Association of ADRB1 gene polymorphism with dilated cardiomyopathy

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Aim. To evaluate the Association of rs1801252 polymorphism of the ADRB1 gene with dilated idiopathic cardiomyopathy (DCMP) and myocardial dilation of ischemic origin (DMI).

Subjects and methods. The study included patients with ICMP and MD IG in the number of 221 people. The average age of the subjects was in the range of 55.30 ± 9.69 years.

We divided the patients into 2 groups: the first – patients diagnosed with idiopathic dilatation cardiomyopathy and the second-patients with myocardial dilatation of ischemic origin. The number of patients in the first group was 111, including 99 men (89.2%) and 12 women (10.8%). The average age of patients in this group is 51.73 ± 9.74 years, in men 51.00±8.96 years, in women 57.75±3.71 years.

The second group included patients with myocardial dilatation of ischemic origin. Their number is 110 people, including 100 men (91.5%) and 10 women (8.5%). The average age of respondents is 58.68 ± 8.38 years, for men 58.29 ± 8.46 years, for women 62.90 ± 6.29 years.

The control group included patients who had no manifestations of cardiovascular diseases. Their number is 121 people (average age 53.6±4.8 years).

The patients underwent laboratory and instrumental studies, as well as molecular and genetic studies of the A145G polymorphism of the ADRB1 gene (rs1801252 ). All patients underwent coronary angiography. Based on the anamnesis data and instrumental studies, those patients who could be said to have no risk factors for the development of dilatation of the heart cavities were identified in the first group. And those patients who were reliably diagnosed with CHD were in the second group, that is, dilatation of the heart cavities is due to a previous myocardial infarction, existing angina pectoris.

Results. In the group with DCMP 70.3% of patients were carriers of the common homozygous A145A genotype, the heterozygous A145G genotype-27.0%, and the rare homozygous G145G genotype-2.7%. In the control group 71.9% of patients were identified as carriers of a homozygous genotype by a common allele, and 25.3% were carriers heterozygous genotype, and homozygous genotype for a rare allele – 2.7%. Statistical analysis showed no achievement of statistical significance level across any of the genotypes. In the group with DM IG, there was no association with the rs1801252 polymorphism of the ADRB1 gene.

Conclusion. A statistically significant association of rs1801252 of the ADRB1 gene with DCMP was not found. The association of DM IG c rs1801252 could not be confirmed.