

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



МАТЕРІАЛИ

**104-ї підсумкової науково-практичної конференції
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vegan diet for a year, achieved a significant reduction in blood pressure, and 20 of them were able to stop taking antihypertensive drugs. The totality of the data obtained in these scientific works proves that plant-based diets have a significant effect on both the prevention and treatment of hypertension.

There are many mechanisms by which a plant-based diet lowers blood pressure. These include improved vasodilation, higher antioxidant and anti-inflammatory effects, improved insulin sensitivity, reduced blood viscosity, and effects on the renin-angiotensin and sympathetic nervous systems, and even modification of gut microbiota composition.

Modern variations of plant nutrition are the diets of M. Greger, D. Ornish and N. Barnard, research on them is actively being conducted.

Conclusions. The study of scientific data allows us to conclude about the important role of plant food in the prevention and treatment of hypertension. The best results in lowering blood pressure were demonstrated by diets with a complete absence of animal products.

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THE LINK BETWEEN BLOOD PRESSURE, BODY WEIGHT INDEX AND ANTHROPOMETRIC, METABOLIC-HORMONAL PARAMETERS IN PATIENTS WITH ESSENTIAL ARTERIAL HYPERTENSION

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Introduction. Nowadays, essential arterial hypertension (EAH) remains the most common global non-communicable disease, regardless of the country's income and its citizens. The number of adults with hypertension in the world increased from 594 million in 1975 to 1.13 billion in 2015, mostly in low- and middle-income countries. More than 50% of patients with hypertension have additional cardiovascular risk (CVR) factors. The presence of one or more additional CVR factors increases proportionally the risk of ischemic, cerebrovascular and renal diseases in patients with EAH.

The aim of the study was to evaluate changes in clinical and laboratory parameters and to analyze the relationship between blood pressure (BP), body mass index (BMI) and anthropometric, metabolic and hormonal parameters in patients with essential arterial hypertension (EAH).

Material and methods. 100 subjects with EAH and target-organ damaging (2nd stage), moderate, high, very high cardiovascular risk were involved in the case-control study. There were 70.84% females, 29.16% males, the mean age 57.86 ± 7.81 yo. The control group consisted of 60 healthy individuals, that did not differ by sex and age ($p > 0.05$). Pearson's χ^2 -test was used to establish the relationship between the parameters, in the case of categorical variables; ANOVA variance analysis, if one of the variables is categorical and the other is numerical (interval), in the case of abnormal array distribution – non-parametric Kruskal-Wallis test.

Results. The development and course of EAH is characterized by clinical-hemodynamic and metabolic disorders that are nonlinearly exacerbated with the severity of hypertension. ANOVA analysis showed that BP is directly related to age ($F=7.46$; $p < 0.001$), body weight ($F=4.32$; $p=0.048$), height ($F=5.60$; $p=0.04$), waist circumference (WC) ($F=7.61$; $p=0.043$), as well as WC/HC ($\chi^2=6.75$; $p=0.004$), glucose level ($\chi^2=9.41$; $p=0.003$), vitamin D and parathyroid hormone (PTH) ($\chi^2=6.08$; $p=0.043$ and $\chi^2=19.34$; $p=0.013$), respectively. Body mass index (BMI) is expected to be strongly associated with BP ($\chi^2=40.06$; $p < 0.001$), WC/HC ($\chi^2=12.13$; $p=0.007$), blood glucose and vitamin D ($\chi^2=19.11$; $p < 0.001$ and $\chi^2=16.12$; $p=0.001$), bordering on heredity for cardiovascular diseases ($\chi^2=7.72$; $p=0.052$).

Conclusions. Therefore, blood pressure is directly related to age, body weight, height, waist circumference ($F=4.32-7.46$; $p < 0.048-0.001$), as well as WC/HC, glucose level, vitamin D and parathormone ($\chi^2=6.08-19.34$; $p=0.043-0.003$). Bode mass index is strongly associated with waist circumference ($\chi^2=40.06$; $p < 0.001$), WC/HC ($\chi^2=12.13$; $p=0.007$), blood glucose and vitamin D concentration ($\chi^2=19.11$; $p < 0.001$; $\chi^2=16.12$; $p=0.001$).

