probable risk factor for CAD.

Methods- In total, 200 patients were classified into two equal groups: control group including persons with normal coronary arteries and case group who had at least single-vessel coronary disease. CAD was confirmed in the studied patients by coronary angiography. CD 28 genotype was analyzed via polymerase chain reaction (PCR).

Results- The frequencies of C and T alleles were 71% and 29% in the control group and 70.5% and 29.5% in the case group, respectively. There was no significant difference in the allele frequencies between the two groups.

Conclusion- We concluded that CD 28 gene polymorphism was not associated with CAD (*Iranian Heart Journal 2008; 9 (4):38-41*).

Key words: coronary artery disease ■ genes ■ polymorphism

Coronary artery disease (CAD) is one of the most frequent causes of mortality and morbidity in the world.

More than 250 genes have been identified that may play some role in CAD. Several of the best understood genes are related to LDL-receptor, ApoE, ApoB-100, Apo(a), homocysteine, ApoA1, GpIIb, and IIIa.¹

For each involved gene, there can be a wide variety of slight changes in the chemical structure of a gene, known as single nucleotide polymorphisms. Some of these changes can increase one's risk for CAD, while others may be protective against the

disease, for example a 53 G>A polymorphism identified in the platelet endothelial cell adhesion molecule 1 (PECAM-1) gene is associated with the progression of atherosclerosis² and a monocyte chemoattractant protein 1 (MCP-1) gene polymorphism is associated with occult ischemia.³

In this study, we examined the association between CD 28 gene polymorphism and CAD. The association of this polymorphism with other diseases such as diabetes type 1, asthma, SLE, HIV infection, celiac disease, and myasthenia gravis has been investigated before.⁴⁻⁶

Received Aug. 1, 2007; Accepted for publication Feb. 20, 2008.

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