

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



## **МАТЕРІАЛИ**

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## **ADAPTIVE-COMPENSATORY REACTIONS OF THE ORGANISM IN PATIENTS WITH ARTERIAL HYPERTENSION AND CHRONIC KIDNEY DISEASE**

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**Introduction.** Arterial hypertension (AH) is one of the most common circulatory system diseases in Ukraine and the world. Early diagnosis of hypertension before damage to target organs (hypertrophy of the left ventricle, chronic kidney disease (CKD), vascular damage, etc.) is insufficiently effective. Therefore, the problem of early diagnosis of genetic, cardiometabolic and immunological factors in the formation of lesions of target organs due to hypertension, coronary heart disease, heart failure (HF), type 2 diabetes mellitus (T2DM) in the CVD continuum for the purpose of early secondary prevention is significant, relevant and needs final further study.

**The aim of the study.** Was to study adaptive-compensatory mechanisms by the level of organism cellular reactivity and adaptation index in patients with essential arterial hypertension (EAG) and chronic kidney disease (CKD).

**Material and methods.** 100 patients were screened for EAH. Then they underwent a complex of clinical and laboratory examinations with the following calculation of immune-hematological indices of cellular reactivity, intoxication and determination of immunological adaptation zones. CKD was determined by glomerular filtration rate according to Cockcroft-Gault and CKD-EPI (by creatinine and Cystatin-C blood levels based on sex), according to the recommendations of KDIGO (2012). The control group consisted of 30 practically healthy individuals who did not differ significantly by sex and age.

**Results.** In patients with EAH and CKD the cellular reactivity of the body is reduced 6.9 times, which is confirmed by a decrease of leukocyte intoxication indices after Ya.Calf-Calif by 43.18%, after B.A. Reis-by 39.23%. A lymphocytic-granulocyte index decrease by 42.86% in patients with EAH with comorbid CKD indicates the presence of intoxication caused by autoimmune mechanism (degenerative processes of own cells) and is confirmed by an increase in the ratio of the absolute number of leukocytes to erythrocyte sedimentation rate by 16.25%.

**Conclusions.** Adaptation processes in the majority (54.06%) of patients with EAH and CKD are found in the zone of quiet and increased activation, which is a prognostic favorable sign of the course of EAH and CKD and is indicative of a correct treatment.

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## **HETEROCYCLIC COMPOUNDS AND MEDICINE**

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**Introduction.** Heterocyclic compounds, or heterocycles, are cyclic organic compounds, the cycle of which includes a heteroatom, that is, an atom of any other element except carbon. Mainly heteroatoms are N, O, S atoms, much less often than other compounds.

**The aim of the study.** It is known that the most stable organic cycles of 5- and 6-membered structure are due to the fact that in such cycles the least pronounced cycle tension is due to the repulsion of C-C bonds. In nature, nitrogen-containing heterocyclic (azaheterocycles), oxygen-containing heterocycles, 5- and 6-membered compounds are a very large group of biological compounds with different properties and significance.

**Material and methods.** These are vitamins and coenzymes of many groups, substances of plant and animal origin, such as alkaloids, flavonoids, natural chalcones and many others. Azaheterocycles are one of the main building blocks of nucleic acids (DNA and RNA). In this regard, it is not surprising that many medicinal substances are heterocyclic compounds.

**Results.** Among all medicinal substances, organic substances significantly outnumber in organic medicinal substances, and among organic heterocyclic substances they make up, one might say, the lion's share. Among heterocyclic medicinal substances, there are the most diverse groups of substances in terms of pharmacological and physiological effects: antibiotics, antimicrobials, antivirals, antiparasitics, anti-inflammatory and analgesics, hypnotics and narcotics, nootropics and many other groups. It is logical to