

5. Таким образом, потенциально максимизировать пользу и отношение рисков лечения ХОБЛ возможно только в случае индивидуальной терапии, основанной на определении фенотипа каждого пациента, включая факторы риска и сопутствующие заболевания.

ЛИТЕРАТУРА

1. Global Initiative for Chronic Obstructive Lung Disease. Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease. Revised 2020 // www.GOLDcopd.com. (<http://www.GOLDcopd.com>).
2. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2017 Report. GOLD Executive Summary / C. F. Vogelmeier [et al.] // *Am. J. Respir. Crit. Care Med.* 2017. Vol. 195, № 5, P. 557–582. doi: 10.1164/rccm.201701-0218PP.
3. Кадушкин, А. Г. Эпидемиологические особенности ХОБЛ в Республике Беларусь / А. Г. Кадушкин, А. Д. Таганович // Сборник трудов конгресса. XXIV Национальный конгресс по болезням органов дыхания; под ред. акад. А. Г. Чучалина. — М., 2014. С. 433–434.
4. Un-derstanding COPD: A vision on phenotypes, comorbidities and treatment approach. GI COPD – Interest Group on Chronic Obstructive Pulmonary Disease / E. Fragoso [et al.] // *Rev Port Pneumol.* 2016 Mar-Apr. Vol. 22(2). P. 101–111. doi: 10.1016/j.rppnen.2015.12.001. Epub 2016 Jan 27. Review.
5. Tworek, D. Eosinophilic COPD — a distinct phenotype of the disease / D. Tworek, A. Antczak // *Adv. Respir. Med.* 2017. Vol. 85. P. 271–276. doi: 10.5603/ARM.2017.0045.
6. Эозинофильное воспаление при хронической обструктивной болезни легких / С. Н. Авдеев [и др.] // *Терапевтический архив.* 2019. Vol. 91 (10). P. 144–152. DOI: 10.26442/00403660.2019.10.000426.

UDC 616.12-007.61-06:[616.98:578.834.1]-036.12-053

FEATURES OF THE COURSE OF RIGHT SIDED HYPERTROPHY IN PATIENTS WITH CARDIOVASCULAR DISEASES DEPENDING ON THE PRESENCE OF COVID-19, THE PRESENCE OF CHRONIC DISEASES AND THE AGE OF PATIENTS

Nana A., El Hajjar D.

Scientific supervisor: Senior Lecturer of The Department A. N. Kovalchuk

**Educational Establishment
«Gomel State Medical University»
Gomel, Republic of Belarus**

Introduction

Over the past 2 years COVID-19 has caused significant morbidity and mortality worldwide. The respiratory system is the primary system invaded by the COVID-19 virus. In addition to usual respiratory signs, a subset of severe COVID-19 cases exhibit evidence of cardiac injury, which is associated with excessive mortality. With an increase in imaging evidence, such as echocardiography and magnetic resonance imaging (MRI), right ventricular (RV) involvement has been observed more commonly than left ventricular (LV) involvement in patients with COVID-19, with ~40 % of patients experiencing RV dilatation and RV dysfunction [1, 2]. RV dysfunction usually indicates a poor clinical outcome in patients with COVID-19.

In a review of 26 studies that included 11,685 patients, the overall prevalence of COVID-19-related acute myocardial injury ranged from 5 to 38% [3]. N-terminal pro-brain natriuretic peptide and cardiac troponin-I levels were shown to be significantly higher in critically ill patients with COVID-19 than in non-critically ill patients [4]. These data imply that the degree of increased cardiac troponin levels may be associated to disease severity and prognosis. Troponins are often associated with LV ischaemia and infarction. However, previous studies have shown that the most common mechanism of elevated troponin levels in patients with COVID-19 is acute RV damage rather than LV functional impairment [1].

RV damage mechanisms include increased RV afterload and decreased RV contractility induced by a variety of conditions such as acute respiratory distress syn-

drome, pulmonary thrombosis, direct viral injury, hypoxia, inflammatory response, and autoimmune injury. RV damage may be an association between myocardial damage and lung injury in COVID-19. Specific manifestations of myocardial structural damage require assessment of cardiac imaging. Timely and effective therapy is critical for saving patients' lives and improving their prognosis. Doctors can detect RV dilatation and dysfunction early with echocardiography or cardiovascular magnetic resonance.

Objective of the study

To study and analyze the peculiarities of the course of right atrium and ventricle hypertrophy in patients with cardiovascular disorders depending on the convalescence after coronavirus infection, the absence of coronavirus infection and patient age.

Material and methods

Materials of the study were archive data of medical records of patients of «Gomel Regional Clinical Cardiology Center» with a history of COVID-19 (confirmed by PCR study) and without COVID-19. The data were taken for the period from 11.01.2018 to 04.01.2022. Statistical processing of data was performed using Microsoft office 365 software, «Statistica 6.0».

Results of the study

The main group of patients with cardiovascular disorders were comprised of men (75 %), while women comprised 25 %. The mean age of all patients was 70.8 years, the mean age of men was 68.8 years and that of women was 76.5 years. The patients in the study were divided into 2 groups (A and B). Group A with a history of COVID-19 (confirmed by PCR study) was performed, while group B were never infected by COVID-19. All patients had established cardiovascular disorders of varying severity. The established cardiovascular disorders were distributed as follows: arterial hypertension 75 %, valve failure 50 %, atherosclerotic and postinfarction cardiosclerosis 50 %, atherosclerosis 50 %, dyslipoproteinemia 62.5 %, angina 50 %, atrial fibrillation 25 % and aortal defect 12.5 % (Table 1).

