



Polymorphisms of +2836 G>A in the *apoE* gene are strongly associated with the susceptibility to essential hypertension in the Chinese Hui population

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ABSTRACT. In the present study, the correlation of polymorphisms of the apolipoprotein E (*apoE*) gene with the susceptibility of essential hypertension (EH) was investigated. Single nucleotide polymorphisms of the *apoE* gene at the -491 A>T, +969 C>G, and +2836 G>A sites were determined in 221 non-EH individuals and 109 subjects with EH of Chinese Hui ethnicity using polymerase chain reaction-restriction fragment length polymorphism analysis. The results showed that neither the genotypic frequency nor the allelic frequency at the -491 A>T and +969 C>G sites exhibited a statistically significant difference between these two groups ($P > 0.05$). However, a significant difference was observed in genotypic frequency and allelic frequency at the +2836 G>A site between EH patients and non-EH individuals ($P < 0.01$). In addition, a significantly higher frequency of the A allele at the +2836 G>A site was also detected in EH patients (83%) compared with controls (47.5%) ($P < 0.01$; OR = 4.82, 95%CI = 3.25-7.17);

in contrast, the frequency of the G allele at the +2836 G>A site was significantly lower (17%) in the patient group in comparison with the non-EH cohorts (52.5%) ($P < 0.01$; OR = 0.21, 95%CI = 0.14-0.31). These results suggest that the polymorphism at the +2836 G>A site in the *apoE* gene is strongly correlated with the susceptibility to EH in the Chinese Hui ethnic population.

Key words: Essential hypertension; Single nucleotide polymorphism; Apolipoprotein E; Chinese Hui population