Haplotype analysis of polymorphic genes of lipid metabolism and its association with an increased risk of the first non-cardioembolic ischemic stroke

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Aim: We studied the effect of haplotype variations in lipid metabolism genes on the risk of first non-cardioembolic ischemic stroke in 206 patients and 206 controls.

Material and methods: The alleles frequencies and genotypes assessed for 5 mono-nucleotide polymorphic gene variants (APOB (rs1042031), APOEB (rs676210), APOC-IV (rs1132899), APOE (rs 7412), APOE (rs 429358), LP(a) (rs41267817)) in 206 patients, who had first non-cardioembolic ischemic stroke, and 206 persons with no stroke, comparable with age, gender, place of living and ethnicity. Genotyping of polymorphisms was done with the prepared TaqMan probes. Haplotype analysis was performed using the online tool SNPStat.

Results: Haplotype analysis revealed that CTGATT, CTGACT and CCAGTT, haplotypes of lipid metabolism genes polymorphisms are associated with risk of first non-cardioembolic ischemic stroke after multivariate adjustment.

Conclusions: These results show that haplotype of lipid metabolism genes polymorphisms are signifcantly associated with increased the development of the first non-cardioembolic ischemic stroke In the studied groups.