

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



## **МАТЕРІАЛИ**

**104-ї підсумкової науково-практичної конференції  
з міжнародною участю  
професорсько-викладацького персоналу  
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ  
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vegetative-vascular dystonia (26,32% in the second group, 16,92% in the first group and 18,33% in the third group,  $p>0,05$ ), mitral valve prolapse (respectively 7, 02, 1.54 and 3,33% in groups II, I and III),  $p<0,05$  and arterial hypertension (3,51%) in mothers of group II. Endocrine pathology was also observed (26,32% in group II, 10,77% in group I, 3,33% in group III),  $p<0,05$ ; iron deficiency anemia (respectively 47,37, 41,54 and 40,0% in II, I and III groups),  $p>0,05$ ; diseases of the urinary system (in 21,05, 12,31 and 8,33% of cases, respectively, in groups II, I and III),  $p<0,05$ .

Attention was also drawn to the significantly higher specific weight of chronic gynecological pathology in women who gave birth to children with severe forms of maladjustment (24.56%). At the same time, chronic colpitis and vaginitis prevailed among the diagnoses – 12,28%. According to the birth histories, a significantly higher frequency of carriers of conditionally pathogenic microflora (38,60%) was found in mothers of group II, which was probably higher compared to women of group I (10,77%) and women of group III (8,33%),  $p<0,05$ . The highest percentage of complications during pregnancy and childbirth in mothers was associated with the presence of preeclampsia in the first and second half of the gestational period – 10,53% in the second group and 3,08% in the first group ( $p<0,05$ ) and the presence placental dysfunction (14,04 and 12,31%, respectively,  $p<0,05$ ). The threat of abortion was detected in all experimental groups, but its frequency did not differ significantly (47,37, 46,15 and 45,0%).

The analysis of the course of childbirth in women of the observation groups showed a significant percentage of pathology in the mothers of children of group II: the duration of the waterless interval  $> 6$  hours – 21,05%, premature rupture of the membranes – 10,53%, episiotomy and perineotomy – 8,77%, entanglement of the umbilical cord around the neck of the fetus – 14,04%, amniotomy – 8,77%; in 5,26% of cases, obstetrical forceps were applied; in 7,02% of cases vacuum extraction of the fetus was carried out. It should be noted that in group II, compared to group I, there were more cases of fetal distress – 12,28 and 7,69%, respectively, due to which the delivery was performed by cesarean section according to emergency indications (36,84% in group II and 23,08% - in group I). Also, during childbirth, meconium and green amniotic fluid was noted in 43,86% of cases in mothers of the second observation group, and in 7,69% of women of the first group,  $p<0,05$ .

**Conclusions.** The obtained data indicated that the intrauterine development of the fetus had taken place under the conditions of the implementation of unfavorable ante-/perinatal risk factors, i.e., the nature of cardiovascular disorders in newborns is multifactorial, which requires a separate in-depth analysis of risk factors in each specific case.

**Repchuk Yu.V.**

**THE BODY MASS INDEX AND METABOLIC PARAMETERS ASSOCIATION  
DEPENDING ON THE ANGIOTENSINOGENE (AGT, RS699) GENE POLYMORPHISM  
IN PATIENTS WITH ESSENTIAL HYPERTENSION**

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**Introduction.** Essential hypertension (EH) is the leading cause of cardiovascular disease and premature death worldwide. The prevalence of EH has increased, especially in low and middle-income countries. Variations in the levels of risk factors for it, such as high sodium intake, low potassium intake, obesity, alcohol consumption, physical inactivity and unhealthy diet, may explain some of the regional heterogeneity in EH prevalence. Therefore, it is important to study risk factors in order to improve secondary prevention of EH.

**The aim of the study** was to analyze the correlations between body mass index (BMI) and clinical and laboratory parameters in patients with EH depending on the angiotensinogen (AGT, rs699) gene polymorphism.

**Material and methods.** 72 subjects with EH and target-organ damaging (2<sup>nd</sup> stage), moderate, high or very high cardiovascular risk were involved in the case-control study. Among them, 70.84% (51) females and 29.16% (21) males, mean age  $59.87\pm 7.98$  yo. Control group consisted of 48 practically healthy individuals with relevant age and sex distribution.

