Association between the C804A polymorphism in the \( TGF-\beta \) gene and the risk of myocardial infarction: a meta-analysis

D.W. Suo, Q. Hu, J. Chen, Q.H. Sun and H. Guo

Department of Emergency, the Fifth Hospital of Zhengzhou University, Zhengzhou, China

Corresponding author: D.W. Suo
E-mail: suodwzd5h@126.com

Received January 2, 2014
Accepted March 7, 2014
Published March 6, 2015
DOI http://dx.doi.org/10.4238/2015.March.6.4

ABSTRACT. Tumor necrosis factor-\( \beta \) (TNF-\( \beta \)) is an important mediator of inflammation and may play a role in the pathogenesis of myocardial infarction (MI). While several published studies have investigated the association between the C804A polymorphism in the \( TGF-\beta \) gene and MI risk, their results are controversial and ambiguous. In this study, we evaluated the contribution of the \( TGF-\beta \) C804A polymorphism to MI risk. A literature search was conducted in the PubMed, Embase, Web of Science, Cochrane Library, and Google Scholar databases to identify eligible studies published before November 1, 2013. We performed a meta-analysis of 9 case-control studies, which included a total of 19,404 MI patients and 13,684 healthy controls. Overall analysis suggested that the \( TGF-\beta \) C804A polymorphism was associated with a significantly increased risk of MI. Stratified analysis based on ethnicity revealed a significant association in Asian populations, but not in Caucasian populations. In conclusion, this meta-analysis revealed that the \( TGF-\beta \) C804A polymorphism may be associated with an increased risk of MI only in Asian populations. However, additional studies should be
conducted to further confirm the association between TNF-β C804A and MI risk.

**Key words:** Meta-analysis; Myocardial infarction; Polymorphism; TNF-β