



Meta-analysis of the correlation between the *TNF- α* 308G/A polymorphism and polycystic ovary syndrome

X.B. Liu¹, X.H. Deng², B. Zhou¹, L. Zhang³ and X.M. Niu¹

¹Department of Reproduction and Genetics, Central Hospital of Taian, Taian, China

²Reproduction Medicine Center, Qilu Hospital, Shandong University, Jinan, China

³Department of Gynecology, Central Hospital of Taian, Taian, China

Corresponding author: X.H. Deng
E-mail: dengxiaohuisd@163.com

Genet. Mol. Res. 15 (2): gmr.15027923

Received October 27, 2015

Accepted February 12, 2016

Published June 10, 2016

DOI <http://dx.doi.org/10.4238/gmr.15027923>

ABSTRACT. Previous studies have suggested that the tumor necrosis factor alpha (*TNF- α*) gene 308G/A polymorphism may be associated with polycystic ovary syndrome (PCOS) risk. However, this relationship is controversial. The present meta-analysis aimed to evaluate the correlation between the *TNF- α* 308G/A polymorphism and susceptibility to PCOS. A systematic electronic search of PubMed and Embase databases was conducted using specific inclusion criteria. Summary odds ratios (ORs) and 95% confidence intervals (95% CIs) were calculated, and all statistical analyses were performed using STATA 12.0. The results of our meta-analysis showed no significant association between the *TNF- α* 308G/A polymorphism and PCOS risk (AA vs GG: OR = 0.80, 95%CI = 0.31-2.08; AG vs GG: OR = 1.03, 95%CI = 0.59-1.81; dominant model: OR = 1.02, 95%CI = 0.60-1.71; recessive model: OR = 0.87, 95%CI = 0.35-2.16). Based on the statistical data, our meta-analysis indicates that the *TNF- α* 308G/A

sequence variation may be not related to PCOS susceptibility. Further large and well-designed studies are needed to confirm this conclusion.

Key words: Tumor necrosis factor alpha; Meta-analysis; Polymorphism; Polycystic ovary syndrome