

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ**



МАТЕРІАЛИ

**106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
03, 05, 10 лютого 2025 року**

Конференція внесена до Реєстру заходів безперервного професійного розвитку,
які проводитимуться у 2025 році №1005249

Чернівці – 2025

УДК 61(063)
М 34

Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

Загальна редакція: професор Геруш І.В., професорка Годованець О.І., професор Безрук В.В.

Наукові рецензенти:

професор Батіг В.М.
професор Білоокій В.В.
професор Булик Р.Є.
професор Давиденко І.С.
професор Дейнека С.Є.
професорка Денисенко О.І.
професор Заморський І.І.
професорка Колоскова О.К.
професорка Кравченко О.В.
професорка Пашковська Н.В.
професорка Ткачук С.С.
професорка Тодоріко Л.Д.
професорка Хухліна О.С.
професор Черноус В.О.

ISBN 978-617-519-135-4

© Буковинський державний медичний
університет, 2025

the pathogenetic level and is necessary to assess the risk of severe disease in individual patients, which can be the basis for making therapeutic decisions in patient care.

The aim of the study. To establish and evaluate the impact of comorbid pathology on the activity of anti-infective protection in patients with COVID-19.

Materials and methods. The single-center study involved 204 patients with mild, moderate and severe COVID-19-associated pneumonia. Among the patients, there were 51.97% (106) women and 48.03% (98) men. The average age of patients was 55.93 ± 8.75 years. Antiinfective protection was studied on the basis of an extended general clinical blood test with the calculation of the main populations of immunocompetent kits. The concomitant pathology was distributed taking into account the dominant one: endocrine, cardiovascular, etc.

Results. Comorbid conditions (endocrine, cardiovascular pathology and other comorbidities) affect the absolute and relative number of the main populations of immunocompetent cells in the peripheral blood of patients with COVID-19. Endocrine pathology occurs more often in the setting of concomitant cardiovascular diseases, and in association with COVID-19 leads to a decrease in the absolute number of leukocytes by 18.38%, granulocyte leukocytes in general – by 28, 94% ($p=0.035$), including neutrophilic granulocytes – by 28.95% ($p=0.035$), due to segmented neutrophils – by 30.32% ($p=0.026$), against a slight increase in rod-shaped neutrophils – by 15.62% than in other concomitant pathologies. Also, a relatively higher number of agranulocytes was found, at the expense of lymphocytes and monocytes – by 23.10%, 20.97% and 37.67%, respectively. The association of COVID-19 with cardiovascular disease is accompanied by a decrease in the absolute number of granulocytes by 20.34%, and the relative number by 3.78%.

Conclusions. Thus, with concomitant endocrine and cardiac pathologies, immune-inflammatory changes increase, especially in the setting of a more severe clinical course of COVID-19, due to moderately pronounced absolute and relative leukopenia, neutrophilic granulocytopenia, neutropenia mainly due to segmented nuclear forms, against a background of relative lymphocytosis and monocytosis.

Todoriko L.D.

SEPARATE CONSEQUENCES OF THE IMPACT OF POST-COVID SYNDROME ON CHRONIC PATHOLOGY

*Department of Phthysiology and Pulmonology
Bukovinian State Medical University*

Introduction. In Ukraine, the coronavirus infection Covid-19 (a new type of pneumonia) was first diagnosed on March 3, 2020 in Chernivtsi. On March 13, the first fatal case due to coronavirus infection was recorded. This infectious disease quickly spread worldwide, that is, to the scale of a pandemic, and is currently characterized by a permanent wave course with a periodic increase in the number of cases due to the virus's ability to rapidly mutate. One of the most interesting working hypotheses, which is based on the processing of a huge array of data obtained during the collection of material for PCR research, using the most modern methods of computational systems biology and which is able to explain in the most complete volume the options for the formation of severe manifestations of the systemic inflammatory response in coronavirus infection, is the bradykinin storm (BSS) model: an imbalance between excessive ROS formation and PRZ insufficiency – endothelial destruction (EDF), accompanied by microcirculation disorders; violation of the blood coagulation cascade, thrombovasculitis. Microangiopathy and hypercoagulation are the basis of multisymptoms in COVID-19; increased oxidative stress suppresses the biosynthesis and availability of NO. This hypothesis is able to explain the multisymptoms of COVID-19, including some of its most strange manifestations.

