

УДК 616.12-008.331.1

*Raubzhonov Husanboy Mamatalibovich
Department of Pharmacology, Clinical
Pharmacology and Medical Biotechnology
Andijan State Medical Institute*

**CLINICAL AND PHARMACOLOGICAL APPROACH TO THE
USE OF LIPID-LOWERING DRUGS IN CARDIOVASCULAR
DISEASES**

Resume: The term hyperlipemia is used in cases where the concentration of plasma triglycerides increases. The concept of hyperlipidemia includes both groups of conditions.

The two main consequences of hyperlipidemia are acute pancreatitis and atherosclerosis. Acute pancreatitis occurs with severe hyperlipidemia. Macrophages and smooth muscle cells play a key role in atherogenesis.

The capture of lipoproteins 6 through specific receptors on these cells (cleaning receptors) leads to their oxidation, which forms foamy cells in which cholesterol esters are accumulated.

Keywords: hypoxia; antihypoxants of direct energizing action; antihypoxants of indirect energizing action; pharmacological correction of hypoxia.

*Раубжонов Хусанбой Маматалибович
Кафедра фармакологии, клинической
фармакологии и медицинской биотехнологии
Андижанский государственный медицинский институт*

**КЛИНИКО-ФАРМАКОЛОГИЧЕСКИЙ ПОДХОД К
ПРИМЕНЕНИЮ ГИПОЛИПЕДЕМИЧЕСКИХ ПРЕПАРАТОВ ПРИ
СЕРДЕЧНО-СОСУДИСТЫХ ЗАБОЛЕВАНИЯХ**

Резюме: Термин гиперлипемия применяют в тех случаях, когда повышается концентрация триглицеридов плазмы. Понятие

гиперлипидемия включает обе группы состояний. Два основных следствия гиперлипидемии – это острый панкреатит и атеросклероз. Острый панкреатит возникает при выраженной гиперлипимии. Ключевую роль в атерогенезе выполняют макрофаги и гладкомышечные клетки. К захвату липопротеидов б через специфические рецепторы на этих клетках (рецепторыуборщики) приводит их окисление, что формирует пенистые клетки, в которых кумулируются эфиры холестерина.

Ключевая слова: гипоксия; антигипоксанты прямого энергизирующего действия; антигипоксанты непрямого энергизирующего действия; фармакологическая коррекция гипоксии.

Introduction. Despite the complex of measures for the prevention, diagnosis and treatment of cardiological patients, over the period from 1980 to 2019, the incidence of BSC increased more than 11 times: from 327.9 to 36,463.9 per 100 thousand people. In the structure of the causes of total mortality, the share of BSC in various regions of the republic ranges from 53.3% to 64.7%, which, along with a decrease in birth rates, is one of the most important factors in the formation of a difficult demographic situation[2,5].

It is predicted that the contribution of BSC to the structure of morbidity and mortality will increase[4,7]. According to the nationwide study of the prevalence of risk factors (FR) of noncommunicable diseases (NCDs), conducted in Belarus in 2020 in accordance with the WHO methodology (STEPS 2020), very high levels of FR NCDs were noted: the prevalence of smoking among men and overweight — 41.9% and 53%, respectively, the proportion of people with elevated blood pressure — 30.8%, impaired fasting glycemia — 9.1%, hyperlipidemia — 43.9%. At the same time, the main increase in morbidity is due to the aging of the population and an increase in average life expectancy[1,3].

Hyperlipidemia is a modifiable cardiovascular risk factor caused by various genetic or acquired pathological conditions and characterized by an

increased level of lipids in the blood. Hyperlipidemia itself does not cause pronounced symptoms, nevertheless, changes in the cardiovascular system provoked by it often lead to the development of complications, including fatal ones. In this regard, prevention and early diagnosis of hyperlipidemia, as well as adequate and timely prescribed therapy are extremely important to reduce the number of complications and total cardiovascular risk[2,5].

The aim of the study To present data on the proven effectiveness of widely used drugs in the treatment of hyperlipidemia and prospects for the therapy of this pathology.

Materials and methods of research. The literature sources, including Russian and European recommendations for the last 10 years, are analyzed. Results. The article presents the results of multicenter international randomized clinical trials that studied the efficacy and safety of the main classes of lipid-lowering drugs in the form of both mono- and combination therapy. Indications for the appointment of fibrates, ezetimibe, omega-3 polyunsaturated fatty acids and inhibitors of the enzyme proprotein convertase subtilisin /kexin type 9 (PCSK9) depending on clinical situations are discussed. Information is presented on the mechanisms of action of new lipid-lowering drugs - bempedoic acid and inclisiran. The results of clinical studies that studied the efficacy and safety of these drugs are presented.

Results and their discussion. Systematization of domestic and foreign literature data revealed that lipid-lowering drugs occupy a leading place in the prevention and treatment of coronary heart disease.

