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становило у середньому 64,07 % у основній групі та 31,76 % у контрольній (у основній групі на 50,4 % більш виражене зменшення вираженості задишки (p<0,05)).

Висновки. Додаткове призначення L аргініну до стандартної терапії призводить до більш значущої позитивної динаміки вираженості ангінальних симптомів та задишки, толерантності до фізичного навантаження у пацієнтів з ішемічною хворобою серця, серцевою недостатністю та анемією порівняно із стандартною схемою лікування.

Dynamics of glomerular filtration rate depending on medication adherence in patients with chronic heart failure associated with hypertension and decreased renal function

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The worsening of renal function increases the cardiovascular risk, and therefore the prevention of its further decline should be an independent treatment goal. The problem complicates further by a mutually aggravating course of the disorders: a lack of complete compensation for chronic heart failure (CHF) leads to a progression of chronic kidney disease (CKD), and vice versa. The possibility of the clinical course improvement of the aforementioned pathological conditions is determined, among other things, by adherence to the prescribed therapy which is why revealing the potential relationship between medication adherence and glomerular filtration rate (GFR) in patients with CHF associated with hypertension (AH) remains relevant.

Aim. To assess the annual dynamics of GFR depending on the adherence to the prescribed therapy in patients with CHF associated with AH and decreased renal function and to determine the relationship between these indicators.

Materials and methods. The prospective study included 122 patients aged 60 to 74 years with CHF IIA and IIB stage on the background of AH stage II, 1.2 grades, and the presence of CKD with GFR >45 ml/min /1.73 m^2. For the renal function analysis, only observations with the full data set (93 patients) were taken. The study consisted of 3 stages: at the time of the hospital admission, in 6 and 12 months after admission. A general clinical examination (including analysis of outpatient documentation) were carried out in all the patients. To determine renal function, creatinine level was assessed, followed by a calculation of the GFR according to the Chronic Kidney Disease Epidemiology Collaboration equation (GFR EPI). In addition, the 4-item Morisky Medication Adherence Scale was used (during the third visit).

Results. In the analysis of GFR, based on the level of medication adherence, the following results were obtained: during the first visit the GFR EPI were 59.4 [53.3; 64.6] and 62.4 [58.3; 70.1] mL/min/1.73 m^2 (p=0.02) (hereinafter: the first meaning – non-adherent patients, the second – adherent patients), during the second visit – 65.1 [57.3; 78.6] and 72.7 [65.3; 79.6] mL/min/1.73 m^2 (p=0,01), during the third visit – 59.5 [54.5; 69.5] and 67.8 [61.1; 78] mL/min/1.73 m^2 (p=0,002). Assessing the correlation between adherence in scores and EPI GFR in ml/min/1.73 m^2 revealed a direct relationship of moderate strength during the third visit (rs=0.33, (95 % CI 0.14; 0.5), p<0.05) and a direct relationship of weak strength during the first (rs=0.25, (95 % CI 0.05; 0.43), p<0.05) and the second visits (rs=0.27, (95 % CI 0.07; 0.45), p<0.05).

Conclusions. During all visits, a statistically significant difference in GFR EPI between adherent and non-adherent groups was revealed with higher values of GFR EPI in the adherent ones. A significant correlation between adherence and GFR EPI at all the visits was also found.

Some aspects of evaluation of the efficacy and safety of thiazide-like diuretics in complex treatment of comorbid patients with chronic heart failure an patients with diabetes mellitus type 2

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The goal of the present study was to evaluate the efficacy and safety of thiazide-like diuretics in comorbid patients with chronic heart failure and diabetes mellitus type 2 on the clinical course of chronic heart failure (CHF), renal function, blood pressure (BP) parameters, carbohydrate and lipid metabolism, blood electrolytes.

Materials and methods. The study included 120 patients (60 women and 60 men) aged 44 to 63 years, on average (52.4±3.8) years, with NYHA CHF class II and NYHA class III. Heart failure was caused by coronary heart disease (mean duration was 10.7±3.9 years and/or essential hypertension (mean duration was 8.3±4.6 years, arterial hypertension grade 2–3). The diagnosis of CHF was confirmed by anamnestic, electro- and echocardiography, and a six-minute walk test (TSW). Diabetes mellitus Type 2 was diagnosed in all patients (mean duration – 7.2±2.8 years). All patients were examined at baseline, right after compensation of CHF and after 3 months of treatment. Patients underwent a clinical examination, assessed the degree of fluid retention in the body, the severity of edematous syndrome, measured body weight, blood pressure (systolic (SBP), diastolic (DBP)), heart rate (HR). Biochemical study included: glycemia parameters (fasting, postprandial, average), lipid metabolism parameters (general cholesterol (TC), β-lipoproteins and triglycerides (TG)), blood electrolytes, parameters of kidney

