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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^2).

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≤0.022), vitamin D level (r=0.65; p=0.043) and the reverse with the level of ionized Ca^{2+} 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≤0.022-0.001) regardless of the *AGT* (rs699) gene genotypes (r=0.52-0.86; p≤0.02-0.001) and inversely correlated with the ionized Ca^{2+} level in the blood (r=-0.71; p=0.02), but only in TT-genotype carriers of the *AGT* (rs699) gene.

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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

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 (χ^2=6.75; =0.004), glucose level (χ^2=9.41; p=0.003), vitamin D and parathyroid hormone (PTH) (χ^2=6.08; p=0.043 and χ^2= 19.34; p=0.013), respectively. Body mass index (BMI) is expected to be strongly associated with BP (χ^2= 40.06; p<0.001), WC/HC (χ^2=12.13; p=0.007), blood glucose and vitamin D (χ^2=19.11; p<0.001 and $\chi^2$16.12; p=0.001), bordering on heredity for cardiovascular diseases (χ^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 (χ^2=6.08-19.34; p=0.043-0.003). Bode mass index is strongly associated with waist circumference (χ^2=40.06; p<0.001), WC/HC ($\chi^2$12.13; p = 0.007), blood glucose and vitamin D concentration (χ^2= 19.11; p<0.001; χ^2= 16.12; p = 0.001).