Angiotensin-Converting Enzyme Gene Deletion Polymorphism in Patients with Ischemic Stroke

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The angiotensin-converting enzyme (ACE) metabolizes the vasoactive peptides angiotensin II and bradykinin, which are mediators of vascular tone and smooth muscle cell proliferation. In a recent prospective study, the ACE insertion/deletion (*I/D*) polymorphism was associated with appreciable increase in the risk of ischemic stroke. In the present study, we genotyped 55 patients with symptomatic ischemic stroke and 60 age, sex-matched normotensive control subjects for ACE polymorphism. Detection of the ACE *I/D* alleles was performed by polymerase chain reaction. The genomic DNA was isolated from peripheral blood with phenol:chloroform extraction method. The allelic frequencies of *I* and *D* in ischemic stroke patients were 0.47 and 0.53, respectively. The allelic frequencies of *I* and *D* in control subjects were 0.54 and 0.46, respectively. There was no difference in *I/D* allelic frequency in ischemic stroke patients and controls (χ^2=0.98, p=0.32). The odds ratio for ischemic stroke associated with the *D* allele was 1.15 (95% CI, 0.87 to 1.53). These results suggest that *D* allele of the ACE is not associated with an independent genetic risk factor for ischemic stroke in Koreans.