function (urea, creatinine levels, microalbuminuria (MAU), glomerular filtration rate (GFR)). The main disease included ACE inhibitors, β-adrenergic receptor blockers, statins, antiplatelet agents. Glimipiride was used to correct type 2 diabetes. As a diuretic therapy, metolazone (Zaroksolin, Teofarma, Italy) was prescribed against the background of basic therapy for both diseases at an initial dose of 2.5–5 mg once after meals in the morning. The dose was doubled if necessary. For further therapy, metolazone was prescribed at a maintenance dose of 5–10 mg/day. After 3 months, the clinical course of the disease, carbohydrate and lipid metabolism, and kidney function were re-assessed.

Results. The results obtained indicate the effectiveness of metolazone. The average dose of the drug per day was 5–7.5 mg. Under the influence of metolazone, there was a significant improvement in the well-being of patients, a decrease in signs of fluid stagnation: a decrease in dyspnea at rest, an increase in motor activity, a decrease in the severity of peripheral edema and congestion in the lungs, in 81.5 % of patients, edematous syndrome was eliminated. Significantly decreased body weight – an average of 7.2 kg. Daily diuresis was 1150–3000 ml. A decrease in the degree of dyspnea made it possible to increase the distance traveled during TST by 13.79 % ($p<0.05$). Also, against the background of diuretic therapy with metolazone, there was a decrease in heart rate in patients with CHF (by 16.48 %) without increasing the dose of β-blockers ($p<0.05$), which is probably due to a decrease in the activity of the sympathoadrenal system against the background of a decrease in fluid retention. In the study after 3 months, achievement of target blood pressure levels was noted in 91.4 % of patients, CHF I FC was observed in 70.2 %, and CHF II FC – in 29.8 % of subjects. Toxic effects and changes in blood parameters – hemoglobin levels, leukocyte and platelet counts – were not detected. It was noted that during therapy with metolazone after 3 months there was a decrease in the initially low concentration of magnesium in the blood ($p<0.05$), while the concentration of potassium practically did not change. The sodium concentration decreased ($p<0.01$ from baseline), but remained within normal limits. Blood calcium levels before and after treatment did not differ significantly. Changes in indicators of kidney function, carbohydrate and lipid metabolism were not revealed.

Conclusions. The addition of metolazone to the combined basic therapy for CHF resulted significant improvement of patients clinical and hemodynamic status without negative effects on the electrolyte parameters of the blood, lipid and carbohydrate metabolism, and kidney function.

Prediction of adverse course of heart failure in patients with concomitant thyroid pathology

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The aim of the study – to determine the predictors of adverse heart failure (HF) taking into account the thyroid status of patients.

Materials and methods. A comprehensive examination of 381 patients with HF, which arose on the background of coronary heart disease after infarction cardiosclerosis. The study included patients from the cardiology department who were hospitalized for HF decompensation. 57.22 % of patients with HF had comorbid thyroid pathology (TP). Of these, 92 (24.15 %) patients had non-toxic goiter (NG); 126 (33.07 %) patients have autoimmune thyroiditis (AIT). 142 patients (37.3 %) were diagnosed with low triiodothyronine syndrome (LT3S), and 26 (6.82 %) were diagnosed with subclinical hypothyroidism. The results of the study were processed using the statistical package of IBM SPSS Statistics, 20.0 and MedCalc, 16.4 (free version). To identify adverse factors for the course of HF in patients with concomitant TP, compared with patients without this comorbidity, a regression analysis of Cox (proportional risk model (Cox proportional hazards model)). Kaplan – Meyer graphs were constructed.

Results. According to Cox's regression analysis, the prognostic factor was calculated. Taking into account the β-coefficients of the variables included in the model, the Cox regression equation was developed, which determines the probability of developing RH in patients with HF within 24 months. During the ROC analysis it was found that the risk of RH in patients with HF due to decompensation of the disease increases when reaching the optimal distribution point for the value of HR >0.104 (sensitivity – 51.61 %, specificity – 96.47 %, $p<0.0001$). The RH risk chance ratio for 2 years was 21.60 (6.34–73.63), c^2 (Mantel – Henzel) = 31.543; $p=0.0001$). Repeated ROC analysis found that in patients with HF in combination with TP, the risk of RH due to decompensation of the disease increases when reaching the optimal distribution point for the value of HR > 0.043 (sensitivity – 80.77 %, specificity – 74.00 %, $p<0.0001$). GHG risk chance ratio for 2 years = 11.95 (3.74–38.21), c^2 (Mantel – Henzel) = 18.35; $p=0.0001$). The use of ROC-