Association of the PPARγ2 gene Pro12Ala variant with primary hypertension and metabolic lipid disorders in Han Chinese of Inner Mongolia

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ABSTRACT. In order to determine whether Pro12Ala polymorphism of the peroxisome proliferator-activated receptor γ2 (PPARγ2) gene contributes to susceptibility to primary hypertension and metabolic lipid disorders, 482 unrelated subjects from Inner Mongolia were studied, including 137 healthy normotensive (controls) and 345 hypertensive subjects. PCR-RFLP was used to determine the genotypes of Pro12Ala variants of the PPARγ2 gene, and direct sequencing was used to check the results. The frequency of the Ala allele was lower in patients with hypertension (1.3%) than in controls (3.6%). The incidence of the Ala allele was significantly lower in patients with hypertension (P = 0.018)

and in those with elevated blood lipids (P = 0.040), compared to the control group. Total plasma cholesterol, triglycerides and high-density lipoprotein cholesterol were significantly higher (P < 0.05), and low-density lipoprotein cholesterol was significantly lower (P < 0.05) in primary hypertension patients than in the control group. We conclude that the Ala allele is involved in genetic susceptibility to hypertension and metabolic lipid disorders in the Han population of Inner Mongolia.

Key words: PPARγ2-Pro12Ala; Polymorphism; Primary hypertension; Metabolic lipid disorders; Inner Mongolia