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Assessment Of The Quality Of Life Of Patients With Cardiac Pathology Who Have Experienced Covid-19

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Annotation

To date, the global scientific community has not developed uniform approaches to defining the terms "long-Covid" and "post-Covid syndrome," although these concepts appeared more than a year ago, several months after the start of the pandemic. WHO is also still at the stage of presenting a protocol that is designed to advance issues regarding the formulation of a definition of post-Covid syndrome. Patients with cardiovascular diseases (CVD) constitute a special risk group in the context of the pandemic caused by the COVID-19 coronavirus infection. The spread of COVID-19 poses a particular danger in relation to decompensation of existing chronic diseases, specific damage to the cardiovascular system, especially in the case of severe COVID-19 and a high risk of adverse outcomes in patients with CVD.

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Introduction

Psychopathological symptoms in somatic hospital patients were widespread during the COVID-19 pandemic. Many publications are devoted to the analysis of the causes of the development of symptoms of anxiety, depression, as well as post-traumatic stress and obsessive-compulsive disorders in patients. The level of inflammatory markers (previous acute respiratory distress syndrome), family history, and features of concomitant somatic pathology (coronary heart disease, arterial hypertension) are considered as triggers. Thus, Mazza MG and co-authors found that despite lower values of inflammatory markers, women showed higher values on anxiety/depression scales in the acute period of coronavirus infection compared to men. Overall, more than half of the examined patients scored in the pathological range on at least one clinical parameter (anxiety, depression, insomnia, etc.). The development and progression of symptoms should be considered at different periods after coronavirus infection in patients, taking into account their gender and age. D. Borges Machado and co-authors analyzed 43 publications and found that 77% of works indicate a connection between the pandemic and high levels of anxiety,

and 56% with depression. Health care workers and elderly patients were identified as the most vulnerable groups. Timely correction of disorders will improve the prognosis of patients with comorbid pathology. Many authors note that follow-up is needed to further study the relationship between the COVID-19 pandemic and long-term consequences in patients with somatic pathology. An unfavorable prognosis for COVID-19 is associated with the presence of diabetes mellitus (DM), arterial hypertension (AH), and coronary heart disease (CHD) in patients. It should be noted that patients with these diseases belong to health group IIIA, and according to clinical examination or preventive medical examination at the beginning of 2019, 60% of citizens were classified in this group [Tu et al., 2018].

Purpose of the study

To assess the quality of life and compare it with the functional state of the cardiovascular system (CVS) in patients who have had COVID-19.

Materials and research methods

The study included 125 patients, men (n = 78) and women (n = 47) aged 41–76 years, with the presence of SSP, who were hospitalized inBukhara branch of the Republican Scientific Center for Emergency Medical Care for two or more years. Cardiovascular diseases include: coronary artery disease, stable angina (HF) III–IV functional class (FC), arterial hypertension (AH), type 2 diabetes mellitus (DM2). All cardiac patients suffered from COVID-19 at different stages, pneumonia with lung damage up to 60% was in only 7 (5.6%) patients, lung damage up to 37% was in 19 (15.2%) patients, and lung damage was in up to 12 % – in 56 (44.8%) patients. The study was conducted after 1 month. after discharge from the hospital.

Exclusion criteria from the study:

1. Patients with mental disorders.
2. Patients with a history of cerebrovascular accidents.
3. Patients with chronic heart failure stage III.
4. Patients with malignant hypertension > 200 mm. rt. Art.
5. Patients who refused to sign consent to participate.

All patients were surveyed using the WHO Quality of Life Questionnaire. The questionnaire included important questions that reflected the patient's current condition even before COVID-19: "your quality of life", "are you satisfied with your health", "do you have enough energy for everyday life", "how satisfied are you with your sex life", "how satisfied are you with the availability of medical care", "how often have you had negative experiences, for example, bad mood, despair, anxiety, depression before and after getting sick with COVID-19", etc.

In addition to the questionnaire, patients were also subjected to other types of examination:

1. General blood test.
2. Biochemical blood test, including blood glucose level.
4. Measuring blood pressure (BP) with a manometer.
5. Electrocardiography (ECG).
6. Daily monitoring of ECG + BP (SM ECG + BP).

Patients were prescribed standard and symptomatic therapy corresponding to their nosological disease. The study was conducted in accordance with the norms and principles of the Declaration of Helsinki. Before inclusion in the study, patients were informed and signed a written agreement.

Results and its discussion

Analysis of the questionnaire after 1 month. after coronavirus infection showed that n = 51 patients (40.8%) had “insufficient energy for everyday life”, and before COVID-19 illness this figure was only in 28 patients (21.8%). 21 patients (16.8%) are “not satisfied with the current state of their health” versus 24 patients (33.9%) before COVID-19. “Sex life” decreased in 29 patients (23.2%), before COVID-19 this indicator was reduced only in 13 (17.4%). “Anxiety and depression” appeared in n = 73 patients (58.4%), versus 44 (35.2%), of which 21 patients (16.8%) were brought to the attention of family members. However, the number of patients satisfied with themselves and their appearance increased to 93 patients (21 (69.8%) versus 61 (48.8%) before the development of COVID-19 disease. “Insomnia” began to plague 55 patients (44%), and was observed in 31 (24.8%) before the disease. “Personal relationships with friends and relatives” decreased in n = 91 patients (72.8%) versus 17 (13.6%). 23 patients (18.4%) “temporarily stopped working”, 9 (7.2%) before illness. Thus, the change in quality of life status “before and after” was statistically significant (p 0.0001).