The aim of the study is to assess the consequences of the impact of post-covid syndrome on chronic pathology

Material and methods. The results of the analysis of available scientific sources (216) on the molecular pathophysiology of COVID-19 showed that biomedical terms associated with

COVID-19/SARS-CoV-2 form several clusters: cluster 1 is inflammation and the formation of a cytokine storm; cluster 2 is the pathophysiological rationale for the treatment of coronavirus infection; cluster 3 is comorbid conditions and post-covid syndrome. Based on literature data, we included grouped questions in the questionnaire regarding the most frequent manifestations of prolonged symptomatic COVID-19 and PCS: demographic information, the presence of comorbid conditions, laboratory confirmation of a COVID-19 case, a list of symptoms from the respiratory, digestive, nervous (neurological symptoms and psychological manifestations), musculoskeletal systems, and dermatological manifestations. Additionally, at the second stage of the study, a standardized scale “POST-COVID-19 FUNCTIONAL STATUS SCALE (PCFS)” was added to the questionnaire in order to more closely assess the degree of decline in patients’ working capacity. The study was conducted and the data were analyzed in two time intervals due to the wave-like dynamics of the spread of COVID-19 cases. Accordingly, at each stage of the study, respondents were divided into two groups: the main group – respondents who were inpatients during acute COVID-19, and the comparison group – respondents who did not require inpatient treatment and responded online.

Results. Long-COVID – multisystem multiorgan disease: more than 200 post-COVID symptoms are identified in 10 organ systems. Long-COVID-19 masks have a single multifactorial pathogenesis of complications – pathophysiological syndromes: endotheliitis, systemic inflammation, damage to the nervous system, damage to the respiratory system (pneumonitis), pronounced asthenic syndrome.

Conclusions. It was noted that the severity of post-covid symptoms was significantly higher in patients who had a severe form of the disease and were treated under the intensive care program (in hospital). Polysyndromic symptoms also occurred in young people who suffered the disease without any special problems or complications. Questions remain open regarding the long-term impact of the infection on the human body, whether it provokes the emergence of other new diseases, how it affects physical endurance, how the functioning of our organs and systems changes – we will receive answers to them only in the future.

Yeremenchuk I.V.

THE ROLE OF INTERLEUKINS IN THE DIAGNOSIS OF INFLAMMATORY PROCESS IN COVID-19 AND TUBERCULOSIS

*Department of Phthisiology and Pulmonology
Bukovinian State Medical University*

Introduction. Coronavirus and tuberculosis, although caused by various pathogens, have many common features. In the pathogenesis of COVID-19 and tuberculosis the same features, a hyper-inflammatory reaction of the body, characterized by a pathological level of cytokines, is common.

Specific immunity mediators- cytokines- control the formation of particular inflammation with subsequent extravasation of inflammatory reaction cells and their accumulation in tissues.

The aim of the study to detect the role of interleukins in the diagnosis of inflammatory process in COVID-19 and tuberculosis.

Materials and methods. He randomized case-control study included 45 patients with newly diagnosed pulmonary tuberculosis (PDTB) of the lungs with preserved sensitivity and 30 practically healthy individuals (PHI) of the control group. The level of IL-6 in blood serum was examined using the ELISA Kit (Optics Valley Biomedical Industrial Park, Wuhan, China (430075)).

Results. Interleukin 6 (IL-6) is an interleukin that affects the activity of various types of cells. IL-6 is considered to be one of the most important cytokines during an infection because it controls the differentiation of monocytes into macrophages, increases B-cell IgG production. It is important that the release of IL-6 in the inflammatory environment occurs for a huge number of cells that secrete it, which are structural components of the infected tissue and not necessarily part of the immune system as such, that is, mesenchymal cells, endothelial cells, fibroblasts and others are involved in the production of IL-6. Functionally, IL-6 enters the liver through the bloodstream