

Actuality. The autonomic nervous system (ANS) regulates the basic life processes, including the work of the cardiovascular system. It works autonomously and does not depend on human desires. There are two sections of the autonomic nervous system - sympathetic and parasympathetic. Normally, they balance each other and ensure the balanced functioning of internal organs. In various diseases, there is a disconnection in the work of the ANS, which leads to the predominance of a particular department. There are many research methods for ANS. One of the simplest methods for studying the relationship between the sympathetic and parasympathetic divisions of the ANS is to evaluate the vegetative index - the Kerdo index.

Aim of the research. To study the state of the ANS in children with juvenile idiopathic arthritis (JIA).

Methods and materials. We studied 49 patients with a polyarticular variant of JIA, whose age was 11.88 ± 0.49 years (11 boys, 38 girls). The control group consisted of 33 children without pathology, the average age of which was 14.91 ± 0.40 years (26 boys, 7 girls). Blood pressure was measured in all patients and the resting heart rate was calculated. From the data obtained, the Kerdo index was calculated. The study was conducted in the cardiorheumatology department of the State Institution "Institute for Children and Adolescents Health Care at the National Academy of Medical Sciences of Ukraine".

Results. the initial heart rate in the pathology group was within normal limits, but was significantly higher than the control group (85.33 ± 1.51 beats / min versus 73.27 ± 2.08 beats / min, $p < 0.001$). The indicators of the Kerdo index in children with JIA had a negative value and significantly differed from the comparison group ($-80.15 \pm 2.58\%$ versus $6.33 \pm 3.70\%$, $p < 0.001$). This level of vegetative index indicates severe parasympathicotonia in patients with JIA.

Conclusion. Thus, patients with a polyarticular variant of juvenile idiopathic arthritis have an imbalance in the functioning of the autonomic nervous system with a pronounced predominance of its parasympathetic division, which can lead to disruption of the functioning of internal organs and systems, and primarily the cardiovascular system.

CORRELATION BETWEEN MULTIPLE FACTORS IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS

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Actuality. Juvenile idiopathic arthritis (JIA) is a chronic and socially significant disease as it leads to quick disability in childhood despite of treatment. Its etiology is unknown, and the genetic component is complex, making clear a distinction between the various subtypes difficult.

Aim of the research. It was to analyze correlation between multiple factors in patients with JIA which is accompanied by possible relations with polymorphism of genes of folate cycle enzymes and parameters of different laboratory, instrumental tests.

Methods and Materials. The study included 9 patients with JIA of age group 2-18 years, who had been treated with MTX for 7 months and more. The measurement of genotypes of genes of folate cycle, such as 5-methyltetrahydrofolate-homocysteine methyltransferase (MTR), 5-methyltetrahydrofolate-homocysteine methyltransferase reductase (MTRR), 5,10-methylenetetrahydrofolate reductase C677T and A1298C variants (MTHFR-677 and MTHFR-1298) were made by polymerase chain reaction. Common blood count, biochemical and serological blood tests, X-ray and echosonography of joints were investigated for all patients. For statistical processing of materials staghraphics 3.0 was used.

Results. In children with JIA genotypes of MTR gene correlated with level of WBC ($r = 0.77$; $p < 0.05$), intensity of manifesting symptoms ($r = -0.76$; $p < 0.05$), level of C-reactive protein ($r = 0.71$; $p < 0.05$), ESR ($r = 0.84$; $p < 0.01$), sialic acid rate in blood ($r = 0.77$; $p < 0.05$), level of haptoglobin ($r = 0.72$; $p < 0.05$). Correlation between genotypes of MTHFR677 gene and MTHFR1298 gene was found ($r = -0.90$; $p < 0.001$). Genotypes of MTHFR1298 gene correlated with radiological degree of affected joints ($r = -0.68$; $p < 0.05$) and functional stages of joints ($r = -0.72$; $p < 0.05$).

Conclusion. Corresponding evaluation of genotypes of MTR in the initial stage of JIA development prognosis about activity of inflammatory process during treatment with methotrexat might be determined. Prognosis of functional stage and radiological degree progression can be predicted according measurement of genotypes of MTHFR1298 gene. The results demands approving on lager group of patients.

THE KANGAROO MOTHER CARE METHOD EFFECT ON BREATHING PATTERNS OF INFANTS WITH LOW-BIRTH-WEIGHT

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Actuality. The Kangaroo mother care (KMC) is an important component of early rehabilitation of low-birth-weight babies.

Aim of the research. to study the features of the respiratory pattern and heart rate in premature babies.

Methods and materials. 52 preterm infants with were examined at the department for preterm infants of the Prenatal Center of Poltava city. They gestational age ranged from 34 weeks to 36 weeks, weight at birth varied from 1700 to 2300 grams. The I group included 27 newborns which mothers used the KMC during 7.06 ± 0.85 hours per day. The II group consisted of 25 preterm infants which mothers took care without RMC. The 24-hour electrocardiogram and rheopneumogram was conducted for all children ("Kardiotehnika-04-8" «INKART», Saint-Petersburg).

Results. Among all the respiratory patterns, chaotic breathing was recorded from 5 children, the periodic breathing rhythm with the presence of respiratory pauses during sleep lasting from 3 to 12 seconds in 47 infants in the first group and from 3 to 17 seconds in children from the second one. The number of respiratory pauses during a day significantly dominated ($p \leq 0,05$) in neonates of the second group.

