

STUDY THE EFFECT OF GENE POLYMORPHISM CONTRIBUTION OF STATIN BIOTRANSFORMATION AND LIPID METABOLISM FOR PARAMETERS OF STATIN EFFICACY. RECRUITING

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Introduction. Rosuvastatin is high-performance hydroxymethylglutaryl coenzyme A (HMG-CoA) reductase, which commonly used in the treatment of hyperlipidemia. It significantly reduces levels of LDL, which accompanied by a moderate increase in HDL and a decrease triglycerides in blood serum. Nowadays rozuastatin is the safest among statin preparation and it differs from simvastatin, lovastatin and atorvastatin by minimal hepatic metabolism.

Endogenous characteristics of drugs metabolism, which depends on polymorphisms of transformation genes and statin transportation, can reflect on achievement of final efficacy.

Individual variability in the effectiveness and safety of drugs is one of the topical problems of clinical practice. It is known that genetic variations are factors in determining an individual response to drug therapy. There are many examples of cause-effect relationships between genotype and response to drug therapy.

Based on written above, the purpose of this study is to research the pharmacokinetic characteristics of the therapy with rosuvastatin.

Methods. Recruiting of patients carried out in «The Medical Centre Hospital of the President's Affairs Administration of the Republic of Kazakhstan », Astana between the period from June 1, 2015 to April 1, 2016. Then analyzes were collected before treatment and after treatment with statins. Appointed target dose was established. Venous blood samples were collected into tubes with EDTA.

Results. During the recruiting 82 venous blood samples of patients who are on therapy with statins (Crestor, Roxera) were collected. Ethnicity is Kazakhs, a male aged 50 years or more. The results of blood biochemistry, total cholesterol, HDL, LDL, aminotransferases (AST and ALT), alkaline phosphatase (ALP), gamma-glutamyl transferase (GGT), and others were received for each patient before statin therapy and after the target level. Target levels is 5 mg / day - 1 patient, 10 mg / day - 46 patients, 20 mg / day - 34 patients, 40 mg / day - 1 patient. DNA isolation is provided by using the Wizard Genomic DNA Purification Kit, (Promega).

Conclusions. The study of gene polymorphisms involved in biotransformation and statin transport can help on identifying their effect on statin therapy. Evaluation of the genotype can help to determine the possible reaction to treatment of the patient. Thus, identification of the genotypes of patients who have a different response to statins, may improve the ratio of risk and benefits of the therapy.