Polymorphism of the *AGT* (rs699) gene was detected by polymerase chain reaction. BMI was defined as the ratio of weight to square of height (kg/m<sup>2</sup>).

**Results.** The correlation matrix showed a direct relationship between BMI and anthropometric parameters of waist circumference (WC), hip circumference (HC) and waist-hip ratio (WHR) ( $r=0.70-0.81$ ;  $p\leq 0.022$ ), vitamin D level ( $r=0.65$ ;  $p=0.043$ ) and the reverse with the level of ionized Ca<sup>2+</sup> in the blood ( $r=-0.71$ ;  $p=0.02$ ) among TT-genotype carriers; in TC-genotype carriers BMI was directly related to WC and HC ( $r=0.68$ ;  $p<0.001$  and  $r=0.84$ ;  $p<0.001$ ), as well as the level of parathyroid hormone ( $r=0.43$ ;  $p=0.004$ ), with a negative correlation with the level of vitamin D ( $r=-0.38$ ;  $p=0.011$ ); in CC-genotype carriers, a direct link was found between BMI and WC and HC ( $r=0.73$ ;  $p<0.001$  and  $r=0.78$ ;  $p<0.001$ ).

**Conclusions.** Thus, the correlation matrix showed that BMI directly depended on the anthropometric parameters of WC, HC and/or WHR ( $r=0.68-0.84$ ;  $p\leq 0.022-0.001$ ) regardless of the *AGT* (rs699) gene genotypes ( $r=0.52-0.86$ ;  $p\leq 0.02-0.001$ ) and inversely correlated with the ionized Ca<sup>2+</sup> level in the blood ( $r=-0.71$ ;  $p=0.02$ ), but only in TT-genotype carriers of the *AGT* (rs699) gene.

**Rusnak I.T.**

## **PLANT NUTRITION IN THE TREATMENT OF ARTERIAL HYPERTENSION**

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**Introduction.** In the treatment of arterial hypertension, modification of the patients' lifestyle, especially correction of their diet, plays an important role. Vegetable nutrition has the property of improving blood pressure indicators in such patients.

**The aim of the study.** To reveal the correlation between the consumption of animal food and the incidence of arterial hypertension.

**Material and methods.** Analysis of prospective studies data examining the effects of plant-based and animal-based food consumption.

**Results.** The Coronary Artery Risk Development in Young Adults (CARDIA) prospective study followed 5,115 African, American and Caucasian young men and women (aged 18 to 30 years) over a 15-year period and monitored them for the development of cardiovascular diseases risk factors. The CARDIA arm on arterial hypertension (AH) of 4,304 subjects found a dose-dependent inverse correlation between blood pressure (BP) and consumption of plant-based foods, including fruits, whole grains, and nuts. Higher consumption of red and processed meat was associated with higher BP. Similar results were also demonstrated in 11,004 people from the Oxford cohort of the European Prospective Investigation into Cancer and Nutrition-Oxford study (EPIC-Oxford) - vegans had the lowest prevalence of AH among the four dietary types (meat eaters; fish; vegetarians; vegans).

Similarly, Borgi et al found a positive correlation between animal meat consumption and risk of AH in an analysis of three prospective cohorts [Nurses' Health Study I (NHS I), Nurses' Health Study II (NHS II), and Health Professionals Follow-up Study, HPFS] in a total of 188,518 participants and 2,936,359 person-years of follow-up. In this largest prospective today's study, it was shown that the relationship between consumption of animal food (including red and processed meat, poultry and seafood) and the incidence of AH was independent of consumption of fruits, vegetables and whole grains. Poultry and seafood consumption was associated with higher hypertension in only two cohorts, NHS II and HPFS, while red and processed meat was associated with increased risk of AH in all three cohorts, which was also consistent with other studies.

Other studies have found similar results. In a prospective cohort study of 1,546 non-hypertensive subjects followed for three years, those who consumed more phytochemical-rich foods (plant foods) had a lower risk of developing hypertension. In another cohort study of 4,109 non-hypertensive subjects, vegetarians had a 34% lower risk of developing AH than non-vegetarians. In other studies, 5,046 and 1,615 subjects were given a plant-based diet as part of a wellness program for 30 days and 7 days, respectively, and systolic and diastolic BP was significantly reduced in both groups. In a subsequent study, 26 patients with medically treated hypertension, who followed a