Table 1 — The distribution of changes in patients' heart measurements in group A (after COVID-19) and group B (without COVID-19 infection) during a 1–2 year period

Feature	Values	Group A	Group B
RA D.	Avg. increase	37.5 %	22.6 %
	Avg. decrease	10.7 %	26.8 %
RV D.	Avg. increase	22.2 %	15.4 %
	Avg. decrease	17.5 %	10.7 %
mPAP	Avg. increase	8.3 %	35.1 %
	Avg. decrease	8.7 %	14.1 %

RA D. — Right Atrium Diameter; RV D. — Right Ventricle Diameter; mPAP — Mean Pulmonary Artery Pressure

In group A, all the patients had various cardiovascular disorders before COVID-19 infection, most importantly they had RA hypertrophy. After 1 year of convalescence, 30 % of patients had a dramatic increase in diameter by 53 %, 30 % had a moderate increase by 22 %, and 40 % had a decrease by 10.7 %. The average increase in RA diameter was 37.5 %. The patients still suffered from RA hypertrophy. The RV was also affected, 40 % of patients had an increase of RV diameter by 43 %, 30 % of patients had an increase by 16 %, and 30 % had a decrease by 17.5 %. However, the structural changes in the right ventricle didn't cause RV hypertrophy. 60 % of the patients has an increase of the mPAP.

In group B, the patients had different cardiovascular disorders without COVID-19 infection, also 60 % of the patients already had established RA hypertrophy. After a 2-year period, 20 % of the patients had a huge increase of the RA diameter by 44.9 %, 20 % had a decrease by 10.7 %, and 20 % had no changes.

and 20 % had a decrease in the diameter by 26.8 %, the rest had a moderate increase. In 2 years, 80 % of the patients suffered from RA hypertrophy. The RV increased in diameter by an average of 15.4 %, however, 20 % of the patients developed RV hypertrophy.

Conclusions

The main group of patients with cardiovascular disorders after coronavirus infection was over 50 years old, men were more often affected. Moreover, this group of patients already had previously established cardiovascular disorders, most often such disorders were represented by arterial hypertension and dyslipoproteinemia. After 1 year of convalescence, all the patients still had persistent RA hypertrophy at different severities. Although the average increase in RV diameter is higher than group B, none of the patients developed RV hypertrophy. This conveys the importance of the time factor. We can conclude that COVID-19 infection causes an increase of both RA and RV diameter, leading to faster hypertrophy of the right side of the heart, but this effect requires years to greatly affect the structure and function of the heart.

Thus, all patients over the age of 50 with a history of cardiovascular illness should be monitored long-term following a COVID-19 infection to prevent the formation of new cardiovascular problems and the aggravation of existing diseases.

LITERATURE

1. Spectrum of cardiac manifestations in COVID-19: a systematic echocardiographic study / Y. Szekely [et al.] // *Circulation*. 2020. Vol. 142. P. 342–353. doi: 10.1161/CIRCULATIONAHA.120.047971.
2. Echocardiographic findings in patients with COVID-19 pneumonia / H. M. Mahmoud-Elsayed [et al.] // *Can J Cardiol*. 2020. Vol. 36. P. 1203–1207. doi: 10.1016/j.cjca.2020.05.030.
3. Acute myocardial injury in patients hospitalized with COVID-19 infection: a review / C. Bavishi [et al.] // *Prog Cardiovasc Dis*. 2020. № 6. P. 682–689. doi: 10.1016/j.pcad.2020.05.013.
4. Analysis of myocardial injury in patients with COVID-19 and association between concomitant cardiovascular diseases and severity of COVID-19 / C. Chen [et al.] // *Zhonghua Xin Xue Guan Bing Za Zhi*. 2020. Vol. 48. P. 567–571. doi: 10.3760/cma.j.cn112148-20200225-00123.

UDC 616-006.446.8-036.11+[616.27+616.145-005.3]-06-08

COMBINED RELAPSE OF ACUTE MYELOID LEUKEMIA WITH MEDIASTINAL INVOLVEMENT CAUSING SUPERIOR VENA CAVA SYNDROME (CLINICAL CASE)

Maryna Tsiarentsyeva, Dmitri Trakhanov, Iryna Lendzina

Scientific Guide: PhD, associate professor I. Iskrou

State Institution

**«Minsk Scientific and Practical Center for Surgery
Transplantology and Hematology»
Minsk, Republic of Belarus**

Background

Myeloid sarcoma (also known as chloroma, granulocytic sarcoma, or myeloblastoma) is a rare extramedullary manifestation of acute myeloid leukemia (AML) with an estimated incidence throughout the literature of under 1 %. It can sometimes be the first manifestation of AML in a patient, precede a diagnosis of AML, or even be the initial finding in a patient who has relapsed from previously treated AML. The mediastinum is seldom involved by granulocytic sarcoma and superior vena cava obstruction is an even rarer presentation.

Aims

We present a rare case of mediastinal myeloid sarcoma of AML, causing superior vena cava syndrome, and who responds to low-dose radiotherapy.

Methods

Retrospective study of clinical case.