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Association of *eNOS* gene polymorphisms with essential hypertension in the Han population in southwestern China

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ABSTRACT. Endothelial nitric oxide synthase (eNOS) plays an important role in maintaining blood pressure homeostasis and vascular integrity. Polymorphisms in the *eNOS* gene have been found to be associated with hypertension in different human populations, including Northern and Southern Chinese Han populations. To examine the relationship of three *eNOS* gene polymorphisms, T-786C (rs2070744), G894T (rs1799983), and G10T (rs7830), with hypertension in the Han population in southwestern China, we carried out a study of the genotypes of three SNPs in 510 hypertensive and 510 normotensive subjects from the Yunnan Province by using PCR-RFLP and sequencing. Our SNP analyses showed that the distribution of the T-786C polymorphism did not differ between patients and controls, and that G894T and G10T

are significantly associated with hypertension in females, adjusted for covariates. Compared with the other haplotypes, haplotype H1 (TGG), carrying protective 10G and 894G alleles, significantly decreased the risk of increased essential hypertension in females, with an odds ratio of 0.68 ($P = 10^{-5}$). These results suggest that the *eNOS* polymorphism is one of the factors contributing to the predisposition for essential hypertension in the Han population in southwestern China.

Key words: Essential hypertension; *eNOS*; SNPs; Han population; Haplotype

