POSITIVE ASSOCIATION BETWEEN GAMMA-GLUTAMYL CARBOXYLASE GENE \( \text{rs2592551} \) POLYMORPHISM AND LARGE ARTERY STROKE

Ye.I.Dubovyk, Ye.A.Harbuzova, O.A.Obukhova
Sumy State University, Ukraine

The processes of ectopic calcification and hemostasis system disorders play an important role in the development of Large Artery Stroke (LAS) [1-2]. Gamma-glutamyl carboxylase (GGCX) is an enzyme that has a significant influence on both these processes [3]. Herein, the aim of the study was to test the association between GGCX gene \( \text{rs2592551} \) single-nucleotide polymorphism and LAS.

Materials and Methods. Genotyping was performed in 170 LAS patients and 124 control subjects using PCR-RFLP (polymerase chain reaction with following restriction fragment length polymorphism analysis) method. SPSS 17.0 was used for most statistical analyses.

Results. Our results revealed that risk of the LAS in patients with T/T genotype was higher than in C-allele carriers (OR = 3.117; 95% CI = 1.016-9.566; \( P = 0.047 \)). At the same time, heterozygous genotype (C/T) in females was significantly less associated with LAS when compared to C/C and T/T genotypes (OR = 0.460; 95% CI = 0.213-0.994; \( P = 0.048 \)). Statistical significance of these results was not changed even after adjustment for age, body mass index, smoking and hypertension.
Conclusions. Obtained results suggested that it is possible to consider GGCX rs2592551 polymorphism as a risk factor for LAS.

References


Key words: γ-glutamyl carboxylase, gene polymorphism, large artery stroke

Accepted for printing on 23 Oct 2017