

Apolipoprotein E gene polymorphisms and migraine

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Nitric oxide plays an important role in the pathogenesis of migraine. Studies suggest that the expression of molecules involved in the pathogenesis of headache (i.e., nitric oxide-interleukin) is influenced by apolipoprotein E (APOE) and is gene specific. Hence, we hypothesized that APOE polymorphism may be associated with migraine.

Our study analysed the incidence of genetic polymorphism Apolipoprotein E in a sample of migraineurs and a control group of the patients with ischemic cardiopathy.

In this study 70 consecutive patients aged 10-66 years (mean age 39.2 years), suffering from migraine [1] (58 migraine without aura, 12 migraine with aura, ICHD-II criteria) and 70 patients aged 36-71 years (mean age 45.8 years), with ischemic cardiopathy [2] were studied with Polymerase Chain Reaction (PCR) for genetic polymorphism Apolipoprotein E. ApoE: 51 patients (75%) [1] and 47 (67%) [2] had an E3/E3 genotype; 11 (16%) [1] and 11 (16%) [2] had a E3/E4 genotype; 5 (7%) [1] and 7 (10%) [2] had a E2/E3 genotype; 1 (1%) [1] and 5 (7%) [2] had a E4/E4 genotype; 2 (1.5%) [1] and 0 [2] had a E2/E4 genotype; 0 [1] and 0 [2] had a E2/E2 genotype.

Our results highlighted a more or less equivalent prevalence of apolipoprotein E gene polymorphisms in migraineurs and in subjects suffering from ischemic cardiopathy. Further research is required to confirm the findings of the present study in a larger sample and to elucidate the role of APOE polymorphism in headache.