

УДК 616.8:616-053.5:577.352.339

AGE DEPENDENCE OF CLINICAL MANIFESTATIONS OF AUTONOMIC DYSFUNCTION IN CHILDREN***Kholmatov D.N.****Associate Professor of the Department of Hospital Pediatrics
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Contradictory information about the frequency of autonomic dysfunction syndrome in children is due to insufficiently homogeneous approaches of practitioners to the criteria of diagnosis. Vegetative dysfunction occurs in children, starting from the newborn period, only the degree of severity varies at different age periods. Clinical manifestations in children with SVD are polysystemic in nature and depend on age, accompanied by a functional orientation.

Key words

children, adolescents, autonomic dysfunction syndrome, emotional lability, dysarrhythmias.

Relevance. The high prevalence of autonomic dysfunction among the child population is one of the urgent problems of pediatrics. To date, there are no accurate indicators of the incidence of children with autonomic dysfunction (2,5).

Despite more than a century of studying this problem, questions remain debatable regarding the independence of autonomic dysfunction syndrome (ADS) as a nosological form.

Many authors in their research consider ADS as a premorbid condition – a borderline between disease and health (3,6).

Contradictory information about the frequency of ADS is explained by many researchers by different views on the essence of the disease, as well as insufficiently homogeneous approaches of practitioners to the criteria of diagnosis, pathogenesis and terminology. Terminological inaccuracies do not allow doctors to correctly compare clinical manifestations, make it difficult to create treatment regimens and disrupt the continuity of management of children with ADS (2,7,9).

To date, the diagnosis of ADS is given to almost every child. Vegetative dysfunction occurs in children, starting from the newborn period, only the degree of severity varies at different age periods (1,3).

However, disorders of autonomic regulation should not be confused with age-related growth characteristics of children at different age periods and, especially, this applies to children in the pre- and puberty period. At this age, due to the anatomical and physiological characteristics of the body of children, it becomes the most vulnerable and unprotected to the effects of various environmental factors. The intensification of the educational process, accompanied by increasing mental and psycho-emotional stress, prolonged computer work, low physical activity, leads to an overstrain of the child's regulatory systems (4,9).

In addition, hormonal changes in this age period, due to physiological, catecholaminergic and sympathicotonic hyperactivity, intensive growth, can lead to the appearance of various motor-vegetative-trophic disorders of the heart and blood vessels (1,2,8).

Also, one should not forget that ADS, which is clinically manifested in adolescents, most often debuts at primary school age. Primary school age is a very important stage in a student's life, because the child is adapting to new conditions. This period is characterized by intensive physical and psychophysiological development. Any overstrain of regulatory systems can cause an imbalance

of the autonomic nervous system and lead to functional disorders on the part of all body systems (1,6,9).

It is natural for ADS to have "mobility of symptoms", that is, the change of some symptoms to others. The appearance of new symptoms is an additional stress for the child, which can lead to a deterioration in well-being (8,9).

Thus, taking into account the polyethologicity and polysymptomaticity of ADS, we set a goal: to study the features of clinical manifestations of ADS in children of different age groups.

The scope and methods of the study. The work was performed on the basis of the regional children's multidisciplinary medical center of the city of Andijan, Republic of Uzbekistan. To achieve this goal, we examined 60 children over the period 2020-2023. The age range was 7-16 years old. All children are divided into two groups: 7-11 years old – 18 children and 12-16 years old – 42 children. By gender, there were more girls than boys, 34 and 26, respectively. Anamnestic data were obtained from a conversation with parents and copies from medical records. The clinical examination was carried out taking into account complaints and hemodynamic parameters (heart rate, systolic and diastolic pressure, followed by calculation of pulse pressure). Instrumental methods included ECG (in 12 standard leads) and echocardiography with Dopplerography to exclude organic lesions of the cardiovascular system.

Results. When collecting the medical history, we found that at the time of the examination, children with ADS presented a large number of complaints. In the course of our work, we proved that vegetative disorders were characterized by lability, situational dependence and connection with stress factors. In addition, we noted an inverted daily rhythm of complaints in these children, regardless of age. The largest number of complaints, as well as a deterioration in general well-being, were revealed in the evening, which was manifested by emotional lability (86,7%) and a sharp change in mood, which in girls was expressed in the form of tearfulness (47%), in boys (46%) – causeless depression.

Headache, as the most frequent complaint (81,7%), was found with the same frequency among both girls and boys. 53% of children associate the appearance of headaches with overwork, due to the academic load at school. In 2/3 of the children, the headache was accompanied by nausea, occasionally ending in vomiting. In three children from the older group, parents noted short-term syncopal states, the expression of which was dizziness.

On the part of the cardiovascular system, complaints are represented by cardialgia and palpitations. Pain in the heart area was mainly presented by children of the older age group (66,7%), and palpitations were presented by younger children (61,1%). The pain in the heart area was of a stabbing nature and was short-lived. The children associated the appearance of pain with overwork and stressful situations. The pain in the heart area was relieved without medical intervention. The heartbeat, parents of children of the younger age group, was noted during physical activity and overwork at school.

Vegetative disorders in 76,1% of the older children were manifested by increased sweating, and in younger children – pallor, marbling of the skin (61,1%) and cold extremities (33,3%).

Hyperventilation disorders were found mainly in the older age group (38%) and were expressed by sighs and the need to take deep breaths.

A hereditary history on the mother's side revealed a burden of neurocirculatory dystonia of the hypotonic (18,3%) and hypertensive (15%) types.

When analyzing the antenatal period, it was found that all women had pregnancy on the background of anemia. In 85% of women, pregnancy was complicated by toxicosis, in 35% - by the threat of termination. All women indicated that they had suffered from acute respiratory viral infections at different stages of pregnancy.

Among the risk factors of the intranatal period, we have identified: prenatal outpouring of amniotic fluid (21,7%) and rapid delivery (23,3%). On the part of the newborn – asphyxia (46,7%) due to intrauterine hypoxia and entanglement of the umbilical cord around the neck. Perinatal damage to the nervous system was noted in 86,7% of children, for which children received treatment.

On external examination, 20% of children were found to have an asthenic body type, two children had exogenous constitutional obesity.

Tonometry showed a hypotonic orientation of blood pressure (36,7%).

ECG results in children with ADS revealed nomotopic arrhythmias: arrhythmia in 40%, bradycardia in 18,3% and tachycardia in 20%. In addition, 2/3 of the children were diagnosed with an ECG violation of the processes of repolarization in the myocardium, which can be explained by an imbalance of the autonomic nervous system in this age period. The performed echocardiography with Dopplerography did not reveal any organic pathology on the part of the cardiovascular system.

Rheoencephalography performed in children with ADS revealed in 86,7% vascular disorders in the form of peripheral vascular spasm and obstruction of venous outflow.

Conclusions.

1. Complaints and clinical manifestations in children with ADS are polysystemic in nature, depend on age and have a functional orientation.

2. Vasomotor dysregulation is represented by: pallor of the skin with a marble pattern, cold extremities, cephalgia, dizziness and palpitations - with the highest frequency detected in primary school children.

3. In older children, the cardiovascular variant of ADS prevailed, which was manifested by cardialgia, hypotension and hyperventilation disorders.

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