

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



МАТЕРІАЛИ

**104-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
06, 08, 13 лютого 2023 року**

Конференція внесена до Реєстру заходів безперервного професійного розвитку,
які проводитимуться у 2023 році №5500074

Чернівці – 2023

Khrebtii H.I.

THE TREATMENT OF CHRONIC HEART FAILURE AT THE MODERN STAGE

Department of Internal medicine, Physical Rehabilitation and Sports Medicine

Bukovinian State Medical University

Introduction. Endothelial dysfunction is a typical feature of chronic heart failure (CHF), regardless etiology, being one of the factors of systemic vasoconstriction and increased risk of thrombosis in this syndrome. The aim is to evaluate the impact of different modes of diuretic therapy on vascular endothelial function in patients with chronic heart failure during 6 months of treatment.

The aim of the study. The treatment of chronic heart failure at the modern stage.

Material and methods. The study examined 108 patients (63 men and 45 women, aged 56 to 82 years (average - $(68,1 \pm 0,9)$ years)) with stage III hypertension with coronary heart disease (CHD) and without it, CHF II-III NYHA functional class and ejection fraction $<45\%$. All patients included in the study were decompensated, requiring Loop diuretics and had no contraindications to their reception. The term of monitoring the patients was 6 months after the inclusion in the study. All patients had the correction in treatment according to current treatment protocols of hypertension complicated by heart failure, with the obligatory presence of coronary artery disease and diabetes. Depending on the nature of diuretic therapy all examined patients with CHF were divided into 2 groups. Group 1 ($n = 55$) included patients who were assigned daily diuretic therapy torasemide, group 2 ($n = 53$) - patients who were administered furosemide therapy (drug intake 1-2 days or 2-3 consecutive days followed by a break for 1-2 days). Changes in the diameter of the brachial artery was evaluated using the diagnostic ultrasound scanner "LOGIQ 500", using 7 MHz linear transducer of ultrasonic phased grid system. Echo-location of brachial artery was performed in longitudinal section of 10-15 cm above the right elbow. The study was conducted in triplex mode (B-mode, color Doppler flow mapping, spectral analysis of the Doppler frequency shift). Endothelial function, defined as endothelium-dependent vasodilation (EDV), assessed as the percentage increase in the diameter of blood vessels - from the source to the maximum during hyperemia.

Results. In patients with CHF EDV was improving significantly under various schemes of diuretic therapy after 3 months of follow-up ($p < 0.0001$ compared with the original index, calculated by the Wilcoxon criterion). In patients who received furosemide EDV change of -3.5% before treatment to + 1.7% in 3 months ($p < 0.0001$) and + 5.4% after 6 months ($p < 0.0001$). In patients with heart failure, to their treatment regimen which included daily intake of torasemide, EDV changed from -3.8% before treatment to 3.1% after 3 months ($p < 0.0001$) and + 7.1% after 6 months ($p < 0.0001$). After 6 months EDV in selected groups of patients under the influence of intermittent therapy with furosemide increased by 63.1%, while daily intake torasemide - by 97.9% ($p = 0.036$ between groups of comparison was performed using Mann-Whitney). The study demonstrated that in patients with CHF the magnitude in changes of blood flow velocity in the brachial artery after 3 months of standard therapy with intermittent receiving furosemide increased by 6.2%, and the intake of torasemide - by 17.1% ($p = 0.026$); after 6 months using scheme with furosemide - increased by 22.5%, and with intake of torasemide - by 33.9% ($p = 0.033$).

Conclusion. With daily administration of torasemide, due to statistically significant improvement of vascular endothelial function, correction of neurohumoral component in patients with decompensated heart failure is effective. Improved peripheral vasomotor reactions and functional state of the endothelium are an important component of torasemide impact in patients with CHF.