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RENAL BLOOD FLOW AND LIVER INFLAMMATION IN THE HEPATORENAL SYNDROME

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Introduction. Hepatorenal syndrome (HRS) is a relatively common complication of cirrhosis and occurs in 39% of cirrhosis patients within five years since the diagnosis has been made. Generally accepted theory is that blood vessels of kidneys constrict because of the dilation of blood vessels in the visceral circulation, which is caused by factors of the liver disease. Histamine, prostaglandins, and nitrous oxide (NO) affects unstriated muscle structure of vessels, causing the dilation of blood vessels, which increases the blood flow and circulating leukocytes in it. But the role of inflammatory cytokines in the pathogenesis of hepatorenal syndrome is still under the study.

Objectives. The objective of the study was to analyze the impact of liver inflammation on the renal hemodynamic disorders in HRS.

Material and methods. We examined 90 patients in total: 30 – with alcoholic liver cirrhosis (ALC)+normal renal function (group 1); 30 ALC+renal failure, but without HRS criteria (group 2); and 30 ALC+HRS (group 3). We measured IL-6 and TNF- α levels in the blood serum by the kits of Immunoassay Cytoscreen (Biosource International, Camarillo, CA, USA), and NO level by Griess reaction. The index of interlobar arterial resistance (IARI) was estimated with the data of duplex dopplerography.

Results. The mean value of IARI in group 3 (0.76 ± 0.02) was statistically higher than in group 1 (0.64 ± 0.04) and group 2 (0.68 ± 0.01) ($p < 0.05$).

The numbers of NO were the highest in group 3 – 28.5 ± 3.2 mmol/L in comparison with 16.2 ± 2.5 mmol/L in group 1. There was no statistically significant differences between NO levels in groups 1 and 2 (17.6 ± 2.3 mmol/L) ($p > 0.05$).

TNF- α levels in the blood serum were significantly overstated in group 3 – 2.79 ± 0.68 pg/mL ($p < 0.05$) in comparison with 1.89 ± 0.34 pg/mL - in group 2 and 1.89 ± 0.34 pg/mL – in group 1.

Group 3 also revealed the high level of IL-6 – 15.35 ± 0.93 pg/mL ($p < 0.05$), while in group 1 and 2 it was 12.39 ± 1.07 pg/mL and 11.64 ± 1.32 pg/mL respectively.

Spearman's rank correlation analysis revealed the direct correlation between IARI and NO in the blood serum ($r=0.86$), IARI and levels of TNF- α in the blood serum ($r=0.73$), IARI and IL-6 in the blood serum ($r=0.67$) ($p < 0.05$).

Conclusions. Thus, this paper proves that proinflammatory cytokines, including TNF- α , IL-6 and NO, play a key role in the pathophysiology of HRS. The identification of serum levels of these cytokines, along with the routine biochemical and ultrasound examination, can help in early detection of renal hemodynamic disorders in patients with ALC even before renal dysfunction becomes clinically evident. It also makes the identification of a subgroup of ALC patients who have higher risks for HRS progression possible.

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ASSESSMENT OF INDICATORS OF MELATONIN AND GHRELIN CONCENTRATIONS IN THE BLOOD SERUM OF PATIENTS WITH ARTERIAL HYPERTENSION COMBINED WITH OSTEOARTHRITIS

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Introduction. Diseases such as arterial hypertension (AH) and osteoarthritis (OA), which are common among the global population, are often combined. The combined course of these diseases is an important medical and social problem even in economically developed countries. In this regard, researchers are now paying considerable attention to the biochemical and molecular mechanisms underlying the development of hypertension and OA. Their efforts are aimed at identifying these diseases as early as possible and prescribing adequate complex therapy.