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CLINICAL CHARACTERISTICS OF PATIENTS WITH HEART FAILURE IN COMBINATION WITH CHRONIC KIDNEY DISEASE

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ABSTRACT

Epidemiological data reflect the prevalence of kidney damage in chronic heart failure (CHF), which varies from 25 to 60%. A decrease in glomerular filtration rate is considered as a predictor of an unfavorable prognosis of heart failure: with a reduced left ventricular ejection fraction, the risk of death increases by 3.8 times, with a preserved one — by 2.9 times. The aim of the research is to study the clinical features of patients with CHF and chronic kidney disease (CKD) in comparison with patients without comorbid pathology. Material and methods. 188 patients (91 men) were examined, 97 women) with CHF and CKD, as well as with CHF and without comorbid pathology; the average age was (66.8±10.1) years. The glomerular filtration rate (GFR) was calculated using the formulas MDRD and CKD-EPI. Chronic kidney disease was verified in accordance with the national recommendations "Cardiovascular risk and chronic kidney disease: cardionephroprotection strategies". The results and their discussion. The glomerular filtration rate in patients with CHF and CKD was (51.5±19.1) ml/min/1.73m², in the group with CHF without CKD — (71.1±11.7) ml/min/1.73 m². There was a significant difference in the level of daily protein excretion between patients with CHF and CKD and without kidney damage. Patients with CKD were older in age, and women predominated.
Conclusion. Impaired renal function was observed in one third of patients with CHF (type 2 cardiorenal syndrome). The results of the study confirm that proteinuria and decreased GFR in patients with CHF in combination with CKD reflect the severity of heart failure and renal dysfunction and are significant markers of damage to the heart and kidneys.

Key words: chronic heart failure, chronic kidney disease, cardiorenal syndrome.

INTRODUCTION

According to research data, the prevalence of renal dysfunction in chronic heart failure varies from 25 to 60%. Acute or chronic dysfunction of one organ leading to acute or chronic dysfunction of another is defined by the concept of "cardiorenal syndrome". Currently, there are 5 types of cardiorenal syndrome, while chronic kidney disease in chronic heart failure is a clinical manifestation of type 2 cardiorenal

syndrome. The worst prognosis of survival in patients with III and IV FC CHF and co reduced left ventricular ejection fraction (LVEF). A generally recognized marker of kidney damage is the glomerular filtration rate, a decrease in GFR <60 ml/min/1.73m² increases the risk of cardiovascular mortality by 2.1 times. With a decrease in LVEF (<50%), the risk of death increases by 3.8 times. In the development of chronic cardiorenal syndrome of the 2nd various pathogenetic mechanisms are involved, the severity of which increases with the
progression of cardiac decompensation and contributes to the development of a more severe stage of heart failure.
The aim of the study was to study the clinical characteristics of patients with chronic heart failure and chronic kidney disease in comparison with patients without comorbid pathology.

Key words: chronic heart failure, chronic kidney disease, cardiorenal syndrome.

MATERIALS AND METHODS OF RESEARCH

The study included 27 patients (13 men, 14 women) with CHF and CKD, as well as with CHF and without comorbid pathology at the age of (66.8±10.1) years with clinical signs of functional classes I—IV (FC). The duration of CHF averaged 8 years. In the etiology study group, ischemic heart disease (CHD) was diagnosed in 94.6% of cases, in the comparison group — in 89.4%; in both groups, CHD in combination with arterial hypertension was observed in 70% of cases. In 52.7% of cases, CKD occurred against the background of cardiovascular diseases, in 18.7% - on against the background of polycystic kidney disease, 17.9% — chronic pyelonephritis, 10.7% — urolithiasis. Chronic heart failure was diagnosed and evaluated according to the national guidelines for the diagnosis and treatment of CHF (fourth revision, 2012). All patients underwent echocardioscopy. Systolic dysfunction was considered to be reduced when The FV is less than 45%. The functional state of the kidneys was assessed by determining the daily excretion of protein (SEB), the ratio of albumin/creatinine (Al/Cr) in the morning urine portion. The glomerular filtration rate was calculated using the formulas MDRD and CKD-EPI, CKD was diagnosed according to NKF K/DOQI Guidelines (2004). The stage was determined by GFR in patients with CHF, and the CKD index was determined by the level of proteinuria. The analysis of the results of the study was carried out by methods of parametric and nonparametric statistics. The results of the study were statistically processed using the Statistica v. program. 8.0 with the determination of the average values of the

indicators, the standard deviation. The significance of the differences was assessed depending on the type of distribution
according to the Student's t-criterion or the Pearson criterion, and a correlation analysis was also performed. The difference was considered significant at $p<0.05$.

