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Association of ANRIL rs1333049 polymorphism with coronary artery disease in North Indian population**Naindeep Kaur**

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Background: Multiple GWAS and meta-analysis studies have implicated the role of 9p21 chromosomal region to be associated with coronary artery disease (CAD). Till date no data pertaining to rs1333049 G>C variant of non-coding RNA in the INK4 locus (ANRIL) and CAD risk has been documented in the North Indian population. The high propensity of Indians to develop CAD demands studies on genetic markers linked with increased risk in this population group.

Aim: The present study attempts to delineate the allelic and genotypic frequencies of rs1333049 and the risk of CAD in North Indian population.

Methods: A case-control association study was performed on 1000 individuals (500 angiographically confirmed CAD patients and 500 healthy control subjects) from North India and genotyped using ARMS-PCR.

Results: Multiple logistic regression revealed a significant association between rs1333049 polymorphism and CAD after adjustment for confounders [$p=0.002$, OR=2.883, 95% CI (1.475–5.638) and $p=0.000$, OR=6.717, 95% CI (3.444-13.102) for heterozygous and mutant genotype respectively]. Stratified analysis showed that the mutant genotype was associated with a greater risk of CAD in subjects above 40 years of age (adjusted OR=2.483, 95% CI: 1.635-3.770) and in females subjects (adjusted OR=9.248, 95% CI: 2.666-32.077).

Conclusion: Ours is the first study revealing the genotypic and allelic frequencies of rs1333049 in North Indian population and provides an unprecedented evidence for the association of rs1333049 variant with CAD risk. Also gender and age related associations are observed thereby confirming the use of this SNP as a genetic marker for screening of CAD in North Indian population.

Biography

Naindeep Kaur holds Master's degree in Human Genomics and is presently pursuing her Doctorate degree from Panjab University, Chandigarh, India, under the expertise of Professor Doctor Jagtar Singh, Chairperson, Department of Biotechnology, Panjab University, Chandigarh, India and renowned cardiologist Dr. Sreenivas Reddy of PGIMER, Chandigarh, India. She has an expertise in genetics, molecular biology and statistical tools like SPSS. She aims in discovering new SNPs in the north Indian population and their correlation with coronary heart disease which is becoming an epidemic in developing countries like India.

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