social, economic, and organizational issues that need to be addressed as the field of personalized medicine grows. As a result, improve patient care in the future.

**Conclusion:** Personalized medicine has the potential to revolutionize care. However, current challenges and concerns need to be addressed to enhance uptake and funding to benefit patients in the future. Clinical pharmacologists can play critical role with advising authorities on the potential value of new diagnostic and prognostic tests as well as new targeted therapies.

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**PP155—PREVALENCE OF GENE POLYMORPHISM SLCO1B1 IN PATIENTS WITH DYSLIPIDEMIA AND SYSTEMIC ATHEROSCLEROSIS IN RUSSIAN POPULATION**

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**Introduction:** The statin lipid-lowering efficacy and safety varies widely among patients. This is mainly interpersonal differences can be explained by genetic factors. The purpose of this study was to investigate the prevalence of allelic variants (polymorphism) of the gene SLCO1B1 *5 (c.521T>C, rs4149056), which encodes a peptidopeptide involved in the removal of statins by the liver into the bile, as well as prediction of myopathy in patients who are to use of statins. The frequency of genotypes in SLCO1B1 in the Russian population is not known in other European ethnic groups is 8% to 20%.

**Patients (or Materials) and Methods:** The study included 577 patients with dyslipidemia and systemic atherosclerosis. Of these, 226 men (59.95%) and 151 women (40.05%); the mean age was 52.58 ± 12.21. All patients underwent determination of single nucleotide polymorphisms SLCO1B1 *5 using real-time PCR with TaqMan probes. The allelic frequencies were similar to other studies.

**Results:**

- **Identified genetic polymorphisms SLCO1B1 *5:** heterozygous genotype s.521 vehicle in 106 patients (28.12%) and homozygous genotype CC s.521 - 14 patients (3.71%), which is associated with an increased risk of myopathy in patients and the need for correction of the maximum dose to be lower compared with the TT genotype s.521 (‘wild’ type).

**Conclusion:** The frequency of the heterozygous genotype (s.521TS) is 28%, and homozygous genotype (s.521SS) - 4% of patients with dyslipidemia and systemic atherosclerosis, which requires a reduction of the therapeutic dose of statins to one half and one quarter, respectively. Thus, the holding of pharmacogenetic testing can be useful for your personal selection of the dose of statin to maximize the effectiveness and safety of treatment.

**Disclosure of Interest:** None declared.

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**PP156—CYP2D6 GENE POLYMORPHISM IN PATIENTS WITH DYSLIPIDEMIA AND SYSTEMIC ATHEROSCLEROSIS IN RUSSIAN POPULATION: CLINICAL IMPLICATIONS**

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**Introduction:** CYP2D6 codes for a protein that is vastly involved in metabolism of various substances. Different metabolic profiles determine the processing of xenobiotics and endobiotics, thereby influencing disease risk, therapeutic efficacy and side effects, or toxicity of xenobiotics. The aim of this work was to characterize CYP2D6 polymorphisms and predict metabolic profiles in the Portuguese population.

**Patients (or Materials) and Methods:** A total of 300 Portuguese unrelated adult healthy volunteers were studied. Genetic analysis included allelic discrimination and copy number determination with TaqMan® probes by real-time PCR and allele duplications of CYP2D6*1, CYP2D6*2, CYP2D6*4, and CYP2D6*10 were confirmed by long PCR and PCR-RFLP.

**Results:** The frequencies of poor and ultrarapid metabolizers found in this Portuguese population were 6.3% and 4.7%, respectively. Accordingly, it is estimated that, taking into account the number of inhabitants estimated by CENSUS 2011 (10,562,178), there are ~665,417 poor metabolizers (PM) and 496,422 ultrarapid metabolizers (UM) in Portugal. The frequency of extensive metabolizers (EM) and intermediate metabolizers (IM) is in agreement with previous studies.

**Conclusion:** The allelic frequencies were similar to other studies of European populations, with some exceptions, such as for CYP2D6*10, which is higher in Portuguese population and for CYP2D6*6 and duplication of *1 and *2, that present lower frequencies in the present study. After this study, we could evaluate the most important CYP2D6 variants in the Portuguese population and predict metabolic profiles. The data presented here are noteworthy for determination of the genetic variability influencing CYP2D6 activity, to improve the effectiveness and safety in the xenobiotics exposure, working also as a strong tool for clinical practice and development of individualized pharmacotherapy.

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