

## INSERTION/DELETION POLYMORPHISM OF THE ANGIOTENSIN I- CONVERTING ENZYME GENE IN MIGRAINE PATIENTS

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Several authors reported an association between the Angiotensin Converting Enzyme (ACE)-D allele and coronary artery disease. The mechanism on the basis of this association is unclear. Recently it has been suggested that the ACE-DD polymorphism may play an important role in the determinism and in the frequency of migraine attacks (1-3). Considering these data, we cannot exclude a possible relationship between ACE activity and migraine. Therefore, the aim of our study was to determine the role of ACE polymorphism in a consecutive series of migrainous patients (ICHDII-2004 diagnostic criteria) and of patients affected by myocardial infarction. We have studied a series of 51 migrainous patients aged 38.6 years +/- 18.8 (8 MWA and 43 MwA, ICHDII-2004 criteria) in the period 2005-2006. The control group was composed by 58 patients affected by Acute Myocardial Infarction (AMI) admitted to the ICCU (Intensive Coronary Care Unit) of S.Luca Hospital in Vallo della Lucania in the same period. Exclusion criteria from the study were: positive anamnesis for analgesic abuse, presence of serious diseases, need to take drugs for other pathologies. The analyse was based on Polymerase Chain Reaction (PCR) and on reverse-hybridization and included 3 steps: 1 DNA isolation from non coagulated blood, 2 PCR amplification using biotinylated primers, 3 hybridization of amplification products to a test strip containing allele-specific oligonucleotide probes immobilized as an array of parallel lines. Bound biotinylated sequences were detected using streptavidin-alkaline phosphatase and an appropriate color substrate. Our results indicate that 16 (42%) migrainous patients and 32 (56%) cardiopathy patients had an ID genotype; 19 (50%) migraineurs and 20 (34%) cardiopaths had a DD genotype. The results of our study confirm the relationship between migraine and ACE I/D genetic polymorphism considering that our patients were affected by myocardial infarction. Also, our study shows a strong relationship between migraine and major vascular diseases suggesting an important role of ACE system in the pathogenetic model of migraine for its capability to interfere with the endothelial regulation tone.

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2. Linn JJ et al, *Acta Neurol Taiwan.* 2005 Sep;14(3):120-5.
3. Kowa et al, *Neurosci Lett.* 2005 Feb 10;374(2):129-31.