STUDYING THE STRATEGY OF GENOTYPING IN THE UKRAINIAN POPULATION SAMPLE

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Pharmacogenetics is based on the strategy of screening for polymorphism – genotyping. With the help of this technique, the presence of a specific variant of a gene with the help of a polymerase chain reaction is determined in man. Quite often in the world, conducting preliminary genotyping, determine the status of a metabolizer for the family of cytochromes CYP-450, which are responsible for the metabolism of more than 50% of the world's produced drug. In particular, CYP1A2 and CYP2B6 are the most important liver enzymes that participate in the metabolism of a number of widely used drugs. Cytochrome CYP1A2 is involved in the metabolism of caffeine, theophylline, melatonin, clozapine, verapamil, propranolol, etc. CYP2B6 is responsible for the metabolism of such drugs as cyclophosphamide, bupropion, efavirenz, methadone, ketamine, etc. An increase in the level of IL-6 in the blood is observed in many pathological conditions, such as autoimmune diseases, severe inflammatory processes, infections, allergies.

The aim was to study the polymorphism of CYP1A2 (rs762551), CYP2B6 (rs3745274) and IL-6 (rs2069840) genes in the Ukrainian population sample.

For the analysis, a sample of 102 Ukrainians (48 male, 54 female) who were not relatives was formed. The buccal epithelium was picked up. Genotyping for the polymorphism of CYP1A2 (rs762551), CYP2B6 (rs3745274) and IL-6 (rs2069840) was performed using polymerase chain reaction. In the course of the studies, the distribution of genotypes in this group was determined for CYP2B6 (rs3745274): 57% GG, 38% GT, 7% TT; for CYP1A2 (rs762551): 37% AA, 50% AS, 15% CC and for IL-6 (rs2069840): 47% CC, 50% CG, 5% GG. Allele frequencies for CYP2B6 were determined: p_G – 0.75 and q_T – 0.25; For CYP1A2: p_A – 0.6 and q_C – 0.4; for IL-6: p_c = 0.72 and q_g = 0.28.

Conclusions: the genetic polymorphism among the Ukrainian population is shown, which is later recommended for carrying out genetic testing of the polymorphism of the genes CYP1A2 (rs762551), CYP2B6 (rs3745274) and IL-6 (rs2069840) when prescribing drug therapy regimens.

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