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THE IMPACT OF CHRONIC HEART FAILURE ON HEALTH, EARLY DIAGNOSIS, AND PREVENTION

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Abstract: Heart failure is a syndrome caused by decompensated myocardial dysfunction. It manifests itself as an increase in the volume of intercellular fluid and a decrease in perfusion of organs and tissues. The pathophysiological basis of this syndrome is that the heart cannot meet metabolic needs. It often develops as a complication of previous or current diseases that damage the heart muscle or put additional stress on it. In addition to the most common causes, there are other causes of heart failure. These include abnormal pressure in the blood vessels of the heart, diseases of the coronary arteries, heart valves and heart muscle, and arrhythmia. Sometimes heart failure is a complication of diseases of other organs, diseases that affect or damage the heart muscle. The most common cause of chronic heart failure is coronary artery disease. Heart failure can develop at any age, but is most common in older people.
Key words: chronic heart failure, coronary heart disease, prevalence, mortality, left ventricular dysfunction, dyspnea, healthy lifestyle, prevention, physical activity, prognosis;

Rrelevance: Chronic heart failure (CHF) is a serious complication of heart disease, often leading to disability and death. Therefore, timely diagnosis of the development and progression of CHF is a pressing issue in cardiology, despite advances in the study of its pathogenesis and treatment [1]. Chronic heart failure is a condition associated with a significant deterioration in quality of life and a reduction in life expectancy. Its prevalence is quite high. According to epidemiological studies, at least 1.5% (approximately 3 million) of American adults suffer from chronic heart failure in the United States, and this number increases by 400,000 annually. In Europe, according to various data, the incidence rate is 0.4–2%, which corresponds to 2–10 million cases per 500 million population. The prevalence of chronic heart failure increases with age: from 1% in people aged 50–59 to 10% in people aged 80 and older [2]. Due to its high prevalence, disability, and mortality rates, chronic heart failure is attracting increased attention from physicians and cardiologists. The increasing prevalence of elderly people in most developed countries also suggests an increase in CHF [1, 2]. Chronic heart failure is often caused by decreased contractility of the left ventricular myocardium. However, in recent years, evidence has accumulated that symptoms of chronic heart failure are also observed in patients with normal left ventricular systolic function [1,5]. In most of these cases, the cause of the pathology is diastolic dysfunction of the LV, which is more often found in patients of older age groups who are more sensitive to factors that cause diastolic disorders - such as tachycardia, hypertension, ischemia. In addition, with age, the mass of the myocardium increases and its elastic properties deteriorate, as many patients have symptoms of chronic heart failure. In its initial stages, they are not expressed significantly, then it is possible to confirm the assumption about the presence of pathology and identify possible causal factors only with the help of instrumental diagnostic methods. Modern echocardiographic examination is one of the main methods for diagnosing heart failure, as it allows us to determine the dysfunction of the heart

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muscle and the cause of its development. An important component of echocardiography is the Doppler study, which allows for the assessment of the diastolic function of the left ventricular myocardium [3]. There are indications that the severity of clinical manifestations of chronic heart failure is associated with the age of patients, moreover, in older age groups, chronic heart failure is characterized by a more severe course and more significant pathological changes in instrumental and laboratory parameters [4]. Despite advances in therapy, the prognosis in this group of patients remains unfavorable, requiring further study of the characteristics and causes of worsening chronic heart failure. In this regard, experts from the Heart Failure Association of the European Society of Cardiology prepared an agreed updated position (consensus) on the definition and clinical features of chronic heart failure in 2023 with a summary of the latest results on the treatment and prevention of exacerbations of heart failure [5,6]

Purpose of the study: To study the etiology and prevalence dynamics of chronic heart failure. To determine the importance of prevention and the impact of chronic heart failure on health.

