



Association between TNF- α rs1800629 polymorphism and the risk of myocardial infarction: A meta-analysis

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ABSTRACT. The tumor necrosis factor-alpha (TNF- α) G-308A polymorphism has been suggested to be a susceptibility factor for myocardial infarction (MI). However, differing results from various studies have led to controversial conclusions. Hence, we performed a meta-analysis to evaluate the association between TNF- α G-308A polymorphism and MI. Reported studies published before March 30, 2015 were included and analyzed from the PubMed and Embase databases. Study selection and data extraction were carried out independently by two authors. The odds ratios (ORs) and 95% confidence intervals (CIs) were used to evaluate the association between the selected variables using the Comprehensive Meta-Analysis v2.2 software. In total, 12 publications with 13 case-control studies consisting of 6037 cases and 7262 controls

were included in our meta-analysis. The overall results showed that there was no significant association between TNF- α G-308A polymorphism and MI risk [A vs G: OR = 1.18, 95%CI = 0.94-1.48; AA vs GG: OR = 1.23, 95%CI = 0.74-2.05; GA vs GG: OR = 1.22, 95%CI = 0.98-1.51; (GA+AA) vs G: OR = 1.21, 95%CI = 0.96-1.54; AA vs (GG+GA): OR = 1.16, 95%CI = 0.72-1.88]. However, when subgroup analysis was performed according to the stages of MI, results indicated that there was a significant association between TNF- α G-308A polymorphism and the risk of acute MI. Other subgroup analyses revealed no significant associations. Current evidence suggests that TNF- α G-308A polymorphism may be associated with increased risk for acute MI.

Key words: Tumor necrosis factor-alpha; Polymorphism; Myocardial infarction; Acute myocardial infarction; Meta-analysis