A methodological approach to the pharmacoepidemiological and pharmaco-economical analysis of dyslipidemia therapy in patients with coronary heart disease is scientifically substantiated, based on the principles of marketing research of the GPLP market, the medical and epidemiological situation in the region, the assortment and price availability of drugs, the appropriateness of therapy at the inpatient and outpatient levels.

The study of medical and demographic indicators revealed the predominance of cerebrovascular diseases and coronary heart disease in the prevalence, as well as mortality and disability of the population of the Stavropol Territory. A sociological survey of patients with symptoms of dyslipidemia revealed a lack of knowledge about the risk factors for cardiovascular complications and the importance of monitoring lipid levels and its correction with the help of HPLP.

Based on the analysis of pharmacoepidemiological indicators: the percentage of reduction of total cholesterol and other indicators to the target level in dynamics, it was found that the hypolipidemic effect is more pronounced in the original statins: Crestor, Lescol and Caduet, while in the region generic simvastatin and atorvastatin are the leaders in the frequency of prescribing. A sociological survey among medical professionals showed that adherence among cardiologists to original statins is low, the preferences of doctors are determined by the type of medical treatment and the source of its funding: simvastatin and its analogues are more often prescribed in polyclinics; atorvastatin is prescribed in municipal hospitals; atorvastatin and rosuvastatin are prescribed in federal hospitals.

The methodology of pharmacoeconomical costs of drug therapy of coronary heart disease in a hospital setting is substantiated, it is established that the principle of polypragmasy prevails in treatment regimens, the course of treatment from 6-8 LP averages 2800 rubles, the cost burden of GPLP accounts for 15-20% of the total cost of treatment.

Based on the calculation of the cost of 1% reduction of total cholesterol in outpatient settings, statins were ranked according to the increase in effect and cost reduction in the following subgroups: 1) Vazilip, Atoris, Torvakard; 2) Zokor and Cadouet;

Crestor, Liprimar, Leskol. At the same time, treatment with original LP: Cross, Lescol and Caduet is economically justified, despite the higher cost of packaging (3-5 times) than that of the Atoris comparison drug.

According to the results of the study, a list of the most effective and safe lipid-lowering drugs has been compiled under 25 trade names for inclusion in the formulary lists of medical institutions, the economic advantage belongs to Torvacard, Lescol and Cadouet.

Conclusions. Achieving the target levels of lipid metabolism in patients with CVD is an important link in the program to reduce the risk of developing and progressing CVD. At the moment, statins remain the main drugs for the treatment of hyperlipidemia. But in some patients, in order to achieve this goal, the appointment of a combination therapy is required, in which both long-used fibrates, ezetimibe, omega-3 polyunsaturated fatty acids and the newest drugs can be used: PCSK9 inhibitors, bempedoic acid and inclisiran. Keywords: hyperlipidemia, statins, fibrates, ezetimibe, PCSK9 inhibitors, omega-3 polyunsaturated fatty acids, bempedoic acid, inclisiran.

LIST OF LITERATURE:

1. Ахмеджанов Н.М., Небиеридзе Д.В., Сафарян А.С. Коррекция гиперхолестеринемии в первичной и вторичной профилактике сердечно-сосудистых заболеваний: особенности и спорные вопросы. Рациональная фармакотерапия в кардиологии. 2018; 14 (6): 917-21.

2. Гоголашвили Н.Г. Аторвастатин - 20 лет в борьбе за жизнь. Рос. кардиол. журн. 2018; 2 (154): 134-49.

3. Драпкина О.М., Самородская И.В., Ларина В.Н. Рекомендации Европейского общества кардиологов по диагностике и лечению хронических коронарных синдромов - вопрос приемлемости для первичного звена здравоохранения в Российской Федерации. Кардиология. 2020; 60 (4): 130-6.

4. Муромцева Г.А., Концевая А.В., Константинов В.В. и др. от имени участников исследования ЭССЕ-РФ. Распространенность факторов риска неинфекционных заболеваний в российской популяции в 2012-2013 гг. Результаты исследования ЭССЕ-РФ. Кардиоваскулярная терапия и профилактика. 2014; 13 (6): 4-11. <https://doi.org/10.15829/1728-8800-2014-6-4-11>

5. Карпов Ю.А. Статины как препараты первой линии профилактики и лечения атеросклероза и связанных с ним заболеваний. Атмосфера. Новости кардиологии. 2018; 1: 3-10.

6. Напалков Д.А. Безопасность статинов: что нужно знать практикующему врачу? Рациональная фармакотерапия в кардиологии. 2014; 10 (3): 334-8.

7. Сусеков А.В., Блохин А.Б., Лугинова З.Г. и др. Статины в профилактике ишемического инсульта. Рациональная фармакотерапия в кардиологии. 2013; 9 (4): 409-16.