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The Effectiveness of Combined Lipid-Lowering Therapy in Patients after Coronary Artery Revascularization

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Abstract:

For the study were selected 64 patients suffering from coronary artery disease Acute myocardial infarction, who were directed to revascularization of the coronary arteries with stenting. Two groups were identified by random sampling. The first group consisted of 32 patients who received hypolipidemicmonotherapy (20 mg rosuvostatin) at the hospital and post-hospital stages, the remaining 32 patients that made up the second group received combined hypolipidemic therapy (20 mg rosuvostatin + 10 mg ezetimibe) at the hospital and post-hospital stages. All patients underwent ECG, the whole complex of clinical and biochemical examinations including the lipid spectrum of blood after 10 and 30 days of treatment, echocardiography, coronary angiography. As a result of the research, it was revealed that combined lipid-lowering therapy had a positive effect on the dynamics of patients with coronary artery disease after coronary artery stenting.

Keywords: coronary heart disease (CHD), acute myocardial infarction (AMI), coronary artery stenting(CAS), coronary angiography(CA), lipid spectrum of the deposit.

Relevance: Cardiovascular diseases (CVD) remain the leading global cause of death, accounting for 17.3 million deaths per year, a number that is expected to grow to >23.6 million by 2030 [1]. CVD, especially coronary heart disease (CHD), remains the most common disease worldwide, including in Uzbekistan. More than 50% of mortality falls to the share of this pathology. Among the population of Uzbekistan, CVD, which are the most common cause of mortality (59.7%) and disability (150,000), cause significant harm to the health of the nation and the state budget [2].The use of orientation techniques allowed to significantly reducing the frequency of complications of endovascular treatment of coronary heart disease. Since the beginning of the era of the use of drug-coated stents, the number of rest noses has significantly decreased. The morphological basis of angina is atherosclerosis of the coronary arteries, therefore, even with successful revascularization, constant treatment is necessary to prevent the progression of atherosclerosis and the development of thrombosis.

After myocardial revascularization, patients should follow a hypolipidemic diet and be sure to take cholesterol-lowering medications. Therapeutic interventions aimed at lowering cholesterol levels in the blood as part of both primary and secondary prevention lead to a significant reduction in the incidence of coronary heart disease and stroke.

Combination therapy of lipid metabolism disorders allows you to solve problems that are beyond the power of monotherapy. Each of the lipid-lowering agents mainly affects a certain link in the metabolism of lipids and lipoproteins.

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Goal: Improving the results of treatment of patients through the use of combined lipid-lowering therapy after coronary artery stinting in patients with coronary heart disease.

Materials and methods: 64 patients who underwent coronary artery revascularization with stenting were selected for the study. Two groups were determined by random sampling. The first group consisted of 32 patients who received hypolipidemic monotherapy (20 mg rosuvostatin) at the hospital and post-hospital stages, the remaining 32 patients who made up the second group received combined hypolipidemic therapy (20 mg rosuvostatin + 10 mg ezetimibe) at the hospital and post-hospital stages. All patients received standard basic therapy for coronary heart disease. Subsequently, a comparative analysis of all patients was carried out in accordance with clinical, laboratory and instrumental research methods. The patients were on inpatient treatment at the RNCEMP and after discharge were registered in a consultative polyclinic.

Drug doses were titrated with 20 mg/day of the target dose for rosuvostatin and 10 mg/day of the target dose for ezetimibe.

All patients underwent ECG, EchoCG, the whole complex of clinical and biochemical examinations including blood lipid spectrum after 10 and 30 days of treatment.

The results of the study and their discussion: The initial results of the blood lipid spectrum study showed that in the examined patients who underwent coronary artery revascularization with stenting, the OH values in the first group of patients were 5.6 ± 0.4 mmol/l, in the second group – 5.5 ± 0.5 mmol/l, TG in the first group 1.6 ± 0.1 mmol/l, in the second group 1.9 ± 0.3 mmol/L. In patients of the first and second groups, there was a decrease in HDL cholesterol, 1.3 ± 0.6 mmol/l by 1.2 ± 0.8 mmol/l, respectively. The analysis of LDL cholesterol in the first group was 3.7 = 0.3 mmol/l and in the second group 3.8 = 0.1 mol/l (Table 1).

Table 1: Comparison of baseline parameters of blood lipid spectrum in patients of the first and second groups. (M±SD), mmol/l

Indicators	Group 1 (n=32)	Group 2 (n=32)
OX mmol/l	5,6 ± 0,4	5,5 ± 0,5
TG mmol/L	1,7 ± 0,1	1,8 ± 0,3
XC LPVP mmol/L	1,3 ± 0,6	1,2 ± 0,8
XC LPNP mmol/l	3,7 ± 0,3	3,8 ± 0,1

Against the background of complex treatment with rosuvostatin in patients of the first group, after ten days and a month, there was a slight improvement in XC LPNP values of 2.39 ± 0.60 and 2.02 ± 0.50 mmol/l, respectively (P <0.05).

In patients of the second group, against the background of treatment with combined therapy of rosuvostatin and ezetimibe, the dose of CSLNP was 1.91 ± 0.41 and 1.68 ± 0.33 mmol/l, after ten and thirty days, respectively (P <0.05). As can be seen, the combined treatment was more effective in normalizing the lipid profile than monotherapy and there was a significant increasing decrease (-16.4%) in comparison with monotherapy with rosuvastatin (Table 2).

Table 2: Comparison of blood lipid spectrum parameters 10 and 30 days after treatment in patients of the first and second groups (M±SD), mmol/l

Indicators	Group 1 (n=32)		Group 2 (n=32)	
	After 10 days	After 30 days	After 10 days	After 30 days
OX mmol/l	5,1 ± 0,2	4,6 ± 0,3	5,3 ± 0,2	4,7 ± 0,5
TG mmol/L	1,6 ± 0,6	1,5 ± 0,2	1,7 ± 0,5	1,5 ± 0,1

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XC LPVP mmol/L	1,3 ± 0,6	1,3 ± 0,2	1,2 ± 0,8	1,3 ± 0,8
XC LPNP mmol/l	2,39 ± 0,60	2,02 ± 0,50	1,91 ± 0,41	1,68 ± 0,33

P<0,05.

Conclusions: The main indication for the use of combination therapy with rosuvastatin and ezetimibe is the need for additional reduction of XC LPNP in patients after stenting. Combined lipid-lowering therapy (rosuvastatin + ezetimibe or rozulip plus) improved the dynamics of clinical manifestations in patients with coronary artery disease, central and peripheral hemodynamics after coronary artery stenting.

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