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з міжнародною участю
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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.

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.

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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).

The aim of the study. Define the frequency and patterns of valvular dysfunction and aortopathy associated with different types of bicuspid aortic valve. Most cases of severe aortic failure are associated directly or indirectly with congenital bicuspid aortic valve.

Materials and methods. We analyzed clinical, instrumental, laboratory, including echocardiography studies of 57 patients (35 men and 22 women) with diagnosed bicuspid aortic valve. 52 of 57 patients referred for transesophageal echocardiography (TEE) were analyzed. Aortic valve value less than 0.05 was considered statistically significant. Frequency of various bicuspid aortic valve phenotypes and their association with valvular dysfunction and aortopathy was evaluated.

Results. The analysis of the frequency of phenotypes detection showed the following addiction. A single suture bicuspid aortic valve, which is usually located between the left and right coronary cusps with hemodynamically prevailing stenosis, is more common, and all other types are defined as a mixed compound that is one of the risk factors for aortic stenosis and associated aortopathy and may lead to significant hemodynamic changes. Patients in the bicuspid aortic valve group were more likely to have periannular complications in compare with the tricuspid group. The prominent clinical manifestations brought on the progression of heart failure and the development of complications. The aortic pathology analysis is performed depending on the bicuspid aortic valve phenotype. The placement of the ventricles may be anterior-posterior or right-to-left. According to the functional state of the bicuspid aortic valve divided into complicated and uncomplicated. Patients of different phenotypes are characterized with indirect eccentric flow and uneven tension on the walls of the aorta that lead to vascular remodeling of the ascending aorta and formation of aneurysms or dissection. There was a significant difference in the frequency of aortic stenosis and failure of the aortic valve. The phenotype 3 showed a significantly higher incidence of aortic stenosis compared to phenotype 1, while the frequency of aortic failure in phenotype 1 was higher than among other phenotypes. The frequency of mass or vegetation in phenotype 1 was significantly lower compared to other phenotypes.

Conclusions. It is necessary to analyze symptoms of aortopathy, systemic signs of connective tissue involvement to identify syndromes of hereditary disorders of connective tissue associated with aortic aneurysm, diagnostic criteria for heart defects in the case of BAV diagnosis. The presence of BAV increases the risk of complications in the aortic valve. TEE is recommended for patients with BAV with the aim of early detection of initial conditions of hyalinosis, fibrosis and calcinosis of BAV, insufficiency and stenosis of aortic valve, aortic injury. The timeliness of conservative treatment prevents hemodynamic changes and increases the quality and prolongation of patients' lives until surgical correction.

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INTEGRATIONAL POTENTIAL OF QUANTITATIVE ASSESSMENT OF STRUCTURAL CARDIAC CHANGES IN THE EVALUATION OF ANTIHYPERTENSIVE THERAPY

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Introduction. Arterial hypertension (AH) is a leading risk factor for cardiovascular diseases (CVDs) such as myocardial infarction and stroke. While effective control of blood pressure (BP) is the cornerstone of antihypertensive therapy, the assessment of the long-term benefits of therapy must go beyond mere BP measurements.Modern imaging techniques enable precise and reproducible quantification of these structural changes, providing a valuable tool for monitoring the effect of antihypertensive treatment. Left ventricular hypertrophy (LVH) in patients with AH is a key marker of cardiac remodeling and a predictor of adverse cardiovascular events.

The aim of the study. To analyze new studies about the impact of AHT on structural cardiac changes using quantitative imaging methods,to provide quantitative assessment of structural heart changes under the influence of antihypertensive therapy, particularly changes in left ventricular (LV) mass and geometry.