Angiotensinogen gene polymorphism is related to hypertension in hemodialized patients

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Angiotensin plays an important role in increased blood pressure. It has been known that angiotensinogen gene has three alleles: TT, MT, and MM. Several studies have reported the association between angiotensin gene polymorphism and hypertension. This study was designed to determine the prevalence of genetic polymorphism and to evaluate whether the gene is related to hypertension. Three hundred fourty-eight subjects were enrolled and studied One hundred hypertensive patients (HT group), one hundred fourty-eight patients with end-stage renal failure (CRF group), and one hundred controls (Control group). All subjects were genotyped for angiotensinogen gene polymorphism. No differences in the genotypes among three groups were observed (P>0.05). Overall prevalence of TT, MT, and MM showed 61.7%, 36.6%, and 1,7%, respectively. In CRF group, there were no differences in renin, angiotensin, and aldosterone levels between genotypes. However, CRF patients with MM/MT showed a significantly different prevalence of hypertension (P=0.024). After adding possible confounders, this association did not change (OR=3.40, P=0.026). Our findings thus suggested that although angiotensinogen genotypes may not be directly related to hypertension, the gene polymorphism could be a risk of hypertension in patients with susceptible conditions, such as renal dysfunction.

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