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ABSTRACTS

Prevalence of hypercholesterolemia and statins intake in the outpatient practice in the Russian Federation (ICEBERG study)

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Abstract

Aim. To estimate the prevalence of primary hypercholesterolemia at the outpatient level and the frequency of prescribing statins with the achievement of the target level of total cholesterol (TC) in various districts of the Russian Federation.

Material and methods. The study involved persons over 30 years old who referred to general practitioners or cardiologists for various reasons within one month of 2016. The measurement of TC level of OXC was reformed using a portable photometric blood analyzer. A standard survey was conducted for each participant, including an assessment of the atherosclerosis risk factors, cardiovascular disease presence, and SCORE risk stratification.

Results. The final analysis included 18489 patients (60% of women, mean age 60 years). A high incidence of hypertension (90%) and hypercholesterolemia (84%) was noted, with an average TC level of 6.2 mmol/L. The incidence of severe hypercholesterolemia (≥ 8 mmol/L) was 5.6%. In 30% of cases, risk factors such as diabetes and smoking have been documented. Coronary heart disease (CHD) and its equivalents were defined in 65% of study participants. The rate of statin use is 32% and was inversely related to the cardiovascular risk category, reaching a maximum of 42% at a very high risk. The frequency of achieving a target TC level less than 4.5 and 4.0 mmol/L in patients with high and very-high risk was 5.0% and 5.7% respectively. In those with CHD, and also after a stroke, the frequency of statin use varied in the range of 50-60% with the achievement of target TC level in 4.0-11.4% of cases.

The conclusion. Regardless of the federal district of the Russian Federation, there is high prevalence of hypercholesterolemia and arterial hypertension in out-patient practice. Despite the high cardiovascular risk, only 40-60% of patients are on statins. The frequency of achieving the target level of total cholesterol in patients with cardiovascular disease is below 12%.

Keywords: hypercholesterolemia, outpatients, total cholesterol, cardiovascular risk, rosuvastatin, statins.

Treatment and secondary prevention of stable ischemic heart disease

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Abstract

The author describes the modern principles of management and medical treatment of stable coronary heart disease, are given characteristics of the main groups of medicines, the possibility of pharmacological treatment IHD and secondary prevention. Recommendations are given for secondary prevention of coronary heart disease.

Keywords: angina, drug therapy, secondary prevention.

Management of Dyslipidemia for chronic forms of coronary artery disease: a review of Guidelines.

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Abstract

The article provides an overview of Guidelines for the management of dyslipidaemias (USA, UK and the European Society of Cardiology) in patients with documented CHD. The article compares the target criteria of lipid-lowering therapy; indication for use of statins, ezetimibe, bile acid sequestrants, fibrates, PCSK9 inhibitors, drug combinations. Are considered indications for therapies used in special situations; drugs recommended in some guidelines and missing in others.

All of Guidelines the preparation of the first row are the statins, in case of intolerance or failure to achieve the target level of low density lipoprotein cholesterol - ezetimibe. The role and place of other drugs (against the background of insufficient evidence on the impact of adverse cardiovascular events) in different recommendations.

Keywords: Lipid-lowering therapy, coronary artery disease, Guidelines.

Analysis of the results of the ACCORD Lipid study. The positive effect of combined therapy of statin and fenofibrate in patients with type 2 diabetes mellitus

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Abstraction

In this article analyzed the results of the ACCORD Lipid study, a fragment of a major ACCORD study (Action to Control Cardiovascular Risk in Diabetes), which first evaluated the clinical efficacy of combination therapy with statin and fibrate in patients with type 2 diabetes and a high risk of cardiovascular disease, compared with monotherapy. Of greatest interest in this study were the results obtained in a subgroup of patients with initially high triglycerides (TG) (≥ 2.30 mmol/L) and low-density lipoprotein cholesterol (HDL-C) (≤ 0.88 mmol/L), where it was determined a significant decrease in the frequency of the onset of the primary endpoint, and was 12.4% when treated with fenofibrate versus 17.3% in the control group, while in all other participants 10.11% versus 10.11%, respectively ($p = 0.057$), not had differences.

Summary: The addition of fenofibrate to simvastatin in patients with diabetes mellitus with high cardiovascular risk did not lead to a decrease in cardiovascular morbidity and mortality in the general population of patients. However, a reduction in the primary endpoint was achieved, in the analysis of a group of patients with high TG and low HDL-C, a significant reduction in the

relative cardiovascular risk by 31% compared with the simvastatin monotherapy group was observed in the combination therapy group for simvastatin and fenofibrate.

Keywords: ischemic heart disease, diabetes mellitus, dyslipidemia, fenofibrate, HDL-C, simvastatin, stroke, triglycerides, myocardial infarction.

Assessment of myocardial contractile function of left ventricle in patients with STEMI after use of manual thrombus aspiration: results of three years of observation

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Abstract

Introduction: According to current guidelines on primary PCI, the routine use of manual thrombus aspiration is not essential in patients with STEMI (2015 ACC/AHA/SCAI Focus update). Nevertheless the results of the TOTAL trial angiographic sub-study demonstrated a statistically significant improvement in myocardial perfusion after manual thrombus aspiration. Moreover conducted trials did not assessed the impact of manual thromboaspiration on left ventricular remodeling. The purpose of our study was to evaluate the use of manual thrombus aspiration in patients with STEMI undergoing primary (pPCI) or rescue PCI (rPCI) and its impact on left ventricular remodeling.