About 40 years ago, doctors first had the opportunity to influence the prognosis of a patient with chronic heart failure [8]. With each subsequent decade, significant advances have been made in the treatment of patients with CHF at both the population and individual levels, which was primarily associated with an increase in the coverage of essential drug therapy and changes in tactical approaches to the treatment of CHF [7, 9]. Improvement in the life prognosis of patients was achieved through the creation of disease management programs based on the formation of specialized and multidisciplinary teams for the treatment of CHF. The phenomena described above led to an increase in the population survival of patients with CHF, which, in turn, increased the prevalence of this syndrome in developed countries, changed the life expectancy and the structure of causes of death of patients with CHF [8,9]. The role of the novel coronavirus infection in the development of chronic heart failure requires separate consideration. It is known that, in the context of the disease itself, most researchers have described frequent increases in blood troponin levels, primarily in severe cases. A meta-analysis showed that elevated troponin I levels in individuals with an unfavorable course or outcome (low blood oxygen saturation, intensive care unit treatment, invasive ventilation, or death) were observed in 51% of cases [6]. Accordingly, it was hypothesized that surviving patients could expect to develop myocarditis, possibly becoming chronic and progressing to CHF. A study conducted using materials from 11 publications in 2020. A meta-analysis showed that myocarditis was observed in 36% of patients in the acute period and in 27% in the post-COVID period. A retrospective observational study conducted primarily in the United States as part of the global federated health research network TriNetX based on analysis of electronic health records a study of 718,365 COVID-19 patients treated between January 20, 2020, and June 1, 2020, in various healthcare settings, including academic medical centers, community hospitals, and physician practices, showed different results. New cases of myocarditis were detected in 5% of patients, new cases of pericarditis – in 1.5%. Moreover, 6-month mortality in patients with myocarditis was 3.9 and 2.9% in the control group (odds ratio 1.36; $p<0.0001$), and in patients with pericarditis – 15.5 and 6.7% in the control group (odds ratio 2.55; $p<0.0001$) [7,10]. Chronic heart failure is not an independent disease; it is a complication and outcome of cardiac diseases that disrupt the anatomy and function of the heart. Therefore, an important task for a physician who suspects or has diagnosed CHF in a patient is determining its cause [8]. Currently, active measures taken to influence the most important risk factors as components of the cardiovascular continuum (hypertension, smoking, hypercholesterolemia) have led to a decrease in the incidence of coronary heart disease and its

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more benign course; the widespread introduction of reperfusion therapy for myocardial infarction at the end of the 20th century significantly improved the prognosis of these patients. Patients with coronary artery disease survive and develop CHF later in their disease. Thus, the aging of the general population in general and patients with CHF in particular, improvement of early diagnosis and refinement of treatment methods for coronary heart disease, dilated cardiomyopathy and valvular heart defects are objective reasons for the increase in the prevalence of CHF [4,9].

Materials and methods of the study: The study group consisted of 98 patients (76 men and 22 women) aged 25 to 72 years (mean age 59.4±1.29 years). The study of factors was conducted through family clinics. The total number of patients examined was divided into subgroups of young (18-44 years) (23 patients), middle-aged (45-59 years) (29 patients), and elderly (60-74 years) (46 patients) in accordance with WHO recommendations. In order to obtain a general picture of the patient's health, the examination included echocardiography, a 6-minute walk test, and determination of the level of NT-proBNP in the blood plasma.