THE RESULTS AND THEIR DISCUSSION

Among all the examined patients, 42.5% had CHF with a reduced ejection fraction. The glomerular filtration rate in the CHF and CKD group was according to CKD EPI (51.5±19.3) ml/min/1.73^2; according to MDRD — (59.4±22.3) ml/min/1.73^2 ; in the CHF group without CKD it was according to CKD EPI — (71.2±11.7) ml/min/1,73^2; according to MDRD —(82.1±17.5) ml/min /1,73^2.Based on the data obtained on the severity of the clinical condition of patients, the characteristics of clinical manifestations in patients with CHF depending on the presence of CKD. Patients with CKD were slightly older in age, women predominated among them. It was found that patients with CKD were more likely to have diabetes mellitus, atrial fibrillation, and decreased hemoglobin levels. Arterial hypertension was more often the main cause of CHF in patients with CKD. Atrial fibrillation was observed in 13.3% of all patients and the incidence of AF was 2 times higher
in the group of CHF and CKD. An inverse relationship was found between GFR and the age of patients ($r=0.34$; $p<0.001$). In patients with FC I—II CHF GFR was higher [(72.4±11.7) ml/min/1.73m^2],compared with the group with CHF and CKD [(57.9±17.3) ml/min/1.73 m^2;$p=0.0002$], the difference was observed in III—IV FC [(70.3±11.8) ml/min/1.73m^2 and (48.7±9.6) ml/min/1.73 m^2; $p=0.0001$]. There was also an increase in daily protein excretion in patients I—II FC with CHF and CKD than without comorbid pathology [(278±47.5) mg/day and (25.7±12.3) mg/day; $p=0.00004$], such a difference was also noted for the III—IV FC HSN [(288±69.3) mg/day and (30±9.8) mg/day; $p=0.00001$].

CONCLUSIONS

Thus, the study confirmed that impaired renal function is observed quite often (30%) in patients with chronic heart failure. Patients with heart failure in combination with chronic kidney disease are characterized by more pronounced clinical manifestations of heart failure and chronic kidney disease, the severity of which increases with increasing age of patients, decreased glomerular filtration rate and increased proteinuria.

LITERATURE

1. Ярмухамедова, С. Х., Норматов, М. Б., & Вафаева, Н. А. (2020). Особенности суточного профиля артериального давления у больных хроническим гломерулонефритом. *Достижения науки и образования*, (11 (65)), 69-72.
2. Гаффоров, Х. Х., & Вафоева, Н. А. (2020). Значение систолической и диастолической дисфункции при циррозе печени. *Universum: медицина и фармакология*, (10 (72)), 4-6.
3. Вафоева, Н. А. (2021). ВЛИЯНИЕ ЗАБОЛЕВАНИЙ ПОЧЕК НА ПОКАЗАТЕЛИ ЦЕНТРАЛЬНОЙ ГЕМОДИНАМИКИ. *Scientific progress*, *2*(2), 121-127.
4. Вафоева, Н. А. (2020). Особенности клинической картины хронического пиелонефрита у женщины. *Вестник науки и образования*, (18-2 (96)), 92-94.
5. Гаффоров, Х. Х., & Вафоева, Н. А. (2020). Значение систолической и диастолической дисфункции при циррозе печени. *Universum: медицина и фармакология*, (10 (72)), 4-6.
6. Ярмухамедова, С. Х., Вафоева, Н. А., & Норматов, М. Б. (2020). Особенности клинической картины хронического пиелонефрита у женщин. *Молодой ученый*, (28), 65-67.
7. Вафоева, Н. А., & Гаффаров, Х. Х. (2016). Особенности клинико-лабораторной диагностики хронического пиелонефрита у женщин. *Национальная ассоциация ученых*, (1 (17)), 20-21.
8. Вафоева, Н. А. (2020). Влияние ингибиторов АПФ при хронической сердечной недостаточности. *Молодой ученый*, (38), 39-41.
9. Вафоева, Н. А. (2021). ВЛИЯНИЕ ЗАБОЛЕВАНИЙ ПОЧЕК НА ПОКАЗАТЕЛИ ЦЕНТРАЛЬНОЙ ГЕМОДИНАМИКИ. *Scientific progress*, *2*(2), 121-127.
10. Erkinovna, K. Z., Khabibovna, Y. S., & Abrorovna, V. N. (2023). MONITORING OF QUALITY OF LIFE IN PATIENTS WITH ARTERIAL HYPERTENSION OF OLDER AGE GROUPS. *Academia Science Repository*, *4*(5), 276-285.
11. Habibovna, Y. S., Davranovna, M. H., Abrorovna, V. N., & Ablukodirovna, A. S. (2021). Evaluation of Geometric Parameters of the Heart in Patients with Hypertension According to Standard Echocardiography. *Annals of the Romanian Society for Cell Biology*, 5749-5752.
12. Вафоева, Н. А. (2020). FEATURES OF THE CLINICAL PICTURE OF CHRONIC PYELONEPHRITIS IN WOMAN. *Вестник науки и образования*, (18-2), 92-94.

