ASSESSMENT OF THE GENERAL CONDITION AND QUALITY OF LIFE OF WOMEN POST-PRODUCTIVE AGE, WHO SUFFERED FROM COVID-19 ASYMPTOMATICALLY, AND 12 MONTHS AFTER THE MODERATE SEVERE FORM OF THE DISEASE

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ABSTRACT

The purpose of the study. Assessment of the general condition, laboratory parameters, and quality of life of post-productive women after the asymptomatic course of COVID-19 and 12 months after the moderate course of the disease.

Material and methods. 47 women (45-69 years old) were examined, divided into three groups: those who were not ill with COVID-19, not vaccinated (group 1 - control; n = 15); women 12 months after COVID-19, moderate course accompanied by pneumonia (group 2; n = 19); women with the presence of IgG in the blood, denying any symptoms of COVID-19 (group 3; n = 13).

Results and discussion. The assessment of the general condition of women in post-productive age was carried out. 12 months after COVID-19, a lower level of total bilirubin was detected compared to the asymptomatic group (p = 0.004). There was an increase in thrombin time in the groups of COVID-19 patients with symptomatic (p = 0.014) and asymptomatic (p=0.025) course compared with the control. The patients who had been ill asymptomatically revealed a higher level of high-density lipoprotein cholesterol compared to the control (p = 0.016) and the 2nd group (p = 0.006). Compared with the control, the scores in the 2nd group were lower in general health (p = 0.006), vital activity (p = 0.013), general physical well-being (p = 0.039), physical functioning (p = 0.046); in the 3rd group - higher in role functioning due to physical condition (p = 0.049). When comparing the 2nd and 3rd groups, lower scores were revealed for physical functioning (p = 0.002), pain intensity (p = 0.034), role-based functioning due to physical condition (p = 0.049), general health (p = 0.003), vital activity (p=0.018), general physical well-being (p = 0.001) in the group of patients with a moderate form of COVID-19.

Conclusion. 12 months after the COVID-19 in a moderate form, marked deterioration of physical and emotional health is noted; in patients who have been ill asymptomatically, it is possible to assume more advanced protective functions of the body.

Keywords: COVID-19, quality of life, women, post-productive period

INTRODUCTION

The COVID-19 pandemic caused by the SARS-CoV-2 virus has gone down in history as an emergency of international importance. Although it is mainly a respiratory disease, the data indicate that there is a multi-organ lesion. Studies show that the brain, cardiovascular system, gastrointestinal tract and kidneys are particularly vulnerable to damage. It is known that with age, vulnerability to moderate and severe COVID-19 and subsequent complications becomes

higher, while men have a more severe course of the disease; however with increasing age, gender differences along the course COVID-19 is leveled, which may be due to a decrease in estrogen levels in women in the post-reproductive period. In addition, women aged > 60 years receiving hormone replacement therapy are 46% less likely to test positive for SARS-CoV-2 %, which indicates the possible effect of estrogens on the penetration of the SARS-CoV-2 virus. Quite often, patients with COVID-19 have postcovid syndrome, which may occur regardless of the severity of the course of the disease, it is a symptom complex that lasts more than 12 weeks and occurring in waves or on a permanent basis, without having an alternative diagnosis. It is assumed that postcovid syndrome lasts up to 6 months, significantly reducing the quality of life, and therefore most studies are limited to this time interval. Along with this, the assessment of the condition of patients after COVID-19 is limited to symptomatic complaints without taking into account complex quality of life assessments. At the same time, in women in the post-productive period, the quality of life is reduced due to hormonal and metabolic changes, what can affect the duration of the recovery period after COVID-19. The relevance of this study is to assess the quality of life and laboratory parameters in women of post-productive age in a more distant period (after 12 months), and also has a complex character, making it possible to adjust therapy in a timely manner, to get more information about the postcovid syndrome and the consequences after an infection.

THE PURPOSE OF THE STUDY

Assessment of the general condition, laboratory parameters and quality of life of post-productive women after the asymptomatic course of COVID-19 and after 12 months after the moderate course of the disease.

