International Journal of Basic and Applied Biology
p-ISSN: 2394-5820, e-ISSN: 2349-5839, Volume 7, Issue 1; January-March, 2020, pp. 52-52

http://www.krishisanskriti.org/Publication.html

Does the MTHFR A1298C Polymorphism Associate with Coronary Artery Disease in Patients from Haryana?

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ABSTRACT

Background and Aim: *Various risk factors are associated with the development of Coronary Artery Disease (CAD) which includes both modifiable and non-modifiable factors including genetic factors. MTHFR polymorphism may be an important genetic factor for the development of CAD. Therefore, in view of paucity of information from Haryana, the study has been designed to assess the risk of MTHFR A1298C polymorphism in CAD patients from Haryana.*

Materials and Methods: *The 97 (56 males, 41 females) CAD patients and 93 (males 51, females 42) healthy controls of 21-50 years of age were included in the study. The risk factors, lipid profile and clinical parameter were recorded in a predesigned performa. DNA was extracted from blood and PCR-RFLP was done to detect the MTHFR A1298C polymorphism.*

Results: *MTHFR A1298C polymorphism denoted as AA, AC and CC genotypes. No significant difference ($p>0.05$) has been observed in the distribution of MTHFR A1298C polymorphism in CAD patients in comparison to healthy controls. The distribution of MTHFR A1298C polymorphism has been found to be independent of age and sex. The difference in the distribution of MTHFR A1298C polymorphism among young age (≤40 years) CAD patients also found to be statistically non-significant ($p>0.05$). These results rule out the probability of early onset of the disease due to MTHFR A1298C polymorphism. The difference in the incidence of MTHFR A1298C polymorphism (AA, AC and CC) in CAD patients with positive family history found to be statistically non-significant ($p>0.05$).*

Conclusion: *The distribution of MTHFR A1298C polymorphism among CAD patients from Haryana is independent of age, sex and family history. The study revealed no association of MTHFR A1298C polymorphism with the development of CAD in patients from Haryana; therefore, rule out the probability of MTHFR A1298C polymorphism as an independent risk factor for CAD.*