

clusterin content in patients with postinfarction cardiosclerosis with concomitant type 2 diabetes mellitus and obesity is accompanied by an increase in the functional class of chronic heart failure.

PARAMETERS OF LEFT VENTRICULAR DIASTOLIC DYSFUNCTION IN PATIENTS WITH HYPERTENSION DISEASE WITH CONCOMITANT TYPE 2 DIABETES MELLITUS

Inna Dunaieva, Olexandr Bilovol. Kharkiv National Medical University, Department of Clinical Pharmacology and Internal Medicine, Kharkiv, UKRAINE

Objective: To conduct analyzes of the peculiarities of left ventricular (LV) diastolic function in patients with hypertension disease with concomitant T2DM and without it before and after complex treatment with the inclusion of Eplerenone 50 mg per day and Trimetazidine 80 mg per day.

Table 1
Indicators of LV diastolic function in patients with HT and type 2 DM before treatment (M±m)

Indicators	HT and T2DM n = 25	2 groups HT n = 25	Control, n = 20
E, cm/s	59.91±5.42	64.81±6.25	77.44±5.04
A, cm/s	83.05±4.38	67.40±5.48	55.11±4.63
E/A	0.73±0.15	0.99±0.32	1.44±0.16
LAV, ml	54.83±8.86	28.31±15.31	44.00±3.83
LAV, ml/m ²	29.33±10.26	26.31±5.73	23.63±3.91
E/A ratio, cm/s	7.96±1.33	8.91±1.44	14.26±1.99
E/A ratio	7.88±2.16	7.43±1.44	6.07±1.16

Table 2
Indicators of LV diastolic function in patients with HT and type 2 DM after treatment (M±m)

Indicators	HT n = 25	2 groups HT n = 25	Control, n = 20
E, cm/s	59.91±5.42	64.81±6.25	77.44±5.04
A, cm/s	83.05±4.38	67.40±5.48	55.11±4.63
E/A	0.73±0.15	0.99±0.32	1.44±0.16
LAV, ml	52.01±8.86	48.31±7.31	44.00±3.83
LAV, ml/m ²	29.12±10.26	26.31±5.73	23.63±3.91
E/A ratio, cm/s	8.94±1.33	9.91±1.32	12.23±1.99
E/A ratio	7.23±2.16	6.71±1.44	6.07±1.16

Note: *significant difference in indicators compared to the control, p < 0.05

Mean value of the early diastolic velocity of the fibrous ring of the mitral valve (e' mean, cm/s) before and after treatment.

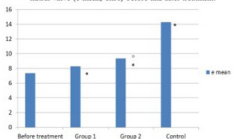


Figure 3. Indicators of the mean value of the early diastolic velocity of the fibrous ring of the mitral valve (e' mean, cm/s).
* - significant difference in indicators compared to the indicators before treatment, p < 0.05.
* - significant difference in indicators in some groups before and after treatment, p < 0.05.

Design and method: The study examined 25 patients with HT and DM in a subcompensated state, with an HbA1c level of 7.6±0.34% (main group) and 25 patients with HT stage II (HbA1c level of 5.01±0.13%), without T2DM aged 35 to 65 years, who were being treated at the clinic of the GI “L.T. Malaya Therapy National Institute of the NAMS of Ukraine”. The control group consisted of 20 healthy individuals (HbA1c level of 4.68±0.49%).

Results: The data in Table 1 suggest that in patients with HT and HT with comorbid T2DM, the mean kinetics of diastolic flow of the fibrous ring was significantly lower in comparison with the control group. While the e' mean level in patients with T2DM and HT was significantly lower in comparison with patients with HT. Thus, the findings indicate that aggregate hemodynamic and metabolic alterations adversely affect the kinetic capabilities of the myocardium. Moreover, the lowest rates of the myocardial diastolic relaxation rate were probably found in patients with HT with T2DM. The latter proves that the comorbidity of these negative factors significantly reduces the functional capacity of the myocardium.

Conclusions: 1. The study of parameters of left ventricular diastolic function at the stage of myocardial functional disorders is necessary to prevent or reverse the development of heart failure in patients with comorbid pathology (HT with T2DM), which is the key to improving cardiovascular prognosis.

2. A three-month treatment with Eplerenone and Trimetazidine in patients with HT with and without comorbid T2DM led to a decrease in the progression of heart failure and a reduction in cardiovascular risks.
3. The study confirms the need for early prevention, timely diagnosis, and clarification of the development mechanisms of heart failure in patients with comorbid pathology.

MANAGING ANXIETY AND STRESS IN HYPERTENSION: DEVELOPMENT OF HEART RATE VARIABILITY BIOFEEDBACK WITH PSYCHOLOGICAL SUPPORT

Ainslea Cross. School of Psychology, College of Life Sciences, University of Leicester, Leicester, UNITED KINGDOM

Objective: How can digital wearable Heart Rate Variability (HRV) biofeedback and psychological support be used to improve the management of anxiety and stress in hypertension?

