

## Genetic variation of the Cystathionine beta-synthase (844 INS 68) genes and the level of Homocystein (Hcy) in South Iranian patients with Late coronary artery disease

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**Introduction:** Cardiovascular disease is a disease of the heart and blood vessels, which is widespread in South Asia. One of the genes responsible for this disease is Cystathionine beta synthase (CBS). One of the polymorphisms of CBS gene is 844 INS 68 bp. This polymorphism is associated with increased homocystein levels. Homocystein may impair vascular endothelial cell function. Higher serum homocystein levels among patients with Coronary Artery Disease (CAD) established.

**Material and methods:** This study included 400 subjects (202 cases & 198 controls). For all participants in this study Lipid profile, Homocystein, Blood glucose, Blood pressure, BMI and genetic polymorphism of CBS (Allele of 844 INS 68 bp) tests were done.

**Results:** Percentage of distribution of the different genotypes in the study population showed that the AA genotype was the most prevalent one followed by AI and then II. The frequencies of A/A, A/I and I/I genotypes in patients were 54.6 %, 40.2%, 5.2% and in controls were 53.3%, 42.8%, 4% . The mean of Hcy level in cases is 16.52 and controls is 12.39. In regression analysis, plasma tHcy and 844 INS 68 bp polymorphism was significant associated with Late coronary artery disease.

**Discussion:** There was no significant association of I Allele in CAD group when compared to control group. It's seemed that the high levels of homocysteine significantly associated with CAD in South Iranian.

**Key words :** CBS gene, 844 INS 68 bp, late coronary heart disease, Homocystein, Risk factors, Independent , regression analysis.