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LESIONS IN THE FUNCTIONAL STATE OF THE CARDIOVASCULAR SYSTEM OF PATIENTS WITH COVID-19 INFECTION

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Introduction. The coronavirus family has been known since the 20th century, but until the outbreak of severe acute respiratory syndrome coronavirus disease (COVID-19) and Middle East respiratory syndrome (MERS-CoV), they were not given appropriate clinical and epidemiological significance. Thus, the most severe respiratory diseases were caused by 3 beta coronaviruses, in particular SARS-CoV, SARS-CoV-2 and MERS-CoV.

Although most patients with COVID-19 have a predominantly respiratory tract involvement, a certain cohort has a more severe course of the disease with the development of systemic involvement characterized by resistant fever, acute lung injury and severe acute respiratory syndrome, shock and subsequent multiorgan failure. The combination of diffuse intravascular coagulation with the formation of large-caliber vascular thrombosis is also associated with the development of multiple organ failure. Mortality rates from COVID-19 reach at least 10.0%.

The aim of the study is to determine the levels of damage to the functional state of the cardiovascular system of patients with COVID-19 infection by pulse characteristics and systolic and diastolic blood pressure.

Materials and methods: The study was conducted at the Department of Infectious and Children's Infectious Diseases, Parasitology, Phthisiology and Pulmonology of the Kharkiv National Medical University and on the basis of the communal non-commercial enterprise (KNE) "Kharkiv Regional Infectious Hospital" of the Kharkiv City Council (KhCC) in the period 2020–2024. The necessary list of

laboratory and instrumental methods was carried out on the basis of the KNE "Kharkiv Regional Infectious Disease Hospital" and on the basis of the laboratory complex of the Kharkiv Regional Blood Service Center and the "Analytika" medical laboratory.

The research was conducted in accordance with existing international and domestic bioethical norms and rules.

Were examined 179 patients with coronavirus infection COVID-19 (according to ICD XI revision - code RA01.0 "COVID-19 identified") 20-88 years old, who were treated on the basis of KNE "Kharkiv Regional Infectious Disease Hospital" of KhCC in the period 2020-2021 (main group). Were examined and 42 people of the control group (practically healthy people who are blood donors), randomized by age and sex.

Results and discussion. According to the clinical characteristics of the state of the cardiovascular system of the examined persons in comparison with the control group, significant predominance of indicators of the functional state of the cardiovascular system was significantly noted: respectively, pulse values - 91.01±13.44 and 71.1 ± 6.52 beats/min ($p < 0.001$), systolic blood pressure - 127.9±15.19 and 119.9 ± 8.37 mm Hg. ($p = 0.001$), diastolic blood pressure (not significant) - 79.3 ± 11.6 and 78.7 ± 7.0 mm Hg ($p = 0.754$), which determined the degree of response to COVID-19 infection.

Conclusions. It was determined that COVID-19 infection provokes significant damage to the functional state of the cardiovascular system of patients.