Materials and methods: the study included 200 STEMI patients with primary (n=100) rescue PCI (n=100). After coronary angiography the patients were randomized in two groups: PCI with the use of manual thrombus aspiration (TA+) and standard PCI (TA-). At the one and three years follow-up we estimated ejection fraction (EF), end-diastolic volume (EDV), end-systolic volume (ESV) and asynergia index (IA).

Results: At one-year follow-up a greater improvement in LV ejection fraction was observed after primary PCI in the thrombus-aspiration subgroup compared with the standard PCI subgroup (4.99% vs 3.78%, respectively, $p=0.003$). In the TA- rescue PCI subgroup LVEF increase was 2.35% ($p=0.006$). EDV LV had increased in all subgroups, less in the TA+ primary PCI subgroup. There were significant changes in the ESV during the year in all groups. AI significantly decreased in the TA+ primary PCI subgroup and TA+ rescue PCI subgroup. Three-year follow-up analysis showed a significant increase in LVEF in all groups. The greatest increase of LVEF was observed in TA+ primary PCI subgroup (6%, $p=0.001$). In TA- rescue PCI subgroup LVEF increase was just over 2% ($p=0.002$). The greatest increase in volume parameters of the left ventricle was recorded in patients from the TA+ rescue PCI subgroup ($p<0.05$). Significant improvement of the local contractility was observed only in the TA+ primary PCI subgroup.

Conclusion: in patients with STEMI who underwent primary PCI with the use of manual thromboaspiration, the process of left ventricular remodeling tends to be more favorable compared to standard primary PCI. In the rescue PCI group, on the other hand, the implementation of the thrombus aspiration is associated with worse outcome.

Keywords: myocardial infarction, myocardial revascularization, manual thrombus aspiration, left ventricle remodeling.

Relationship of polymorphisms of ace, adra2b, adrb1 and enos genes associated with arterial hypertension and lipid metabolism disorders

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Abstract

Purpose. To study the associations of ACE, ADRA2B, ADRB1, MTHFR and eNOS candidate genes of arterial hypertension with lipid metabolisms disorders among the indigenous and non-indigenous population of Mountain Shoria.

Materials and methods. We conducted a clinical and epidemiological study of the population who live compactly in the remote areas of Mountain Shoria (Orton, Ust-Kabyrza villages of the Kemerovo region). We examined 1178 inhabitants of the indicated villages by a continuous method, the sampling consisted of adult population (18 years and older).

Results. The prevalence of dyslipidemia while examining the population of Mountain Shoria was 64.8% among the indigenous population and 73.5% among non-indigenous population. Lipid metabolism disorders were detected less frequently in the indigenous ethnic group as compared to the representatives of non-indigenous nationality: hypercholesterolemia – 59.4% vs 66.4%, hyperbetacholesterolemia – 54.1% vs 64.0%, hypoalphacholesterolemia – 23.4% vs 40.1%, hypertriglyceridemia – 23.7% vs 44.8% correspondingly.

Conclusion. In the cohort of the Shors a prognostically unfavorable DD genotype of ADRA2B gene was more frequent and was associated with hypertriglyceridemia. Hypercholesterolemia and hyperbetacholesterolemia are interconnected with DD genotype of ACE gene. In the cohort of non-indigenous ethnic group a prognostically unfavorable DD genotypes of ACE gene, TT of MTHFR gene were more frequent and were associated with hypoalphacholesterolemia. Hypercholesterolemia, hyperbetacholesterolemia and hypertriglyceridemia are interconnected with DD genotype of ADRA2B gene.

Keywords: dyslipidemia, polymorphism of candidate genes, associations, the Shors, ethnic groups.

Development of a calculator for laboratory diagnosis of the risk assessment of coronary atherosclerosis

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Summary

The aim of this study was to develop a calculator for the laboratory diagnostics of risk of development of coronary atherosclerosis and ischemic heart disease including relevant biochemical parameters, characterizing the basic pathogenetic links of coronary atherosclerosis.

Materials and methods. The study included 288 men with coronary heart disease (200 diagnosis of coronary artery disease was verified by coronary angiography data) and 312 men without coronary artery disease. All patients were determined biochemical parameters. Risk assessment of coronary atherosclerosis was performed using the logical-mathematical method.

Results. The basis of the logical-mathematical model is based on the previously developed laboratory-diagnostic complex, which included the following parameters: initial level of POL products in LDL, LDL resistance to oxidation, blood concentration of basal insulin, hsCRP, apoA1 and apoB, TG and HDL-cholesterol. For the resulting generalized model performed its testing on real data and assessment, involving the calculation of the characteristics of diagnostic accuracy, specificity and sensitivity.

Conclusion. This model represents a generic pattern processing laboratory parameters, which takes into account the specificity of the heterogeneous diagnostic data and simplify analysis of values of diagnostic features.

Keywords: coronary heart disease; risk; coronary atherosclerosis; laboratory diagnosis.

Celebrating the 85th birth anniversary of D.M. Aronov

Celebrating the 80th birth anniversary of A.A. Lyakishev

Celebrating the 60th birth anniversary of M.I. Voevoda

Celebrating the 75-th birth anniversary of V.V. Simerzin

Rationale new target level of low density lipoprotein cholesterol in Russian guidelines for the diagnosis and correction of disturbances of lipid metabolism in the prevention and treatment of atherosclerosis. Position of RNAS experts.

VV Kuharchuk, MV Ezhov, IV Sergienko

Report on the Xth Annual RNAS Scientific Conference

IV Sergienko, MV Ezhov