

## **Association Study of Angiotensin-Converting Enzyme Ins/Del Polymorphism with Hypertension in Punjabi Population**

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**KEYWORDS** ACE; Hypertension; I/D polymorphism

**ABSTRACT** Angiotensin-converting enzyme (ACE) is the key enzyme of the Renin-angiotensin system (RAS) which maintains the blood pressure homeostasis in our body. The association of the ACE insertion (I) or deletion (D) with essential hypertension has been demonstrated by many studies. The present study is aimed to determine the association, if any, of ACE I/D polymorphism with essential hypertension in Punjabi population. The ACE I/D polymorphism genotype frequencies were calculated by comparing essential hypertensive patients with ethnically similar normotensive controls. The samples were collected from the outpatient departments of various hospitals of Punjab. The subjects who had systolic blood pressure (SBP) of 140 mmHg or greater, and diastolic blood pressure (DBP) of 90 mmHg or greater, or were using any antihypertensive medication were considered as hypertensive. The DNA samples from the patients (100) and controls (100) were isolated, amplified by PCR and analyzed on agarose gel. When all the genotypes were compared in patients and controls, the chi square value was 0.444, which was not significant at 5% level. The age, height and weight were analyzed in the three different categories DD, ID, II which did not show any significant relationship with the disease. A consistent increase was seen in the SBP and DBP in all the three genotypes from DD, ID to II respectively. This increase was statistically significant for DBP especially in case of DD vs II at 5% level ( $t=2.34$ ,  $p<0.05$ ).