

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ



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Addressing these modern challenges is essential for reducing the healthcare burden and restoring human-environment synchrony. By adopting a holistic, adaptable approach, healthcare providers can foster resilience and promote a balance between human health and the evolving environmental landscape.

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RISK FACTORS OF FUNCTIONAL DISORDERS

STATE OF CARDIOVASCULAR PATHOLOGY OF NEWBORNS

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Introduction. In order to determine the risk factors for the development of disorders of the functional state of the cardiovascular system (CVS) in the early neonatal period, an analysis of somatic pathology, the course of pregnancy and childbirth in mothers who gave birth to children with disorders of the functional state of the cardiovascular system was carried out.

The aim of the study. To reveal the influence of risk factors for the appearance of disorders of the functional state of the cardiovascular system in newborns with perinatal pathology.

Material and methods. The first group included 65 newborns who had clinical manifestations of perinatal pathology, which included changes in the functional state of the cardiovascular system; the second group consisted of 57 children, which were noted and which had more significant cardiovascular disorders. The third (control) group consisted of 60 newborns with a satisfactory general condition.

Results. The analysis of the somatic anamnesis of the children's mothers of the observation groups showed that in the cases of the children's birth who had clinical signs of impaired functional status CVS in perinatal pathology, a significant percentage of cardiac diseases was noted, probably higher in women of the 2nd group (47.37%), compared to the 1st group (26.15%) and the 3rd group (21.67%). The pathology was presented as listed below: vegetative-vascular dystonia (26.32% - in the 2nd group, 16.92% - in the 1st group and 18.33% - in the 3rd group, $p>0.05$), mitral valve prolapses (respectively 7.02, 1.54 and 3.33% in 2nd, 1st and 3rd groups), $p<0.05$ and arterial hypertension (3.51%) - in mothers of 2nd group. Endocrine pathology was also observed (26.32% - in the 2nd group, 10.77% - in the 1st group, 3.33% in the 3rd group), $p<0.05$; iron deficiency anemia (respectively 47.37, 41.54 and 40.0% in the 2nd, 1st and 3rd groups), $p>0.05$; diseases of the urinary system (in 21.05, 12.31 and 8.33% of cases, respectively, in the 2nd, 1st and 3rd groups), $p<0.05$.

A significantly higher specific weight of chronic gynecological diseases also attracted attention pathologies in women who gave birth to children with severe forms of maladjustment (24.56%). At the same time, among the diagnoses, chronic colpitis and vaginitis prevailed (12.28%). The 2nd group mothers' birth stories showed a significantly higher frequency of conditionally pathogenic microflora carriage (38.60%), which was probably higher compared to the 1st group of women (10.77%) and to the 3rd one (8.33%), $p<0.05$. According to the received data, the highest percentage of course complications pregnancy and childbirth in mothers was associated with the presence of the first and second gestosis half of the gestational period – 10.53% in the 2nd group and 3.08% in the 1st one ($p<0.05$) and the presence placental dysfunction (14.04 and 12.31%, respectively, $p<0.05$).

Analysis of the course of childbirth in women of observation groups showed a significant percentage pathologies especially in mothers of children of the 2nd group: duration of the waterless interval >6 hours – 21.05%, premature rupture of membranes – 10.53%, episiotomy and perineotomy – 8.77%, wrapping the umbilical cord around the neck of the fetus – 14.04%, amniotomy – 8.77%; in 5.26% of cases there were superimposed outgoing obstetric forceps; vacuum extraction was performed in 7.02% of cases. A greater number of distress cases should be noted in the 2nd group, compared to the 1st group of the fetus – 12.28 and 7.69%, respectively, due to which the birth was carried out by caesarean section for emergency indications (36.84% in the 2nd group and 23.08% in the 1st group).

Conclusions. The obtained data indicate that the intrauterine development of the fetus took place according to conditions for the realization of unfavorable factors of ante-/perinatal risk, that is, nature cardiovascular disorders in newborns are multifactorial, requiring a separate in-depth analysis of risk factors in each specific case.

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AGT GENE VARIANT (RS699) AND ITS ASSOCIATION WITH CLINICAL AND ANTHROPOMETRIC MEASUREMENTS IN HYPERTENSIVE INDIVIDUALS

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Introduction. Arterial hypertension has emerged as one of the most significant public health challenges of the 21st century. This silent but dangerous condition affects a staggering 1.28 billion adults worldwide, making it one of the most common chronic diseases in modern society. This widespread prevalence of hypertension serves as a call to action for healthcare systems worldwide, emphasizing the need for better screening programs, improved access to treatment, and more effective public health education initiatives. Understanding these patterns is crucial for developing strategies to combat what has become one of the leading risk factors for cardiovascular disease and premature death globally.

The aim of the study was to analyse the role of angiotensinogen (AGT, rs699) gene in the development and course of essential hypertension.

Material and methods. 72 subjects with essential hypertension and target-organ damaging (2nd 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 ± 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. Body mass index (BMI) was defined as the ratio of weight to square of height (kg/m^2).

Results. Carriers of the TT-genotype have the highest blood pressure indicators: systolic blood pressure (SBP) reaches 163.0 ± 3.94 mm Hg, and diastolic blood pressure (DBP) - 99.98 ± 2.87 mm Hg, which is significantly higher than the indicators of the control group ($p < 0.001$). In patients with TC-genotype, slightly lower values are noted: SBP is 152.0 ± 2.27 mm Hg, and DBP is 94.30 ± 1.18 mm Hg. The lowest blood pressure indicators were recorded in CC-genotype carriers: SBP - 150.03 ± 2.94 mm Hg, DBP - 91.62 ± 1.84 mm Hg.

Regarding anthropometric indicators, there is a gender difference in BMI. In women, the highest BMI was found in the TC-genotype carriers - 33.70 ± 0.99 kg/m^2 , which is significantly different from the indicators of the TT-genotype carriers ($p = 0.016$). In men, the highest BMI is also observed in the TC-genotype carriers - 31.90 ± 1.66 kg/m^2 ($p = 0.012$).

Analysis of waist and hip circumference showed that the TC-genotype carriers have the highest hip circumference - 114.30 ± 1.80 cm ($p = 0.048$ compared to the control group) and waist circumference - 105.40 ± 2.03 cm ($p = 0.001$). Interestingly, the waist-hip ratio remains relatively stable between genotypes and ranges from 0.86 to 0.92, which indicates a proportional distribution of adipose tissue regardless of genotype.

Conclusions. Thus, the results of the study demonstrate that the TT-genotype carriers of the AGT gene have a tendency to higher blood pressure indicators, while the TC-genotype carriers are characterized by higher anthropometric indicators. These data may be important for predicting the risk of developing arterial hypertension and metabolic disorders depending on the patient's genetic profile.