13. Habibovna, Y. S., Buriboevich, N. M., Abrorovna, V. N., Hudoyberdievich, G. K., & Totliboevich, Y. S. (2021). Assessment of Structural and Functional Heart Changes in Patients with Diabetes Mellitus with Diastolic Heart Failure. *Annals of the Romanian Society for Cell Biology*, 12154-12159.
14. Вафоева, Н. А. (2023). Хроническая Болезнь Почек И Модификация Центральной Гемодинамики. *Miasto Przyszłości*, *36*, 47-51.
15. Salkhidinovna, B. M., & Abrorovna, V. N. (2022). The Relationship Between Elevated Pulse Pressure and Natriuretic Peptide. *Miasto Przyszłości*, *25*, 119-121.
16. Xudoyberdiyevich, G. X., & Abrorovna, V. N. (2021). Jigar Sirrosi Kasalligida Yurakning Sistolik Va Diastolik Disfunktsiyasining Ahamiyati. *Journal of cardiorespiratory research*, *1*(1), 67-69.
17. Вафоева, Н. (2021). ЗНАЧЕНИЕ СИСТОЛИЧЕСКОЙ И ДИАСТОЛИЧЕСКОЙ ДИСФУНКЦИИ СЕРДЦА У БОЛЬНЫХ С ЦИРРОЗОМ ПЕЧЕНИ. *Журнал кардиореспираторных исследований*, *2*(1), 67-69.
18. Атаханова, Н. С., & Вафоева, Н. А. (2021). ЭХОКАРДИОГРАФИЧЕКИЕ ИЗМЕНЕНИЯ В РАННИХ СТАДИЯХ ХРОНИЧЕСКОЙ БОЛЕЗНИ ПОЧЕК. *Экономика и социум*, (10 (89)), 483-487.
19. Вафоева, Н. А., & Атаханова, Н. С. (2021). ИЗМЕНЕНИЕ ЦЕНТРАЛЬНОЙ ГЕМОДИНАМИКИ ПРИ БОЛЕЗНЯХ ПОЧЕК. *Экономика и социум*, (10 (89)), 570-575.
20. Vafoeva, N. A., & Nazarov, F. Y. (2021). CHRONICAL PYELONEPHRITIS–CONSTRUCTIONS OF THE CLINICAL PICTURE. *Scientific progress*, *2*(2), 128-131.
21. Islamova, K. A. (2022, November). Semizlik bor bemorlarda osteoartroz kasalligining klinik xususiyatlari. In *international conferences* (Vol. 1, No. 10, pp. 299-301).
22. Abdurasulovna, H. N., Akramovna, I. K., Rustamovna, A. K., & Egamkulovich, X. B. (2023). INFLAMMATORY ACTIVITY AND RENAL PATHOLOGY IN LUPUS NEPHRITIS. *Spectrum Journal of Innovation, Reforms and Development*, *13*, 89-94.
23. Islamova, K. A., Olimdjanova, F. J. Q., Ziyadullaev, S. K., & Kamalov, Z. S. (2022). RISK FACTORS FOR EARLY DEVELOPMENT OF OSTEOARTHROSIS.
24. Akramovna, I. K., & Rustamovna, A. K. (2023, November). ULTRATOVUSH TEKHIRUV USULINING ERTA RIVOZHLANGAN OSTEOARTHROSIS KASALLIGIDAGI DIAGNOSTIC AHAMIYATI. In *International Conference on Medicine and Life Sciences* (pp. 72-75).

