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TOPIC P4 MEDICINE & CLINICAL EFECTIVNES IN LABORATORY MEDICINE

PHARMACOGENETIC TESTING IN OPTIMIZATION OF TREATMENT WITH STATINS

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Statins are a class of drugs that have been widely prescribed nowadays for treating hypercholesterolemia and thus prevent the risk of atherosclerotic cardiovascular events and consecutive mortality. Unfortunately, the patient's compliance with treatment is frequently compromised by the high incidence of adverse effects including hepatotoxicity, myotoxicity, increased risk for diabetes mellitus etc. The expansion of the precision medicine concept in pharmacology has introduced pharmacogenetic testing as a potential predictive strategy in statins pharmacotherapy.

A thorough literature survey was performed using the PubMed database on the published data in English language in the period 2000-2017, regarding genotype-phenotype associations in statin-induced toxicity, identifying a growing body of evidence supporting the need for pharmacogenetic approach in treatment with statins. Polymorphisms in the genes coding for the CYP450 enzymes: CYP2D6, DYP2D9, CYP3A4 and drug transporter genes like ABCB1, ABCG2 and SLCO1B1 appear to be responsible for the variable response and toxicity of statins. But, many studies highlight the importance of drug interactions and epigenetics in modifying the response towards this class of drugs metabolized via pathways shared by the majority of pharmaceutical agents.

With the rapid development of molecular techniques accompanied by a dramatic cost reduction in genetic testing, it can be easily anticipated that pharmacogenetic patient profiling will soon become standard of care in designing the optimal statin treatment either as a monotherapy or in combination with other pharmaceuticals.

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INTERFERENCE TESTING OF OMNIPAQUE (IOHEXOL) ON BETA-HCG, HCG AND AFP ASSAYS ON TOSOH AIA 360

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PHI Daron Med - Ohrid

Aim: Interference in immunoassays is a serious, but underestimated problem. The purpose of our study was to test whether there is an interference between contrast agent Omnipaque (iohexol) and beta-HCG, HCG and AFP assays on the TOSOH AIA 360.

Methods: Protocol for the survey was prepared by the manufacturer TOSOH. All tests were carried out on TOSOH AIA 360, Automated Enzyme Immunoassay Analyzer, with assay methodology – one-step sandwich and competitive FEIA. Concentrations of beta-HCG, HCG and AFP in sera were measured twice and the median value was taken into account. First Omnipaque was measured only with the reagents. After that, Omnipaque was added in the sera by dilution 1:10 and the concentrations of tested parameters were measured again. This was repeated after 30 min, 60 min and 120 min of incubation at 37°C.