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THE IMPORTANCE OF IRON DEFICIENCY ANEMIA IN THE DEVELOPMENT OF AFFECTIVE RESPIRATORY ATTACKS

Introduction: Affective respiratory seizures are paroxysms during which a child "starts crying" and stops breathing. Affective respiratory seizures (ARS) develop in children at preschool age, most often at 6-24 months of life, but they can also begin at birth or after two years of age. The frequency of ARS in children under the age of 5 years, according to various data, is 2-10%.

Causes and mechanisms of ARS development.

During an attack, there is always a provoking factor that causes the baby to cry. The question immediately arises: "But all children cry, and only some come in?". Of course it is. Crying alone is not enough to develop ARS. A necessary condition is also increased neuro-reflex excitability, sometimes even hysteria of the child, which leads to reflex spasm of the respiratory tract (larynx, trachea) when crying in response to an emotional or painful stimulus. In addition, the softness of the cartilaginous tissues of the larynx and trachea in young children predisposes to spasm, especially if the child has had rickets. When the cartilage becomes denser, even with severe crying, respiratory spasm and respiratory arrest (apnea) no longer occur.

Apnea leads to a decrease in the oxygen content in the blood (hypoxia), resulting in cyanosis and / or pallor, loss of consciousness. If hypoxia is large enough, convulsions may occur (the child strains, stretches into a string, m.b. twitching of limbs, facial muscles), with a deeper loss of consciousness, involuntary urination. The presence of seizures and involuntary urination does not mean that the baby has epilepsy, these symptoms may be the result of hypoxia ("lack of oxygen") of the brain on the background of apnea. EEG and video EEG monitoring help in the diagnosis here.

With the "pale type" of ARS, in addition to stopping breathing, the child may have a short–term slowing or even stopping of the heart, which stops beating for seconds (a synonym is asystole). Studies have shown that asystole during an attack can reach 2-3 seconds, so the clinical picture is dominated not by cyanosis, but by pallor of the skin due to a short-term decrease in blood flow to the brain, probably aggravated by a decrease in blood pressure. In this regard, the "pale type" is more similar in its manifestations to a syncopated state.

Factors that worsen cerebral hypoxia in ARS and increase the severity of symptoms are anemia (decreased hemoglobin and red blood cells, iron in the blood), rickets, heart disease (congenital heart defects, arrhythmia, etc.), chronic diseases of the respiratory system (bronchial asthma, bronchiectasis, chronic bronchitis, etc.). As a rule, children with such concomitant diseases suffer from ARS with more severe clinical manifestations.

Violations of the educational and pedagogical approach to the child are of great importance in the development of ARS. Parenting like a "star", an "idol of the family", with overprotection, often leads to an aggravation of the hysterical features of the baby, which in turn contributes to a higher frequency of seizures.

Symptoms

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The attack is preceded by the resentment of the baby (something was not given, taken away, etc.), fright, pain (hit, fell, etc.). The child begins to cry and during crying there is a respiratory arrest ("apnea"), which occurs mainly due to a spasm of the respiratory tract, the cry is deafened. The skin of the nasolabial triangle and face turns blue or pale, the baby loses consciousness, bends, goes limp, and quickly regains consciousness. The duration of the attack is usually less than 1 minute. There are possible variants of milder manifestations (for example, the attack is short – a few seconds, there is no obvious loss of consciousness, limpness), and more severe symptoms (there is also twitching of the limbs, involuntary urination, the duration of the paroxysm is several minutes). After an attack, the child's general condition is usually normal, sometimes there may be short-term general lethargy, drowsiness.

Depending on the change in skin color during a paroxysm, there is a "cyanotic type" (with blue skin, from the word "cyanosis" – cyanotic skin color), and a "pale type" of ARS (with pale skin, while cyanosis is absent or very weakly expressed).

Most often, the "cyanotic type" develops. In this case, the attack is most often provoked by resentment, emotions, and anger of the child. Such seizures occur with strong crying in children who are excitable and prone to tantrums, and often the attack itself has the character of a hysterical reaction to some situation that the baby does not like. Rarely is one thing a provoking factor: for example, there is a case where ARS was provoked only by offering a banana to a child and nothing else.

The "pale type" is less common. In this case, the attack is usually provoked by fright, pain (i.e. if the child has fallen, bumped, etc.). The pallor of the skin prevails in the picture, and crying may be mild, "there is no hysteria." Apnea is mild, but there is a slowing of the heart rate. The pale version of ARS looks more like a fainting state than a neurotic reaction. Sometimes there may be a combination, for example, pallor of the nasolabial triangle and mild cyanosis of the skin of the face and neck.

Diagnosis and examination

All children with ARS symptoms should visit a neurologist. If necessary, a clinical psychologist, pediatrician, cardiologist, pulmonologist. We recommend starting with a visit to a neurologist, and he will decide whether to contact other specialists. An EEG is required. In some cases, when epilepsy is suspected, long-term video EEG monitoring is required, but it is not worth starting the examination right away. Additional studies may require ultrasound of the brain (neurosonography), Dopplerography of the vessels of the neck and brain (UZDG). As for UZDG, the significance of this survey in ARS is not great, despite the fact that many, for some reason, tend to perform this particular study in the first place. In the mechanism of ARS development, possible "problems with the vessels of the neck" are of minimal importance. Moreover, it is extremely difficult to perform high-quality ULTRASOUND for a young child with increased excitability of the nervous system.

As for the electrocardiogram, ultrasound of the heart, blood tests, etc., the decision on the need for these examinations is made by a pediatrician and/ or a cardiologist. We recommend that you visit a doctor first and decide together which examinations the child needs to perform.

Relevance of the study: affective respiratory seizures are a paroxysmal, non-epileptic condition in young children [1]. It has been noted in foreign literature that in ARS, about 50% of cases show signs of iron deficiency anemia (IDA), while the level of iron concentration is associated with the severity of paroxysms [2, 3].

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The purpose of the study was to determine the role of IDA in children in the development of ARS. To identify differences in the course of ARS with and without IDA. to limit the effectiveness of the use of iron-containing drugs in the treatment of paroxysms.

Materials and methods: on the basis of the multidisciplinary Furkat Children's Hospital for assessing the frequency of occurrence in children. An anonymous survey questionnaire has been compiled to determine the course of seizures and their treatment. 19 mothers whose children suffer from ARS. Somatic and neurological status, blood test, EEG, and HCG were assessed. The analysis of the obtained results is carried out.

Results: it was revealed that 57.9% of patients (11 children) had IDA, of which 8 children had seizures with loss of consciousness (73%), 7 patients had seizures with more than once a day (64%). Against the background of treatment with iron preparations in 75% of patients with. While waiting, the seizures stopped, and 25% had a significant decrease in them. At the same time, paroxysms were observed for a long time in children who did not take medications. In patients without. When using sedation therapy alone, rapid cessation of seizures occurred in only 40%.

Conclusions:

1. 2-3 patients suffering from affective respiratory seizures have IDA. This refutes the view that ARS is exclusively a neurotic disorder.

2. All children with ARS should be examined for iron deficiency anemia.

3. With IDA, affective respiratory attacks are more severe, more often with loss of consciousness.

4. Iron preparations are effective in the treatment of paroxysms in however, it follows that they are necessary in the treatment of ARS.

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