M S Fallah et al., J Pharmacogenomics Pharmacoproteomics 2014, 5:5
http://dx.doi.org/10.4172/2153-0645.S1.004

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Predictive, Preventive and Personalized Medicine & Molecular Diagnostics
November 03-05, 2014 Embassy Suites Las Vegas, USA

Lack of association study between genetic polymorphism in *PHACTR1* and risk factors of coronary artery disease, replication in Tehran lipid and glucose study (TLGS)

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Introduction: Genetic information has been widely employed in modern medicine to provide an effective prediction, diagnosis, and treatment of common human diseases. Previously, genome-wide association studies (GWAS) among European population indicated that the minor G-allele of rs12526453 in phosphatase and actin regulator 1 gene (*PHACTR1)* have a significant association with coronary artery calcification with MI/CAD risk alleles that had increased the degree of arterial calcification in the studied population. In this paper, a replication study is reported to determine association of rs12526453 polymorphisms (in intronic *PHACTR1* gene) and components of CAD in Iranian population using samples from the Tehran lipid and glucose study (TLGS), a large population-based cohort study.

Methods: In this study, rs12526453 in *FACTR1* gene were genotyped by applying Three- ARMS PCR method. Through this analysis a plink software is used after sex and age adjustment for all CAD patients (426) and controls (407). To evaluate association between rs12526453 and CAD relative variable risk factors (e.g. HDL, LDL, SBP, BMI...), Chi-square tests were done at 5% significance level.

Result: The results demonstrate that there is no significant relation between the presence of risk allele of rs12526453 and CAD risk factors in the TLGS population. Based on our evaluation, there is no noteworthy association between the presence of rs12526453 and components of CAD among Iranian population. Moreover, setting up an independent study with large-scale is needed to determine whether this finding regarding the association between this gene polymorphism and risk for components of CAD is extensible to Iranian population or not.

Biography

M S Fallah has completed his Diploma of Medicine in 1997 from Iran University of Medical Sciences. Then, he completed his PhD in Molecular Genetics at National Institute of Genetic Engineering & Biotechnology (NIGEB) in Iran (2010). He has published more than 25 papers in reputed journals.

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