

Causes, Pathology and Treatment of Anemia among Children

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Abstract: Anemia (anemia) is a group of blood diseases in which the number of red blood cells decreases and the structure of blood cells changes. Anemia always develops as a secondary syndrome in other diseases of internal organs, and requires careful examination to find out the cause.

Keywords: iron-deficiency anemia, anemia, erythrocyte, transport, oxygen, hemoglobin, erythropoiesis, symptoms, children, blood test.

Relevance. Anemia is a very common pediatric problem. According to WHO data, more than 47% of preschool children and more than 25% of school-aged children suffer from anemia. The main function of the erythrocyte is to transport oxygen molecules. Oxygen is delivered to organs and tissues through hemoglobin - a special protein containing iron. Anemia in children develops for various reasons and affects the growth of the body. In children, erythropoiesis (the formation of red blood cells) is faster, the number of cells and the volume of circulating blood must constantly increase to accompany growth. This process often depends on the age of hemopoiesis. The reception and assimilation of these molecules is easily disturbed by nutritional errors, infections and various intoxications. Babies up to 6 months have iron reserves for newborns. In the future, this reserve will run out, and if food intake and absorption of nutrients in the intestine are disturbed, the first signs of anemia will be observed. With a long-term decrease in the level of hemoglobin, the child will develop hypoxia - oxygen deficiency, as a result of which all organs and tissues will suffer. Due to anemia, children can lag behind in physical and intellectual development, they are more prone to developing chronic diseases and complications than healthy peers. Symptoms of anemia affect many organs and systems. The first visible signs appear on the skin, they become pale and soft. Nails and hair become brittle and lose their shine. If you look at the earlobes in the light, you can see their transparency (Filatov's symptom). The tongue can be inflamed, superficial ulcers appear in the mouth. The nervous system suffers: babies are lethargic, whisper, they are often dizzy and have noises in their ears. Sleep will be shallow, fatigue may be added. Before the age of 1, children with severe anemia may lag far behind their peers in development.

Anemia is caused by poor nutrition. This happens if the mother's milk is low in iron, if inappropriate mixtures or cow's milk are used. Premature babies and children with a higher than normal body weight need more iron than usual. Anemia occurs when there is insufficient intake of vitamins of group B, macro and micronutrients. At risk are blood diseases, frequent nosebleeds, food allergies and atopic dermatitis (childhood form of eczema), children with intestinal disorders. Anemia in babies develops with more or less severe infection (pyelonephritis, bronchiectasis), helminthic invasion, connective tissue diseases (rheumatoid arthritis).

The purpose of the research. In order to prevent the cause and pathology of anemia in children, we aimed to conduct a diagnostic laboratory blood test in children in order to study their proper nutrition, meal times and physical activity.

Materials and methods. The diagnosis is determined after laboratory blood tests, that is, indicators of the number of erythrocytes and hemoglobin. If the amount of hemoglobin is less than 110 g / l, erythrocytes are less than 3.5×10^{12} / l, it is called anemia. These indicators correspond to a mild level of anemia. Moderate anemia is established by the following indicators: hemoglobin less than 90 g / l, erythrocytes up to 2.5×10^{12} / l, with heavy hemoglobin 70 g less than / l, erythrocytes less than 2.5×10^{12} / l.

The result. When anemia is detected, the child is referred to narrow specialists: gastroenterologist, nephrologist, allergist, etc., depending on the situation.

Summary. Treatments for anemia depend on age. With natural nutrition, it is necessary to introduce vegetables, fruits and meat foods in a timely manner, to spend a lot of time in the fresh air, including under the sun. The room should be well ventilated, clean, and sanitary rules should be observed when caring for the child. For older children, it is enough to regulate food and daily routine to improve blood composition. Beef liver, seafood, fresh vegetables and fruits, greens are used in the diet. Medicines are prescribed by the doctor. Iron preparations and vitamins are prescribed. The minimum duration of drug treatment is 1 month.

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