

Endothelial nitric oxide synthase gene polymorphisms and essential hypertension in Han Chinese

H.G. Wang^{1*}, J.L. Wang^{2,3*}, P. Chang¹, F.L. Cao⁴, X.C. Liu¹, Y.B. Ma¹, G.X. Zhai⁵ and H.Q. Gao⁶

¹Department of Pharmacy, Qilu Hospital, Shandong University, Jinan, China

²Department of Emergency, Qilu Hospital, Shandong University, Jinan, China

³Key Laboratory of Cardiovascular Remodeling and Function Research Affiliated to Ministry of Education of the P.R. China and Ministry of Health of the P.R. China, Shandong University, Jinan, China

⁴School Infirmary, Shandong University, Jinan, China

⁵Department of Pharmaceutics, School of Pharmacy, Shandong University, Jinan, China

⁶Department of Gerontology, Qilu Hospital, Shandong University, Jinan, China

*These authors contributed equally to this study.

Corresponding author: H.Q. Gao

E-mail: sdwfbf@163.com

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ABSTRACT. We examined the effect of polymorphisms in the endothelial nitric oxide synthase gene on the risk for essential hypertension in a Han Chinese population through a meta-analysis of data from 15 studies. Associations between increased risk for essential hypertension and 4b/a were obtained in a dominant model and allele contrast (aa + ab vs bb: odds ratio (OR)_{FE} = 1.26, 95% confidence interval (CI) = 1.10-1.44; a vs b allele: OR_{FE} = 1.23, 95%CI: 1.09-1.40). Four studies with sample sizes over 500 produced similar results. No evidence of publication bias was found. Also, no significant heterogeneity was observed among these studies. When we examined

the G894T polymorphism, we found a marginally significant association for allele contrast and the recessive model when all the eligible studies were pooled together. However, there was no evidence for a significant association after the exclusion of two studies deviating from Hardy-Weinberg equilibrium in the control group. Heterogeneity among studies was observed. Results of cumulative and recursive cumulative meta-analysis indicated that more studies are needed to objectively determine the effects of these two polymorphisms.

Key words: Endothelial nitric oxide synthase; Polymorphism; Meta-analysis; Essential hypertension