

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.