MATERIALS AND METHODS

The study was conducted on the basis of SAMMU in accordance with ethical standards. The study involved 47 women aged 45 to 69 years, who were divided into three groups. The first group (control) included 15 women (average age - 57 ± 6.61 years; body mass index (BMI) - 27.48 ± 3.39 kg/m^2) who were not ill with COVID-19, not vaccinated, with no antibodies to COVID-19 (IgG). The second group included 19 women (average age - 58 ± 6.23 years; BMI - 34.6 ± 6.67 kg/m^2), who underwent a laboratory-confirmed PCR test of COVID-19 of moderate severity, accompanied by pneumonia. During the formation of the control group, women were identified (n = 13; average age - 54 ± 7.75 years; BMI - 28.63 ± 4.96 kg/m^2) with IgG in their blood, denying any symptoms of a new coronavirus infection over the past 12 months, which allowed them to be identified in the third group - transferred COVID-19 in an asymptomatic form. Women taking hormone replacement therapy were excluded from the study. All participants the studies were examined by a cardiologist with the calculation of BMI, measurement of blood pressure, body temperature, electrocardiogram. To exclude the presence of COVID-19 at the time of the study, an appropriate rapid test was conducted (RAPID BIO, Russia). To assess the quality of life, a questionnaire was conducted Short Form-36 (SF-36). The calculation of vascular age was carried out according to the SCORE scale, which includes for the calculation factors such as systolic blood pressure, age, total cholesterol, smoking.

The laboratory examination included: general blood analysis on the BC-5300 analyzer (Mindray, China) using reagents from Shenzhen Mindray BioMedical Electronics Co., Ltd (China); biochemical blood analysis on the BTS-330 analyzer (BioSystems, Spain) (alkaline phosphatase (alkaline phosphatase), gamma-glutamyltransferase (GGT), urea, uric acid, total protein, albumin); total bilirubin, alanine aminotransferase (AlT), aspartate aminotransferase (AsT) (Vital, Russia), creatinine (Cormay, Poland); study of the hemostasis system (prothrombin time (PT), activated partial thromboplastin time (APTT), thrombin time (TV), international normalized ratio (INR), fibrinogen, D-dimer) on Duo Plus analyzers, Junior (HumaClot, Germany) using reagents of MBOOI "Society of Patients with Hemophilia" (Russia), LLC FIRM "Technology standard" (Russia) and "HUMAN Gesellschaft fur Biochemica und Diagnostica mbH" (germany); lipid profile study (total cholesterol (OHC), triacylglycerols (TG), HDLC, low-density lipoprotein cholesterol (LDLC), very low-density lipoprotein cholesterol (VLDLC), atherogenicity coefficient (CA)) on the BTS-330 analyzer (BioSystems, Spain) using commercial kits "BioSystems" (Spain) and the corresponding calculation, according to the recommendations of V.S. Kamyshnikov (2009), the level of antibodies to COVID-19 (IgG) on the analyzer Multiscan Go Thermo Scientific (Finland) with commercial kits "Vector-Best" (Russia). The received data was processed in the program Statistics 10 (StatSoft Inc., USA). The proximity to the normal distribution law of quantitative features was assessed by the visual-graphical method, as well as by the Kolmogorov-Smirnov agreement criteria with the Lilliefors and Shapiro-Wilk correction. Data on age and BMI are presented in the form of arithmetic mean ± standard deviation (t ± o), for laboratory parameters - in the form of median and interquartile range (Me [Q1; Q3]). Analysis The intergroup differences for independent samples were carried out using the Kruskal - Wallis ANOVA by Ranks test and the median test (median test) with subsequent a posteriori comparisons using the Mann-Whitney test (Mann - Whitney U-Test). The critical significance level was assumed to be 5% (0.05).

RESULTS and DISCUSSION
There were no differences in the parameters of the general blood test between the study groups. In addition, there were no statistically significant intergroup differences in the hepatic and renal systems, with the exception of a lower level of total bilirubin in the 2nd group of women compared with the 3rd; and a similar trend was noted for compared to the control. Several independent studies have confirmed the high prevalence of acute liver injury in hospitalized patients with COVID-19. Obtained in our study the results can be explained by the fact that the biochemical parameters were evaluated not in the acute phase of the disease, but after 12 months. A decrease in the level of total bilirubin in group 2 can be regarded as a decrease in the functioning of the hepatobiliary and antioxidant systems, since there is currently evidence of both the antioxidant properties of bilirubin, and the role of oxidative stress in the pathogenesis of COVID-19. A comparative assessment of the hemostasis system revealed an increase in thrombin time in the groups women who have had COVID-19 with both symptomatic and asymptomatic course, compared with the control group. It should be borne in mind that the level of fibrinogen is within the normal range; patients did not take