According to the results of the SM ECG, which patients did on an outpatient basis before admission to the hospital with COVID-19 in 2019–2021, it turned out that in patients with angina pectoris class III–IV, myocardial ischemia was significantly significant (severe ST segment depression, number episodes and total duration of ischemia per day) and was more often accompanied by rhythm disturbances than in patients with hypertension and type 2 diabetes, $p < 0.05$ (Table 1).

Table 1

SM ECG results before COVID-19 disease

Indicators	IHD angina pectoris voltage, n = 47	Arterial hypertension, n = 53	Diabetes 2 types, n = 25
Segment depression amplitude ST, mm	2.2 ± 0.4*	1.5 ± 0.1	1.4 ± 0.3
Number of ischemic episodes per day	5.8 ± 0.3*	4.9 ± 0.2	2.5 ± 0.3
Total duration of ischemia per day, sec	1770.0 ± 172.0*	1158.0 ± 66.0	978.0 ± 52.0
Episodes of supraventricular paroxysmal tachycardia, min	17.70 ± 3.05*	10.51 ± 5.02	7.58 ± 42.18
Episodes of atrial fibrillation atria, min	23.55 ± 3.52*	12.81 ± 2.28	12.52 ± 0.70
Ventricular extrasystole more than 500/day, n	eleven*	7	6
Supraventricular extrasystole more than 500/day, n	17*	14	8

Note: n – number of patients; * – significance of differences in patients with angina pectoris class III–IV compared with patients with hypertension and diabetes mellitus-2 ($p < 0.05$).

Table 2

SM ECG results 1 month after COVID-19 illness

Indicators	IHD angina pectoris voltage, n = 47	Arterial hypertension, n = 53	Diabetes 2 types, n = 25
Segment depression amplitude ST, mm	3.1 ± 0.6*	1.9 ± 0.4*	1.6 ± 0.3*
Number of ischemic episodes per day	11.2 ± 0.3*	6.1 ± 0.5*	2.9 ± 0.4*
Total duration of ischemia per day, sec	2301.0 ± 188.0*	1249.0 ± 38.0*	1023.0 ± 75.0*
Episodes of supraventricular paroxysmal tachycardia, min	1.09 ± 5.82*	11.03 ± 6.19*	8.19 ± 49.25*
Episodes of atrial fibrillation atria, min	21.71 ± 8.48*	17.11 ± 6.49*	1.34 ± 1.54*
Ventricular extrasystole more than 500/day, n	16*	eleven*	7*
Supraventricular extrasystole more than 500/day, n	23*	17*	eleven*

Note: * n – number of patients; * – reliability of the difference between the examination and disease and after $p < 0.05$.

Carried out after 1 month. examination of patients with angina pectoris III-IV FC showed that FC decreased to I-II in 13 (18.4%) patients, III-IV remained at the same level in 21 (62.3%), and myocardial infarction developed in n = 13 (19.3%) patients

Conclusions

The survey showed that patients with insufficient energy for everyday life increased by 27.9% ($p = 0.0010$). Patients with unsatisfied state of their health increased by 34.8% ($p = 0.0016$). Sexual life worsened by 16.6% ($p = 0.0004$). Anxiety and depression increased by 31.2% ($p = 0.0018$). It is also interesting that the number of patients satisfied with themselves and their appearance increased by 23.2% ($p = 0.0009$). Insomnia began to plague our patients, only 18.1% more ($p = 0.0005$). Personal relationships with friends and relatives decreased by 59.3% ($p = 0.0027$). Thus, the change in quality of life status "before and after" was statistically significant $p < 0.05$.

Post-Covid syndrome causes a significant decrease in the quality of life - about a third of those who have recovered from COVID-19 cannot fully recover 1 month after the illness. In most cases, post-Covid syndrome goes away within six months, it gradually regresses and disappears, but in some it persists even longer. Moreover, the relationship between the severity of COVID-19 and the frequency of subsequent symptoms

is not always traceable: even patients who have had a mild form of illness may encounter complications.

A survey of patients with cardiovascular pathology showed that post-Covid syndrome significantly reduces the quality of life. We can note such indicators as insufficient energy for everyday life, dissatisfaction with one's health, anxiety and depression - these indicators increased by a third.

Over the past 2014–2018, the number of deaths from diseases of the circulatory system decreased by an average of 16,872 cases per year, but in 2020 it sharply increased to 643.9 cases per 100 thousand and almost reached the 2014 figure. These figures are disappointing, and there

is an assumption that in 2021 they will grow and continue to break records. There is only one way out - to overcome and push COVID-19 into the background. As for the rehabilitation of patients with somatic diseases, the most painful topic is psycho-emotional balance. Every patient who has been in a hospital needs help. Some had relatives who were seriously ill, others saw people dying nearby in the Covid ward and hospitals - the patient experienced enormous stress. These patients will need the help of a psychologist, cardiologist and other specialists who will determine whether the patient needs more serious help.

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