GENETIC POLYMORPHISMS AND MIGRAINE

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Background. Trombosis susceptibility genes are genic variants (single nucleotide point mutations at a single nucleotide) which seem to have an increased incidence in migraineur subjects.

Objective. Our study analysed the incidence of a wide series of genetic vascular mutations in migraineurs.

Methods. 19 consecutive patients suffering from migraine and coming to the Headache Center of S.Luca Hospital, Vallo della Lucania (SA) were genotyped. They were aged 13-66 years, mean age was 34,42 years:15 suffered from migraine without aura, 4 from migraine with aura (ICHD-II criteria). Genetic polymorphisms evaluated with Polymerase Chain Reaction (PCR) were: Factor V Leiden (G1691A), Factor V (H1299R), Prothrombin (G20210A), Factor XIII (V34L), β-fibrinogen (-455G □ A), MTHFR (C677T and A1298C), PAI-1, HPA-1 and ACE.

Results.
Factor V di Leiden (G1691A): 2 patients (11%) were heterozygous, nobody was mutated.
Factor V (H1299R): 3 patients (16%) were heterozygous, nobody was mutated.
Protrombine (G20210A): 2 patients (11%) were heterozygous, nobody was mutated.
Factor XIII (V34L): all patients were heterozygous.
β-fibrinogeno: 10 patients (53%) were heterozygous, nobody was mutated.
MTHFR (C677T): 15 patients (79%) were heterozygous, nobody was mutated.
MTHFR (A1298C): 10 patients (53%) were heterozygous, 1 patient (5%) was mutated.
PAI-1: 3 patients (16%) had a 4G/4G genotype and 1 (5%) had a 5G/5G genotype.
HPA-1: 4 patients (21%) had a 1a/1a genotype and nobody had a 1b/1b genotype.
ACE: 10 patients (53%) had an ID genotype and 7 (37%) had a DD genotype.

Conclusions. The analysis of results obtained confirms the association between migraine and some genetic polymorphisms, such as MTHFR and ACE. Moreover, in our survey, come out positivities (values over 50%) even for Factor XIII and β-fibrinogen. Therefore, it appears useful to confirm these evidences on larger and case-control surveys.