anticoagulants at the time of the study, since the drugs were prescribed for 3 months for preventive purposes after discharge, there were no other indications (fibrillation and atrial flutter, pulmonary embolism) for taking anticoagulants, therefore it can be assumed that in the postcovid in this period, regardless of the course of the disease, there is a predisposition to a violation of the blood coagulation system, namely, the rate of conversion of fibrinogen into fibrin, which is also a protective function of the body when the vascular wall is damaged. The analysis of the lipid profile revealed a statistically significantly higher level of HDL in the 3rd group of women compared with the control and the 2nd group. Along with this, in the group of asymptomatically ill women, a lower KA value was noted compared with those who had a moderate form of the disease. Despite a small sample of patients, it can be assumed that in the group of women who had the disease asymptomatically, the indicators of immune status, endothelial function are higher than in the control group and in the group of COVID-19 survivors with pronounced symptoms, therefore, the infectious process in this group of women was asymptomatic or in a very erased form. It is possible that the women from group 3 did not have symptoms, since they had the best indicators for HDL, which are one of the factors for the best functioning of the endothelium. Initially, this class of lipids was considered only as anti-atherogenic due to the transportation of CSLPNP in the hepatic system and their further metabolism, but later it became clear that HDLPS have anti-inflammatory and antioxidant effects, improving endothelial function or preventing endothelial damage.

When calculating vascular age, no statistically significant differences were revealed between the groups, however, a tendency to increase it was established in the 2nd group of women (57.05 ± 7.04 years) compared with the control (55.13 ± 7.45 years) and the group of patients with COVID-19 asymptomatically (51.84 ± 10.20 years). Also installed, that low cardiovascular risk was more common in all groups. At the same time, a high cardiovascular risk was detected only in the group of patients with moderate COVID-19 in 5.3% of cases.

The results of the analysis of the quality of life questionnaire in the studied groups are shown in Figure 2. Differences were revealed between the control and the group of women who had COVID-19 12 months ago, with lower indicators in the group of those who had been ill for general health (68 ± 14.4 and 52.58 ± 12.9 points, respectively; p = 0.006), vital activity (69.6 ± 7.66 and 58.68 ± 15.97 points, respectively; p = 0.013), general physical well-being (48.6 ± 6.84

and 42.22 ± 9.61 points, respectively; p = 0.039) and physical functioning (83 ± 15.09 and 65.79 ± 26.57 points, respectively; p = 0.046). When comparing the control indicators with a group of women who underwent COVID-19 in general physical well-being (42.22 ± 9.61 and 52.74 ± 5.32 points, respectively; p = 0.001). Thus, the results of the study demonstrate pronounced deterioration in both physical and emotional health in women of post-productive age after being transferred to a moderate form of COVID-19. This study characterizes the medium-term effects of COVID-19, which we note 12 months after the infection.

CONCLUSION

The results suggest a potential link between COVID-19 and the future risk of cognitive decline, persistent deterioration of health and quality of life. Further efforts should be made to

understand the role of specific immunopathological mechanisms underlying at the heart of the inflammatory process in COVID-19, and the development of a strategy to stop these mechanisms, the purpose of which is to limit the long-term harmful effects of COVID-19 on the physical and mental health of patients. As for patients who have had the disease asymptomatically, it can be assumed that they have a more advanced antioxidant system, better functioning of organs and systems, a more adapted immune system, or in this case, a possible low viral load may play an important role.

LITERATURE

1. Alisherovna, K. M., Rustamovich, T. D., Baxtiyorovich, U. J., & Sherzodovna, M. D. (2022). KIDNEY DAMAGE IN CHRONIC HEART FAILURE. *Web of Scientist: International Scientific Research Journal*, *3*(10), 744-752.

2. Nizamitdinovich, K. S., Alisherovna, K. M., Erkinovna, K. Z., & Davranovna, M. K. (2022). Heart Lesions in Rheumatological Diseases. *Texas Journal of Medical Science*, *13*, 91-94.

3. Davranovna, M. K., Alisherovna, K. M., Erkinovna, K. Z., & Nizamitdinovich, K. S. (2022). Assessment of the Quality of Life of Patients with Coronary Heart Disease. *The Peerian Journal*, *11*, 44-50.

4. Erkinovna, K. Z., Alisherovna, K. M., Davranovna, M. K., & Nizamitdinovich, K. S. (2022). Correction of Cytokine Imbalance in the Treatment of Stable Angina Pectoris. *The Peerian Journal*, *11*, 64-70.

5. Rustamovich, T. D., Alisherovna, K. M., Baxtiyorovich, U. J., & Abdurakhmonovich, M. M. (2022). Painless Cardiac Ischemia in Women with Rheumatoid Arthritis. *Texas Journal of Medical Science*, *13*, 95-98.

6. Totlibayevich, Y. S., Alisherovna, K. M., Xudoyberdiyevich, G. X., & Toshtemirovna, E. M. M. (2022). Risk Factors for Kidney Damage in Rheumatoid Arthritis. *Texas Journal of Medical Science*, *13*, 79-84.