Design and method: A mixed methods study was used to develop and evaluate initial outcomes from a HRV biofeedback intervention for the management of anxiety and stress in hypertension.

We used systematic review evidence to guide a series of patient and stakeholder consultations to co-design a HRV biofeedback intervention to assess and treat anxiety and cardiovascular stress reactivity in a hypertension specialist outpatient's service. We evaluated initial outcomes from case studies of 15 patients who attended 2-5 x 1 hour face to face sessions with a Health Psychologist. Sessions involved: 1) assessment of anxiety and stress responses; 2) resonance frequency breathing training with HRV biofeedback with a respiration rate (between 6.5 and 4.5 breaths/minute) to produce optimal baroreflex stimulation and blood pressure regulation; 3) psychological skills development for dealing with anxiety and stress.

Results: At 8 weeks follow up, 45% patients reported a 5-10 mmHg systolic reduction in blood pressure and 55% reported a reduction of 10-20 mmHg. 85% of patients reported increased morning HRV readiness scores and improvements in patient reported psychological outcomes (e.g. improvements in BP, anxiety reduction and increase in valued activities). 11 patients reported improved health behaviour change (increased physical activity, improved diet, reduction in alcohol intake). Whitecoat hypertension was improved in 70% of patients.

Conclusions: Biofeedback with psychological support can help improve anxiety and stress symptoms, as well as improvements in systolic blood pressure within an integrated specialist hypertension team.

PROGNOSTIC IMPACT OF FRAILITY ON FUNCTIONAL AUTONOMY IN OLDER ADULTS WITH HYPERTENSION

Ludovica Ceolin, Giulia Rivasi, Giada Turrin, Virginia Tortu', Marco Capacci, Lorenza Rossi, Carolina Corsi, Enrico Mossello, Andrea Ungar. Referral Centre for Hypertension Management in Older Adults, Division of Geriatric and Intensive Care Medicine, Careggi, Florence, ITALY

Objective: To date, few studies have evaluated frailty in older adults with hypertension and the most appropriate tool to quantify frailty in this population has yet to be identified. The present study aimed to investigate the prognostic impact of frailty on decline of functional autonomy in a sample of hypertensive older adults.

Design and method: We performed a longitudinal observational study including patients aged 75 or older evaluated at the Hypertension Clinic and Memory Clinic of the Division of Geriatric and Intensive Care Medicine, Careggi Hospital, Florence. Participants underwent a multidimensional geriatric assessment including frailty evaluation using three frailty scales (Fried Frailty Phenotype, Clinical Frailty Scale [CFS], Frailty Index) and two physical performance measures (gait speed and Short Physical Performance Battery [SPPB]). The primary outcome was reduction of autonomy in daily activities according to the Barthel Index (functional decline). The predictive performance of different frailty measures was evaluated based on ROC curve analysis, sensitivity, specificity and accuracy.

Results: Among 99 hypertensive older adults (mean age 81, 59% women, median follow-up 13 months), functional decline occurred in 39% of patients. Participants with functional decline had a higher prevalence of cognitive impairment and frailty according to all the frailty scales used and a worse physical performance. Frailty Index and CFS showed the best predictive performance (AUC 0.715 and 0.708, respectively), followed by physical performance measures (AUC 0.691). All frailty measures showed good specificity (66-79%) and moderate sensitivity (54-70%). Gait speed showed the highest accuracy (71%) and achieved 57% sensitivity and 79% specificity, resulting in better predictive performance than the SPPB.

Conclusions: The CFS and gait speed - easily applicable even in non-geriatric settings - may represent useful instrument to detect frailty and predict functional decline in hypertensive older adults.

FEATURES OF COMORBIDITY IN COMBATANTS WITH ARTERIAL HYPERTENSION

Olha Seliuk¹, Andrii Voronko¹, Mariana Seliuk², Mykola Kozachok². ¹Ukrainian Military Medical Academy, Department of Military General Practice, Family Medicine, Kyiv, UKRAINE, ²Ukrainian Military Medical Academy, Department of Military Therapy, Kyiv, UKRAINE

Objective: Comprehensive assessment of comorbidity in patients with arterial hypertension of participants in modern armed conflicts in order to implement timely preventive measures with the aim of prolonging their health status for military service.

Design and method: By design, the research was a passive retrospective one-time (cross-sectional) type. The medical charts of inpatient patients of 213 male combatants, aged 27-59 years, average age 45.0 ± 6.8 years, who underwent treatment during 2018-2021, were analyzed by the method of random sampling. The examined were stratified according to the stage of hypertension: 126 patients with stage I hypertension and 87 patients with stage II hypertension.

Results: The value of the indicator of the complex assessment of comorbidity depending on the stage of hypertension (the overall assessment of comorbidity

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