

GENETIC FACTORS OF HYPERTENSION IN INDIVIDUALS WITH DIFFERENT RATES OF Na-Li COUNTER-TRANSPORT

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Introduction. Currently, hypertension is recognized as one of the most common cardio-vascular diseases. Recent studies indicate the multifactorial nature of this disease, in which much emphasis is given to genetic factors for their role in the development of this disease. With, results based on the identification of genetic markers associated with the risk of developing hypertension vary vastly and remain highly controversial, primarily due to the ethno-genetic and geographical features of the populations under study, there is an urgent need to identify a phenotypic trait that would allow analysis of associations with the risk of developing hypertension irrespective of an individual's ethnic background or geographical location. One such a prospective trait is the rate of Na-Li counter-transport, which remains unchanged for most of an individual's lifetime, with rare exceptions. Hence this study is aimed at identifying the contribution of gene polymorphisms of the renin-angiotensin system in the formation of genetic predisposition to hypertension in individuals with different rates of erythrocyte Na-Li counter-transport.

Materials and methods. The following methods were employed:

- DNA extraction
- Polymerase Chain Reaction (PCR)
- Restriction Analysis
- Separation of the amplified products
- Analysis of Statistical data

Results and discussion. Analysis to determine the distribution of allele and genotype frequencies in test group, control group and at different rates of erythrocyte Na-Li counter-transport for the A-20C and A2350G polymorphic variants were carried out. The observed frequency distribution of alleles and genotypes of A-20G and A2350 polymorphic variants are in accordance with the theoretically expected values ($\chi^2=0,029-0,369$, $p=0,544-0,864$) and ($\chi^2=0.387-2.00$, $P=0.150-0.534$) respectively.

Conclusions. No association was established between both the A20C angiotensin gene polymorphism and the A2350G angiotensin-converting enzyme gene with the risk of hypertension, regardless of gender. There is an absence of a contribution to the formation of a genetic predisposition to hypertension in individuals with different rates of Na-Li counter-transport in the erythrocyte membrane.

Reference.

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