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No Evidence for Association Between ACE Gene Insertion (I)/ Deletion (D) Polymorphism and Hypertension in North Indian Punjabi Population

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ABSTRACT Essential hypertension is a complex polygenic disorder influenced by many environmental factors. Previous studies have demonstrated that angiotensin converting enzyme (ACE) gene has a significant association with hypertension and other cardiovascular diseases. The objective of the study was to assess the possible role of ACE gene I/D polymorphism on hypertension in north Indian Punjabi population. The present work undertook case-control association study among a total of 90 (47 males, 43 females) unrelated hypertensive patients and 91 control subjects (47 males, 44 females). Three genetic models such as dominant, co-dominant (additive) and recessive were used to analyze the data. No significant differences were observed in either genotype ($p=0.91$) or allele ($p=0.84$) frequencies between case and control groups. The results indicated that ACE gene polymorphism has very little impact on hypertension susceptibility among males of north Indian Punjabi population, as it was evidenced in recessive genetic model (OR: 2.09, 95% CI: 0.70-6.22, $p=0.18$). However, no overall significant association was found between ACE I/D polymorphism and hypertension in this population.