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Original Article

Methylenetetrahydrofolate Reductase (MTHFR) Gene C677T Polymorphism Is Associated with Coronary Atherosclerosis Disease in a Sample of Iranian Patients

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Abstract:

**Background:** Several studies showed that elevated plasma homocysteine level is a risk factor for coronary artery disease (CAD). A common polymorphism C677T of methylenetetrahydrofolate reductase (MTHFR) gene is reported to be associated with decreased enzyme activity and increased blood homocysteine level.

**Methods:** This study evaluated the association between C677T polymorphism and blood homocysteine level with CAD in 100 patients compared to 100 normal controls.

**Results:** Higher prevalence of the C677T polymorphism as well as elevated level in blood homocysteine were observed in Iranian CAD cases compared to the normal control. The C677T MTHFR common polymorphism was significantly associated with CAD, supported by a P value 0.032 and Chi-square equal to 6.87.

**Conclusions:** The TT genotype of MTHFR gene was attributed to increased blood homocysteine level in patients compared to T/C and C/C genotypes in studied Iranian cases. This study shows the advantage of testing C677T polymorphism in affected patients as a risk factor for coronary artery disease.

Keywords:

MTHFR , CAD , Folate , Folic acid , Homocysteine

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