Results: During the observation period, the incidence of the main symptoms of CHF (tachycardia, edema, shortness of breath, weakness) tended to decrease, while the prevalence of cardiovascular diseases increased statistically significantly. The main causes of CHF remain arterial hypertension and ischemic heart disease; an increasing role of myocardial infarction and diabetes mellitus as causes of CHF is noted. During the analyzed period, the number of patients with reduced EF (<32%) was significantly lower among young patients, while those with preserved EF were significantly higher among elderly patients. Among patients with CHF in older age groups, a greater number of patients with signs of pulmonary hypertension (high values of systolic pressure in the pulmonary artery (SPAP) were observed. The average distance covered during a 6-minute walk was relatively shorter in older patients, as well as a greater number of patients with higher (III-IV functional classes (FC). The number of patients with elevated blood NT-proBNP levels, as well as the average NT-proBNP level, were also comparatively higher in older age groups. The main reasons for the decline in overall health are external and internal environmental factors that negatively impact health and also influence the development of various diseases. Physical education alone cannot improve the level of physical fitness and health of the population. A healthy lifestyle is also essential to maintaining a healthy body. As the study showed, in men with hypertension and EF more than 50% of symptoms, characterized mainly by shortness of breath and fatigue, are closely associated with the presence of signs of diastolic dysfunction. In women, this association was significantly weaker due to the greater importance of non-cardiac causes of symptoms, primarily excess body weight. The prevalence of clinically manifest CHF in the population is at least 1.8-2%, and among individuals over 65 years of age, the incidence of CHF increases to 6-10%. In elderly patients, it is the most common diagnosis made when visiting a doctor, and decompensated CHF is the most common reason for hospitalization in elderly patients.

Conclusions: The disadvantage of the known prototype method for early diagnosis of CHF development is that the technique is expensive, lengthy, and difficult to implement, since it requires complex and costly preliminary preparation of blood serum using expensive reagents [1,6]. Conducting a Doppler study of LVEDD and searching for unified criteria for its assessment, in our opinion, is of great practical importance for the timely diagnosis of CHF, and, therefore, allows for the timely initiation of therapy, thereby improving the prognosis of the disease in this group of patients [3,12]. To summarize the above, it should be noted that modern trends in the formation of a value-based attitude towards health differ in direction; it

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is necessary to develop approaches to earlier and more accurate diagnosis of CHF with subsequent implementation of programs to prevent the progression of CHF at the population level. Effective monitoring of the management of patients with CHF and precise implementation of National Clinical Guidelines for the Treatment of Heart Failure is only possible with the creation of a registry of patients with cardiovascular pathology and mortality analysis at each therapeutic site. All this will make it possible to significantly impact mortality and increase life expectancy [10,14,15]. Thus, the clinical course of CHF is characterized by a more severe course in elderly patients, despite the predominance of patients with preserved EF, which is confirmed by the more frequent occurrence of III-IV FC, clinical, instrumental and laboratory indicators, and is associated, at least in part, with the more frequent occurrence of comorbid pathology.

In conclusion, I would like to emphasize that a healthy lifestyle is an important component of a fulfilling life in a rapidly changing world. Managing a patient with CHF is challenging, but doable with a good understanding of clinical guidelines. Improving the prognosis and quality of life for these patients is possible through collaboration between hospital physicians more often dealing with decompensation of CHF, and doctors of outpatient institutions, on whose shoulders falls the burden of long-term care for patients and the prevention of decompensation. [8,10]. Early detection of diseases is crucial, as it creates the conditions for their effective treatment. Anxiety and depression are on the rise worldwide, and the risk of developing them is directly linked to socio-psychological factors. The goal is to reduce morbidity and preventable mortality from diseases, and to increase healthy life expectancy by increasing the proportion of people leading a healthy lifestyle [9,10,14,15]. It's important to remember that health is a priceless asset not only for each individual but for society as a whole. Therefore, preventative health promotion is no less important than promotion. [5,10]. Prevention and treatment of the main risk factors for CHF, especially at the outpatient stage, as the cause of the development of cardiac decompensation, are a priority.

