ТЕЗИ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ «ВСЕУКРАЇНСЬКИЙ РЕВМАТОЛОГІЧНИЙ ФОРУМ–2024 З МІЖНАРОДНОЮ УЧАСТЮ», 23–25 ЖОВТНЯ 2024 Р.

1. PECULARITIES OF DRUG THERAPY OF CORONARY ARTERY DISEASE IN COMBINATION WITH POSTMENOPAUSAL OSTEOPOROSIS

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Aim of the study. To evaluate the clinical effectiveness of the supplementary inclusion of a combination of sodium alendronate and L-arginine hydrochloride to a basic treatment in women with coronary artery disease (CAD) comorbid with postmenopausal osteoporosis (PMOP).

Investigation methods. The sub-sectional open, transverse, monocentric clinical study in parallel groups included 58 postmenopausal women with a diagnosis of CAD: stable angina pectoris of II-III functional class, and PMOP (mean age 71 (65; 77) years). Using the method of randomization, the patients were divided into two groups: 1 group consisted of 27 women who received standard basic therapy; group 2 included 31 women, who, in addition to basic therapy, were prescribed a combination of sodium alendronate and L-arginine hydrochloride according to the scheme. In all patients (before treatment and after 3 months of therapy), the level of biomarkers of bone (osteoprotegerin, osteocalcin) and vessel remodeling (homocysteine, VEGF-A) was assessed, additional ECG monitoring and heart echocardiography were performed.

Results. When compared the indicators of the structural and functional state of the heart and blood vessels, in patients of the 2nd group, after 3 months of treatment, a significant change in the size of the IMC of the right CCA was revealed by 7.95%, a change in the size of the LA by 16.83% if compared to the initial data ($p<0.05$). The dynamic study in two groups after 3 months of treatment revealed a significantly greater change in the size of the IMC of the right CCA in group 2 — by 5.68% ($p<0.05$), in LA size — by 6.22% ($p<0.05$).

After 3 months of monitoring the results of preliminary ECG monitoring in patients of group 2, there was a significant change in the number of tachycardia episodes per day (1.8 times; $p<0.05$), an increase in RMSSD (by 74.36%; $p<0.05$), decrease in LF (by 54.69%; $p<0.05$), increase in HF (by 73.71%; $p<0.05$). In both groups of patients there was a significant change in the number of episodes of supraventricular extrasystole per day (by 11.54% and by 34.52% respectively; $p<0.05$) and the correlation between LF/HF in active and passive period. Patients of the 2nd group if compared to those of the 1st group, after 3 months of treatment there showed fewer episodes of ventricular and supraventricular extrasystoles, a greater decrease in LF, and also a significantly greater increase in HF.

When assessing the level of bone and vascular biomarkers under the treatment in patients with CAD and PMOP, which received basic therapy, a significant decrease in the level of VEGF-A was observed (by 20.09%; $p<0.05$). In patients who received the combination therapy, there was a decrease in the level of VEGF-A (by 25.41%; $p<0.05$), as well as homocysteine (by 10.72%; $p<0.05$), osteoprotegerin (by 2 times; $p<0.05$). After 3 months of therapy, in patients of the 2nd group, if compared to the patients of the 1st group, osteocalcin, VEGF-A and osteoprotegerin levels were significantly lower.

Conclusions. In postmenopausal women who have a combined course of CAD and PMOP, the use of a combined treatment regimen has a positive effect on the condition of the endothelium and indicators of structural remodeling of the heart, on the processes of autonomic regulation of cardiac activity, and reduces the imbalance of bone and vascular biomarkers. Therefore, it is advisable to use the indicated treatment scheme in order to reduce the risk of developing cardiovascular complications and osteoporotic fractures in postmenopausal women.

2. STATE OF ENDOTHELIAL FUNCTION AND ITS CORRECTION IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Systemic inflammation and dysfunction of the immune system are among the leading factors in the development of cardiovascular pathology in rheumatoid arthritis (RA), and the endothelium is the primary target of inflammation mediators. The positive effecti of omega-3 polyunsaturated fatty acids (omega-3 PUFA) has been proven in many multicenter clinical studies, which have revealed a clear relationship between the level of intake of these acids in the human body and a decrease in morbidity and mortality from cardiovascular pathology, primarily from acute coronary syndrome and stroke. At present, it is of interest to assess their impact on such pathogenetic aspects as immune-inflammatory reactions and endothelial dysfunction in patients with systemic inflammatory diseases, in particular RA. There are data in the literature that ω-3 PUFAs partic-

ipate in the metabolism of eicosanoids and effectively compete with ω-6 PUFAs for cyclooxygenase, and the ω-3 prostacyclin formed in this way is an active vasodilator, and ω-3 thromboxane practically does not activate platelet aggregation, which reduces the gene expression of adhesive molecules.

The goal of the present study was to investigate the effect of lipid-lowering therapy with additional use of omega-3 polyunsaturated fatty acids on endothelial function in patients with rheumatoid arthritis.

