

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ



**МАТЕРІАЛИ**  
**106-ї підсумкової науково-практичної конференції**  
**з міжнародною участю**  
**професорсько-викладацького колективу**  
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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.

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## LONG COVID AND ITS CARDIOVASCULAR CONSEQUENCES: A LONG-TERM PERSPECTIVE

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**Introduction.** The COVID-19 pandemic has profound implications for global healthcare systems and economies. While recovery rates have improved and morbidity rates have declined, long-term consequences, especially those related to cardiovascular health, have emerged as a significant global issue. In 2021, the World Health Organization introduced the concept of "long COVID", recognizing over 100 symptoms reported by patients persisting for at least three months post-recovery. These clinical manifestations are often nonspecific, and effective treatment strategies have yet to be established. Furthermore, organized measures for detecting and preventing these complications remain lacking.

**The aim of the study.** To compile existing data and current perspectives on the long-term cardiovascular effects of COVID-19, identify potential causes and risk factors for their development, and analyze the available information regarding the pathogenetic mechanisms underlying cardiovascular complications following coronavirus infection.

**Material and methods.** This literature review analyzed studies on the cardiovascular effects of long COVID, published from 201 to 2024 using databases like PubMed and Scopus. Keywords included "long COVID", "cardiovascular complications", "long-term outcomes". Peer-reviewed articles and cohort studies were selected based on predefined criteria. Data on cardiovascular outcomes were extracted and synthesized to assess long-term risks.

**Results.** The literature suggests that multiple mechanisms are involved in the development of long COVID. These include the persistence of SARS-CoV-2 in the body, reactivation of latent viruses, immune system disruption, the emergence of autoimmunity, microvascular clotting, and endothelial dysfunction. Although these factors provide insights into the potential causes of prolonged symptoms, they are interconnected and do not yet form a comprehensive explanation for long COVID.

Research has also highlighted the need for close attention to cardiovascular outcomes, which can be severe. Complications reported include myocarditis, pericarditis, heart failure, hypertension, arrhythmias, pulmonary embolism, stroke, and cardiomyopathy. With cardiovascular conditions being prevalent and a leading cause of mortality, these risks represent a significant challenge to global healthcare, especially in the ongoing pandemic context.

**Conclusions.** This analysis reviewed the current understanding of the causes and mechanisms behind long COVID, with a detailed examination of cardiovascular complications reported in patients after recovering from the acute phase of the disease. Investigating this area is crucial, as gaining insights into the link between COVID-19 and cardiovascular conditions, exploring the underlying mechanisms, and identifying risk factors are essential steps toward improving prevention, enhancing treatment, and managing the cardiovascular impacts of COVID-19 on a global scale.

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## BICUSPID AORTIC VALVE IN THE CARDIOVASCULAR COMPLICATIONS PROGRESS

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**Introduction.** Bicuspid aortic valve (BAV) is the most common congenital heart defect (1-2.5% of the adult population), which is often the morphological basis of aortopathies. Among the types of pathology, there are isolated and associated (combined) with congenital valve defects (coarctation of the aorta, prolapse of the mitral valve 70-75%, supravalvular and subvalvular stenosis of the aorta, bicuspid valve of the pulmonary artery, defect of the interventricular septum, common arterial trunk).