



# Abstract Book

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## 547 ASSOCIATION LYS198ASN POLYMORPHISM OF EDN1 GENE WITH SOME RISK FACTORS OF ISCHEMIC ATHEROTHROMBOTIC STROKE

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**TITLE:** ASSOCIATION LYS198ASN POLYMORPHISM OF EDN1 GENE WITH SOME RISK FACTORS OF ISCHEMIC ATHEROTHROMBOTIC STROKE

**INTRODUCTION:** Introduction. Ischemic atherothrombotic stroke (IAS) is the most common form of cerebrovascular disease. It promotes the development of endothelial dysfunction and significant role belongs to endothelin-1. It is believed that gene polymorphisms of EDN1 could lead to stroke.

**METHODS:** Methods. The venous blood of 170 IAS patients (42.4% women and 57.6% men; average age  $64.7 \pm 0.73$  years) and 124 almost healthy donors (63.7% men and 36.3% women; average age  $76.7 \pm 0.93$  years) was used during the study. The main methods of research were the polymerase chain reaction method (PCR) followed by analysis of restriction fragment length.

**RESULTS:** Results. During genotyping, it was detected that correlation of homozygote by major allele, heterozygote and homozygotes by minor allele while analyzing Lys198Asn polymorphism EDN-1 gene in IAS patients was 48.2%, 39.4% and 12.4%, and in the control group – 63.7%, 32.3% and 4.0% correspondingly ( $P=0.008$  by  $\chi^2$ -test). Using logistic regression analysis it revealed that persons who are carriers of homozygotes by minor allele have the risk of stroke is 4 times higher than person's homozygotes of major allele. The presence of risk factors increases the probability of stroke. These include gender, body mass index, hypertension and smoking. Women who are carriers of Lys/Asn genotype have greater risk of stroke nearly 2.6 times ( $P=0.020$ ;  $OR=2.571$ ) and men with Asn/Asn genotype – 3.5 times higher ( $P=0.034$ ;  $OR=3.534$ ) than persons with Lys/Lys genotype. Individuals with  $BMI \geq 25$  kg/m<sup>2</sup> who are carriers of homozygotes by minor allele, stroke risk is right 4.6 times higher than persons with Lys/Lys genotype ( $P=0.020$ ;  $OR=4.583$ ). Patients with hypertension who are carriers of Lys/Asn genotype the risk of IAS is almost twice increased ( $P=0.034$ ;  $OR=1.951$ ) and for Asn/Asn genotype risk is 4.1 times higher ( $P=0.033$ ;  $OR=4.107$ ) than persons with Lys/Lys genotype. Individuals carriers Asn / Asn genotype non-smokers revealed increased risk of IAS 3.4 times ( $P=0.041$ ;  $OR=3.379$ ). However, in smokers the risk of stroke was not statistically significant. This indicates that smoking is such a major risk factor in which the influence of genetic factors on the occurrence of IAS is not essential.

**CONCLUSION:** Conclusion. It has established the association Lys198Asn polymorphism of EDN1 gene with ischemic atherothrombotic stroke development and its risk factors.