Material and methods. A total of 60 patients (25 men (41,7%) and 35 women (58,3%) aged (51,7 ± 2,9) years with seropositive RA were examined. The duration of RA disease was (8,8±1,2 years). Patients received methotrexate at a dose of (10,5 ± 2,5) mg/week in combination with folic acid as basic therapy. Subjects were divided into two groups. Group 1 included 30 patients who received a combination of Rosuvastatin (Crestor, AstraZeneca UK Limited, UK) 10 mg per day and ω-3 PUFA (Omacor, Abbott Laboratories GmbH, Germany) at a dose of 2.0 g/day in two doses as lipid-lowering therapy; Group 2 included 30 patients who received Rosuvastatin at a dose of 20 mg. Laboratory research methods included determination of total cholesterol (TC), low-density lipoproteins (LDL), high-density lipoproteins (HDL) and triglycerides (TG) using the enzymatic method with the use of reagent kits «HUMAN» (Germany). The level of endothelin (ET) — 1 in plasma was analyzed by the enzyme immunoassay method using the test systems of the company «Biomedica» (Austria). To study the function of the endothelium, Dopplerography of the brachial artery (BA) in the middle third was used according to the D.S. Celermajer method before and after occlusion with a tonometer cuff and sublingual administration of 500 mg of nitroglycerin with an assessment of the indices of endothelium-dependent (EDVD) and endothelium-independent (ENDVD) vasodilation. The presence of endothelial dysfunction was verified by a decrease in the indices of EDVD brachial artery less than 10% of the initial level. Statistical analysis of the obtained data was performed using parametric and non-parametric statistics on a personal electronic computer using Microsoft Excel software and «STATISTICA Version 6.0».

Results. Initially, type IIa dyslipidemia was diagnosed in 43,3% of patients, type IIb dyslipidemia was detected in 26,7%, and type IV dyslipidemia was detected in 30, 0%. Mono- and combined lipid-lowering therapy allowed achieving the recommended level of LDL-C (<2.5 mmol/l) in 83, 3% and 70% of patients in groups 1 and 2, respectively, after 12 weeks of treatment. A more significant reliable decrease in the content of TG in the blood serum of patients taking combined lipid-lowering therapy was noted after 12 weeks of treatment, and a significant increase in HDL in 53,3% of the 1st and in (40%) of the 2nd groups. An increase in the brachial artery diameter growth in response to a reactive hyperemia test in the dynamics of observation was noted in both study groups, but it was significantly ($p<0,02$) higher in patients of group 1 with combined lipid-lowering therapy than in those in group 2 with rosuvastatin monotherapy. Similar trends were noted in the dynamics of the brachial artery EDVD and PA ENDVD indices. The effect of rosuvastatin on the ET-1 level in group 1 was significant (22.6%, $p < 0.01$), but in group 2, with the use of low-dose combination therapy with the addition of ω-3 PUFA, the ET-1 indices decreased even more significantly and differed from the initial data with a high degree of reliability (34,8%, $p < 0.001$).

Conclusions. The use of combined hypolipidemic therapy with rosuvastatin and omega-3 polyunsaturated fatty acids (the drug «Omacor») allows to normalize the lipid profile in patients with RA, and more significantly ($p<0,01$) leads to a reliable decrease in the concentration of TG. A more pronounced re significant positive effect of such therapy on the function of the endothelium was revealed, which was manifested in a significantly increased vasodilatation and decreasing in vasoconstrictor function.

3. OSTEOPOROSIS IN PATIENT WITH SYSTEMIC SCLEROSIS: CROSS-SECTIONAL PILOT STUDY

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Introduction. Despite extensive studies on reduced bone mineral density (BMD) in patients with systemic sclerosis (SSc) in various international cohorts, the prevalence of osteoporosis (OP) among Ukrainian patients with SSc remains under investigation.

Objective. Our study aims to determine the prevalence of OP among patients with SSc, investigate potential risk factors associated with low BMD, and compare BMD in different parts of the skeleton to rheumatoid arthritis (RA) patients, well known as subjects with a high risk of bone loss.

Material and methods. A retrospective review of medical records from 2019 to 2024 was performed including 12 female patients with determined SSc and 30 age-matched female patients with RA who did not systemically use glucocorticoids. We evaluated the influence of age, BMI, and disease-related characteristics on developing of OP. BMD was measured of the total body (TB), femur neck (FN), lumbar spine (LS), and total radius (TR) by dual x-ray absorptiometry.

Results. The average age of the patients with SSc and RA did not differ (53,8±13,1 years and 56,2±15,8 respectively). The average disease duration was7,9±5,1 years in the SSc group and 7,3±4,8 years in patients with RA. BMI was 24,5±3,5 in the SSc patients and 25,6±5,2 in RA subjects. In the SSc group OP was identified on LS in 42,7% (5/12), FN — 50% (6/12). A negative statistically significant correlation was identified between BMD of FN and age ($r = -0,67$; $p<0,005$) but not with BMI for the SSc group. The BMD of FN in SSc does not differ statistically from RA (0,721±0,267 g/cm^2 vs 0,733±0,176 g/cm^2, $p=0,142$). Patients with RA have significantly lower BMD in TR (0,480±0,126 g/cm^2 vs 0,630±0,265 g/cm^2, $p<0,005$) while significantly lower