25. Исламова, К. А., & Тоиров, Э. С. (2019). Значение факторов риска на качество жизни больных остеоартрозом. In *Актуальные вопросы современной медицинской науки и здравоохранения: сборник статей IV Международной научно-практической конференции молодых учёных и студентов, IV Всероссийского форума медицинских и фармацевтических вузов «За качественное образование»,(Екатеринбург, 10-12 апреля 2019): в 3-х т.-Екатеринбург: УГМУ, CD-ROM.*. Федеральное государственное бюджетное образовательное учреждение высшего образования «Уральский государственный медицинский университет» Министерства здравоохранения Российской Федерации.
26. O'G'Li, F. J. Z., & Akramovna, I. K. (2022). Qandli diabet kasalligi fonida yurak qon tomir tizimi kasalliklarining klinik kechuv xususiyatlari. *Talqin va tadqiqotlar ilmiy-uslubiy jurnali*, *1*(1), 108-111.
27. Исламова, К. А., & Карабаева, Г. Х. (2020). QANDLI DIABET KASALLIGI FONIDA YURAK QON TOMIR TIZIMI KASALLIKLARINING KLINIK KECHUV XUSUSIYATLARI. *Журнал кардиореспираторных исследований*, *1*(3).
28. Исламова, К. А. (2023). Факторы Риска Раннего Развития Остеоартроза. *Journal of Science in Medicine and Life*, *1*(3), 1-7.
29. Исламова, К. А., & Хамраева, Н. А. (2023). Факторы Риска И Качество Жизни Больных Остеартрозом. *Central Asian Journal of Medical and Natural Science*, *4*(6), 268-273.
30. Alisherovna, K. M., Khabibovna, Y. S., Nizamitdinovich, K. S., & Bakhtiyorovich, U. J. (2023). CYSTATIN and KIDNEY FUNCTION. *Journal of new century innovations*, *38*(2), 220-225.
31. Khabibovna, Y. S., Alisherovna, K. M., Nizamitdinovich, K. S., Tashtemirovna, E. M. M., Abdukadirovna, A. S., & Jasurovna, J. S. (2023). DEPRESSION, ANXIETY AND QUALITY OF LIFE IN PATIENTS WITH ATRIAL FIBRILLATION. *Journal of new century innovations*, *39*(1), 185-189.
32. Khabibovna, Y. S., Alisherovna, K. M., Tashtemirovna, E. M. M., Nizamitdinovich, K. S., & Abdukadirovna, A. S. (2023). ANTITHROMBOTIC THERAPY IN CARDIOLOGICAL PATIENTS. *Journal of new century innovations*, *39*(1), 169-171.
33. Khabibovna, Y. S., Alisherovna, K. M., Totlibayevich, Y. S., & Davranovna, M. K. (2023). PAINLESS CARDIAC ISCHEMIA AND RHEUMATOID ARTHRIT. *Journal of new century innovations*, *29*(1), 98-105.

34. Khabibovna, Y. S., Alisherovna, K. M., Nizamitdinovich, K. S., & Totlibayevich, Y. S. (2023). FEATURES OF HEART FAILURE IN PATIENTS WITH THYROTOXICOSIS. *Journal of new century innovations*, *29*(1), 89-97.
35. Khabibovna, Y. S., Alisherovna, K. M., Tashtemirovna, E. M. M., & Baxtiyorovich, U. J. (2023). THE EFFECTIVENESS OF THYROSTATICS IN THE TREATMENT OF. *Journal of new century innovations*, *29*(1), 79-88.
36. Yarmukhamedova, S. K., Alisherovna, K. M., Tashtemirovna, E. M. M., & Nizamitdinovich, K. S. (2023). The Effectiveness of Trimetazidine in Arrhythmias. *Miasto Przyszłości*, *33*, 215-221.
37. Khusainova, M. A., Ergashova, M. M., Eshmamatova, F. B., & Khayitov, S. M. (2023). Features of quality of life indicators in patients with pneumonia. *Science and Education*, *4*(2), 138-144.
38. Khusainova, M. A. (2023). Comorbidity thyrotoxicosis with coronary heart disease. *Science and Education*, *4*(5), 205-213.
39. Alisherovna, M. K. Stages Of Development Of Renal Dysfunction And Anemia In Patients With Chronic Heart Failure. *International Journal of Innovations in Engineering Research and Technology*, *8*(05), 50-53.