Bibliography

1. Ya. Moiseeva, O. K. Zenin, V. V. Potapov, I. V. Kuznetsova, E. K. Shramenko. A new method for early diagnosis of chronic heart failure. University proceedings. Volga region. Medical sciences. 2021;(3). 19-26
2. Pesheva OV, Poltavskaya MG, Giverts IIu, Dikur ON, Sedov VP, Syrkin AL. Problems of diagnosis and epidemiology of chronic heart failure. Russian Journal of Cardiology and Cardiovascular Surgery. 2014;7(4):75-83. (In Russ.)
3. Bulashova O.V., Abdrakhmanova A.I. Early diagnosis of chronic heart failure in patients with coronary artery disease. Russian Journal of Cardiology. № 4 (42) / 2003. 24-27.
4. R.I. Dzhafarov, G.E. Bayramova, M. M. Bagirov, H. A. Aliyeva, Z. K. Rakhmanov, A. B. Gadzhiev. The condition of patients with chronic heart failure in different age groups. https://doi.org/10.38109/2225-1685-2023-2-20-25
5. I.S. Razikova, M.A. Mirpaizieva, B.Kh. The course of cardiovascular diseases in patients with bronchial asthma. Central Asian journal of medical and natural sciences. Volume: 04 Issue: 05 | Sep-Oct 2023ISSN:2660-4159. https://cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/1916.
6. V.N. Larina, V.A. Kokorin, V.G. Larin, V.I. Lunev, N.A. Suvorova, I.K. Skiba, E.S. Shcherbina. Decompensation of chronic heart failure: a new look at the problem in light

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ISSN (E): 2942-1918 Open Access| Peer Reviewed

of the updated consensus of experts of the European Society of Cardiology. https://doi.org/10.15829/1560-4071-2023-5581.

7. M.A. Mirpaizieva, D.Sh. Akhmedova. Maintaining public health in primary health care. European research, 2017/4. https://cyberleninka.ru/article/n. 107-109.
8. Polyakov D.S., Fomin I.V., Belenkov Yu.N., Mareev V.Yu., Ageev F.T., Artemyeva E.G., Badin Yu.V., Bakulina E.V., Vinogradova N.G., Galyavich A.S., Ionova T.S., Kamalov G.M., Kechedzhieva S.G., Koziolova N.A., Malenkova V.Yu., Malchikova S.V., Mareev Yu.V., Smirnova E.A., Tarlovskaya E.I., Shcherbinina E.V., Yakushin S.S. Chronic heart failure in the Russian Federation: what has changed over 20 years of follow-up? Results of the EPOCH-CHF study. Cardiology. 2021;61(4):4-14.
9. https://doi.org/10.18087/cardio.2021.4.n1628.
10. M.A. Mirpaizieva Early Diagnosis and Prevention of Cardiovascular Diseases at the Level of Primary Health Care. Open Academia: Journal of Scholarly Research. Volume 1, Issue 9, December, 2023 ISSN (E): 2810-6377 Website: https://academiaone.org/index.php/4. 71-77.
11. S.A. Boytsov. Chronic heart failure: evolution of etiology, prevalence, and mortality over the past 20 years. Therapeutic archive. 2022; 94 (1): 5–8.
12. M.A. Mirpaizieva. The attitude of modern youth to a healthy lifestyle and its relevance. European journal of modern medicine and practice. Vol. 4 No. 12 (Dec - 2024) EJMMP ISSN:2795-921X. 448-453. https://inovatus.es/index.php/ejmmp/article/view/4818
13. A.V. Melekhov, Yu.I. Ostrovskaya. Chronic heart failure. Atm sferA. Cardiology news. 4*2017 30-35
14. V. S. Nesterov, I. A. Urvantseva, A. S. Vorobyov. Chronic heart failure: current problems and solutions. Attending physician. №07, 2018
15. M.A. Mirpaizieva.,N.V. Tursunalieva, M.S. Musakov Early diagnosis and prevention of cardiovascular diseases among women of working age working in healthcare institutions. Web of medicine: Journal of medicine, practice and nursing . Volume 2, Issue 2, February 2024 ISSN (E): 2938-3765. 116-121. https://webofjournals.com/index.php/5/article/view/864.
16. Zhanuzakov M.A., Abdirova T.M., Seledtsov V.P., Mukatova A.M., Ekibaeva D.Zh., Nurkina D.A., Akhmetova K.S., Musimkhan M.K., Shadieva K.Sh., Meiman Sayran. Chronic heart failure: diagnosis and treatment. Bulletin. №2 2013г 14-17.