

**Core Promoter Variants (A-20C, T-18C and G-6A) of the Angiotensinogen (AGT) Gene are not Significantly Associated with Hypertension in Patients of Tamilnadu, India**

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**ABSTRACT** Hypertension is a complex multifactorial disease, which affects 10-30 % of the world population. The genetic factors of the hypertension vary from population to population. Renin angiotensin system (RAS) genes play a key role in salt-water homeostasis and blood pressure regulation. The genetic polymorphisms of the angiotensinogen (AGT) gene are associated with hypertension in different populations and some of these polymorphisms (G-6A and M235T) have a significant role in the human evolution and selection fitness. The present study was carried out to find out the role of the core promoter variants {-20(A-20C), -18(T-18C) and -6(G-6A)} in causing hypertension in rural and urban hypertensive patients of Tamilnadu. Methods: A total of 254 hypertensive and 254 normotensive subjects were screened using PCR-SSCP and RFLP methods followed by DNA sequencing. The sequences were analysed by BLAST. Results: The genotype frequencies of A-20C (AA,AC,CC), C-18T (CC,CT, TT) and -6G(AA,AG,GG) in patients/controls respectively were 63.0,33.0,4.0/67.5,28.5,4.0; 99.0,1.0,0.0/99.6,0.4,0.0 and 83.0,17.0,0.0/81.6,18.5,0.0 Observation and Conclusion: None of these promoter variants were significantly associated with hypertension. The A allele of G-6A polymorphism was found in a high frequency in patients and controls (about 91%) which correlates with frequencies observed in African and Asian ethnic populations (80-95%).