

Gender-specific Association of *ATP2B1* (*rs2681472*) Gene Polymorphism with Essential Hypertension in South Indian Population

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ABSTRACT Essential hypertension (EH) makes up ~ 95 percent of all hypertensive cases and has no clear identifiable cause. Although EH has a strong genetic basis, identification of genes associated with it has been difficult because of the complexity of regulation of blood pressure, its multifactorial nature, and the presence of multiple susceptibility genes. The present case-control association study investigates the possible involvement of the *ATP2B1* (*rs2681472*) polymorphism in EH patients. The study group included 568 hypertensive cases and 604 normotensive controls, whose DNA were genotyped by the PCR-RFLP method. A significant association was observed between the T allele ($p = 0.038$) and the TT genotype ($p = 0.051$) with EH. Gender-wise segregation evidenced a significant association of T allele with EH in female patients ($p = 0.053$) rather than male patients. Hence, it is concluded that females with TT genotype are more susceptible to EH, and T allele could be the risk allele for EH in south India.