7. Toshtemirovna, E. M. M., Alisherovna, K. M., Totlibayevich, Y. S., & Xudoyberdiyevich, G. X. (2022). Anxiety Disorders and Coronary Heart Disease. *The Peerian Journal*, *11*, 58-63.

8. Xudoyberdiyevich, G. X., Alisherovna, K. M., Toshtemirovna, E. M. M., & Totlibayevich, Y. S. (2022). Characteristics Of Neuropeptides-Cytokines in Patients with Cardiovascular Pathology Occurring Against the Background of Anxiety and Depressive Disorders. *The Peerian Journal*, *11*, 51-57.

9. Хусаинова, М. А. (2022). OZONETHERAPY IN RESTORATIVE TREATMENT PATIENTS WITH CORONARY HEART DISEASE. *Журнал кардиореспираторных исследований*, *3*(4).

10. Nizamitdinovich, K. S., & Alisherovna, K. M. (2022). Quality of Life in Patients with Chronic Heart Failure, After Cardiac Resynchronization Therapy. *Texas Journal of Medical Science*, *14*, 168-173.

11. Jamshedovna, K. D., Alisherovna, K. M., Erkinovna, K. Z., & Davranovna, M. K. (2022). LEFT VENTRICULAR SYSTOLIC DYSFUNCTION IN PREGNANT WOMEN WITH

PRE-ECLAMPSIA WITHOUT PROTEINURIA. *Spectrum Journal of Innovation, Reforms and Development*, *10*, 135-140.

12. Xudoyberdiyevich, G. X., Alisherovna, K. M., Davranovna, M. K., & Toshtemirovna, E. M. M. (2022). FEATURES OF HEART DAMAGE IN PATIENTS WITH VIRAL CIRRHOSIS OF THE LIVER. *Spectrum Journal of Innovation, Reforms and Development*, *10*, 127-134.

13. Toshtemirovna, E. M. M., Alisherovna, K. M., Erkinovna, K. Z., & Xudoyberdiyevich, G. X. (2022). DIAGNOSIS OF CIRRHOTIC CARDIOMYOPATHY. *Spectrum Journal of Innovation, Reforms and Development*, *10*, 141-147.

14. ALISHEROVNA, M. K., & XUDOYBERDIYEVICH, G. X. (2021). Treatment of Chronic Heart Diseases Insufficiency Depending On the Condition of the Kidneys.

15. Ярмухамедова, С. Х., Бекмурадова, М. С., & Назаров, Ф. Ю. (2020). Диагностическая ценность натрийуретического пептида при выявлении пациентов с бессимптомной систолической или диастолической дисфункцией. *Достижения науки и образования*, (8 (62)), 84-88.

16. Ярмухамедова, С. Х., Бекмурадова, М. С., & Назаров, Ф. Ю. (2020). Значение уровня мозгового натрийуретического пептида в ранней диагностике хронической сердечной недостаточности у больных с артериальной гипертонией. *Достижения науки и образования*, (4 (58)), 61-63.

17. 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.

18. Ярмухамедова, С. Х., & Назаров, Ф. Ю. (2016). Оценка стрyтурно-функциональных нарушений сердца у больных артериальной гипертензией по данным допплер-эхокардиографии. *Национальная ассоциация ученых*, (1 (17)), 16-17.

19. Ярмухамедова, С., Назаров, Ф., Махмудова, Х., Вафоева, Н., & Норматов, М. (2020). ДИАСТОЛИЧЕСКАЯ ФУНКЦИЯ ПРАВОГО ЖЕЛУДОЧКА У БОЛЬНЫХ С РАЗЛИЧНЫМИ СТАДИЯМИ ГИПЕРТОНИЧЕСКОЙ БОЛЕЗНИ ПРИ ПРИСОЕДИНЕНИИ СЕРДЕЧНОЙ НЕДОСТАТОЧНОСТИ. In *Colloquium-journal* (No. 24-1, pp. 34-36). Голопристанський міськрайонний центр зайнятості= Голопристанский районный центр занятости.

20. Alisherovna, K. M., Djamshedovna, K. D., & Kayumovna, A. S. (2022). Evaluate the Quality of Life using the KDQOL-SFTM Questionnaire. *CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES*, *3*(1), 26-31.

21. Kayumovna, A. S. (2022). Arterial Hypertension in Youth. *Central Asian Journal of Medical and Natural Science*, *3*(6), 163-165.

22. Kayumovna, A. S., & Nizomitdinovich, H. S. (2022). COVID-19 AND KIDNEY DAMAGE. *Galaxy International Interdisciplinary Research Journal*, *10*(3), 241-245.