Conclusions. The analysis of 24-hour monitoring of rheopneumogram helps to better understand the mechanisms of adaptation of a newborn child to the out-of-life conditions and makes it possible to list Holter monitoring as one of the prognostic methods that allow early detection of disruption of regulatory processes, and foresee likely of clinical significance pathological conditions. To sum up, a favorable impact of the Kangaroo mother care on the breathing pattern contributes to an earlier adaptation of low birth weight infants.

THE RELATIONSHIP OF GASTROESOPHAGEAL REFLUX AND OBESITY

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Actuality. Gastroesophageal reflux disease (GERD) is a long-term condition in which reflux of gastric content into the esophagus leads to mucosal damage and clinical problems. Many children have occasional reflux and about 25 % of children have symptoms of GERD. One of the risk factors for GERD is obesity. Childhood obesity is one of the most serious public health challenges of the 21st century. There is an epidemiological link between obesity and GERD in both Europe and America. Diagnosis of GERD in overweight and obese children remains a pressing issue since the prevalence of obesity has increased at an alarming rate.

Aim of the research. The aim of this study was to determine the relationship between the development of GER in overweight and obese children.

Methods and materials. In this study, 60 children between ages 9-17 years were observed. The 1st group (1gr.) – 30 children with overweight or obesity (middle age – 12,8±2,2) and the 2nd group (2gr.) – 30 patients with established chronic gastro-pathology (middle age – 14,1±2,5). All included subjects were asked to complete self-reporting questionnaires which consisted of the GERD-Q, extended GERD-Q and additional questions about lifestyle and diet. The physical development of children was evaluated in accordance with BMI. Statistical analyses were performed with a statistic package “Microsoft Excel”.

Results. Among the examined children, in the 1gr. girls were predominated (53,3±9,1%), in the 2gr. – boys (56,6±9,1%). Assessment of physical development showed that in 1gr. 66,7±8,6 % of the patients were overweight and that 33,3±8,6 % of them were obese with BMI > 30. In the 2gr., the result showed that only 26,7±8,1 % of investigated patients were overweight, while 30±8,3% of patients were underweight and 43.3±9, % were normal weight children. The prevalence of children of the 1gr. with a standard GERD-Q score of ≥7 was just 13,3±6,2 %, but using the extended GERD-Q score of ≥8 it had 56,7±9,1 % (ranged 7-14). In the 2gr. with a standard GERD-Q score of ≥7 was 6,6±4,5 % of prevalence, however by the extended GERD-Q score of ≥8 frequency of suspected GERD was 70,0±8,3 % (ranged 7-10). In 56,6±9,1 % of these patients, the diagnosis of GER was confirmed by endoscopy. Based on the questionnaire filled by the patients about their diet, 56,7 ±9,1 % of the children said they had a healthy diet and lifestyle.

Conclusions. Diagnosis of GERD in overweight and obese children remains a difficult task, as it is not accurately examined. Since objective measurements are often impossible to perform, we recommend using the extended GERD question to better identify the pathology and refer children for further examination. When using the extended questionnaire, the probability of detecting GER increases. Despite the fact that in childhood, patients with GERD have increased weight or normal body weight, however, obesity remains an additional risk factor for GERD and requires a more in-depth study.

THE ATTITUDE TO HPV VACCINES OF TEENAGE GIRLS PARENTS

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Actuality. Since the HPV vaccine was first introduced in 2006 in the U. S., the number of cervical cancer among young females has dramatically decreased. In Lithuania this vaccine was introduced only in 2016.

Aim of the research. To evaluate parents', raising teenage girls, opinion about HPV vaccination and the factors that influence it.

Methods and materials. A questionnaire survey was conducted in Vilnius schools in the period from December 2018 to March 2019. Participated 113 parents of girl aged from 10 to 14. The respondents in the anonymous questionnaires provided information about gender, education level, age, number of children and their opinion about HPV vaccine. The data is processed by SPSS 22.0 program, the difference between the compared groups is considered significant when $p \leq 0.05$.

Results. 110 (97.3%) respondents are mothers, 103 (91%) respondents have higher education. 102 (90.3%) parents have heard of HPV infection. The majority from the Internet (77.5%). Parents rated the HPV vaccines' usefulness 6.23 points out of 10 possible. Only 56 (49.6%) parents found this vaccine useful for their children and rated it 8 points or more. Even 60 (53.1%) respondents believe that vaccine can have a negative impact on their children. There is a negative correlation between opinion on vaccine effectiveness and opinions: which way is better to get immunity, the prevalence of HPV, and in which age girls should be vaccinated ($p \leq 0.05$). Those who do not trust vaccine efficacy believe that it is better to gain immunity to HPV infection by getting ill. Also they believe that this infection is rare and girls should be vaccinated at an older age ($p \leq 0.05$). 103 (91.2%) respondents have heard negative information about vaccination. Most of them 89 (36.9%) receive negative information from the Internet. However, there was no statistically significant correlation between vaccine benefit evaluation and negative information obtained from the Internet. There was a correlation between the evaluation of vaccine benefit and the receipt of negative information from family members and