

## **Combination of genes rs2241423, rs12444979 and rs6732220 spreading analysis in patients with hyperplastic processes of the uterus**

Irina V. Krivoshey<sup>1</sup> - Oksana B. Altuhova<sup>2</sup> - Evgeniy N. Krikun<sup>3</sup> - Mikhail I. Churnosov<sup>4</sup> - Roman F. Kapustin<sup>5</sup>

<sup>1</sup> Belgorod National Research University, Department Biomedical Sciences, Belgorod, Russia - Department Obstetrics and Gynecology, <sup>2</sup> Belgorod National Research University, Belgorod, Russia - Medical College, <sup>3</sup> Belgorod National Research University, Belgorod, Russia - Department Biomedical Sciences, <sup>4</sup> Belgorod National Research University, Belgorod, Russia - Department of Morphology and Physiology, <sup>5</sup> Belgorod State Agrarian University Named After V.J. Gorin, Maiskii, Russia

The aim of the research was to study part of combination of genes rs2241423, rs12444979 and rs6732220 among Russia Central Chernozem region population. Research group was made of 1873 individuals: 908 women with uterus hyperplastic processes and 965 women of control group. In the sample of sick and control group were included Russian nationality women, which were born in Russia Central Chernozem region and the non-kinship between them. Venous blood in the volume of 6 ml taken from the cubital vein of a proband served as a material of research. Genomic DNA extraction was realized by phenolic-chloroform extraction method. SNP-research was realized by polymerase chain reaction method with associated primers and probes using on amplifier IQ-5. Three molecular genetic markers was genotyped: MAP2K5 (rs2241423), CNVs (rs12444979) и FSHR (rs6732220). A statistically significant difference in the concentrations of the combination of alleles G rs2241423, genotype CC rs12444979 and allele G rs6732220 was established among group of patients with hyperplastic processes of the uterus (28,55%) and control group (33,09%,  $p=0.01$ ,  $P=0.05$ ,  $OR=0.81$ , 95% CI 0.66-0.98). Combination of genetic markers G rs2241423, CC rs12444979 и G rs6732220 ( $OR=0.81$ ) reduces the risk of uterus hyperplastic processes development in population of Central Chernozem region of Russia.