Association between TNFSF4 tagSNPs and myocardial infarction in a Chinese Han population

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Received July 21, 2014
Accepted December 3, 2014
Published June 8, 2015
DOI http://dx.doi.org/10.4238/2015.June.8.11

ABSTRACT. Tumor necrosis factor superfamily member 4 (TNFSF4) plays an important role in atherosclerosis development. However, the biological significance of TNFSF4 variants on myocardial infarction (MI) pathogenesis remains poorly understood. We investigated the influence of 5 TNFSF4 tagging single nucleotide polymorphisms (rs3861950, rs17346501, rs7518045, rs1234313, and rs3850641) on individual susceptibility to MI in a Chinese population of 285 MI patients and 645 controls. Genotyping was performed using the polymerase chain reaction-ligase detection reaction method. In multivariate logistic regression analysis, only the TNFSF4 tagging single nucleotide polymorphism rs7518045 exhibited a significant effect on MI risk; A allele
(odds ratio = 0.68, 95% confidence interval = 0.46-1.00, P = 0.048) and AA genotype (odds ratio = 0.64, 95% confidence interval = 0.42-0.97, P = 0.036) were associated with a decreased risk of MI compared with the G allele and the combined AG/GG genotype, respectively. Moreover, the haplotype rs3861950C-rs17346501C-rs7518045A-rs1234313G containing the rs7518045 A allele also exhibited a significant association with a decreased risk for MI (odds ratio = 0.42, 95% confidence interval = 0.21-0.84, P = 0.011). Our study showed that the A allele of the rs7518045 and haplotype rs3861950C-rs17346501C-rs7518045A-rs1234313G in the TNFSF4 gene were associated with decreased MI risk in a Chinese Han population. Further studies using larger sample sizes and in diverse ethnic populations are needed to confirm the general validity of our findings.

Key words: Myocardial infarction risk; Single nucleotide polymorphism; Tumor necrosis factor superfamily member 4