

CLINICAL AND EPIDEMIOLOGICAL FEATURES OF IRON DEFICIENCY ANEMIA IN CHILDREN OF EARLY AGE

Akhmatova Yulduz Ablakulovna

PhD. Assistant, 2nd Department of Pediatrics,
Samarkand State Medical University,

Rakhmatov Jasurbek Khurshid ugli

6th-year Student, Faculty of Pediatrics
Samarkand State Medical University (SamSMU)
samsunga32.jr@gmail.com

Adkhamov Uktam Adkham ugli

1st-year Student, Faculty of Dentistry
Samarkand State Medical University (SamSMU)
adxamovoktam@gmail.com

Mustafakulov Jasurbek Akbar ugli

4th-year Student, Faculty of General Medicine (Group 2)
Samarkand State Medical University (SamSMU)
jasurbekmustafakulov751@gmail.com

Kiyosov Ibrohim Ikrom ugli

1st-year Student, Faculty of General Medicine
Samarkand State Medical University (SamSMU)
maratovalimir@gmail.com

Abstract

Modern pediatrics attaches great importance to the prevention and early diagnosis of iron deficiency anemia (IDA) in children of early age, since this condition remains one of the most common nutritional deficiencies worldwide and can adversely affect physical and neuropsychological development. The results of our

clinical study confirm that iron deficiency anemia in children under three years of age is frequently associated with unfavorable feeding patterns and low birth weight, and its clinical manifestations are often nonspecific at the early stages. Children with moderate and severe forms of anemia demonstrated significantly lower hemoglobin and serum ferritin levels compared with children with mild anemia, along with a higher frequency of asthenic and dyspeptic symptoms.

Keywords: Iron deficiency anemia, children, hemoglobin, ferritin, risk factors, epidemiology, early age.

Introduction

Relevance

The problem of iron deficiency anemia in children of early age remains highly relevant for practical pediatrics, since this condition is one of the leading causes of impaired physical and psychomotor development in young children (3,9,10). Considerable importance is given to timely identification of risk factors, such as artificial feeding, prematurity, and low socioeconomic status of the family, as they largely determine the severity and course of the disease (1,2,5). In recent years increasing attention has been paid to the role of latent iron deficiency, which precedes the development of manifest anemia (2,8,11).

A considerable body of clinical data has contributed to the study of the epidemiology, risk factors and clinical course of iron deficiency anemia in children, as well as to approaches to its prevention and treatment (4,6,7). However, data on the clinical and epidemiological features of iron deficiency anemia in children of early age in the region remain insufficient.

Purpose of the study

To determine the clinical and epidemiological features of iron deficiency anemia in children of early age.

Objective of the study

To study the frequency, risk factors and clinical manifestations of iron deficiency anemia in children under three years of age.

Material and methods of research

The material for our research was clinical and laboratory data of 120 children aged from 6 months to 3 years, observed at the outpatient pediatric department. To achieve the goal and solve the problems we used clinical, laboratory (complete blood count, serum ferritin), and statistical methods of analysis.

The results of the study and their discussion

In our clinical study, it is shown that iron deficiency anemia was diagnosed in 46 of 120 examined children (38.3%), of whom 27 children (58.7%) had a mild form, 15 children (32.6%) had a moderate form, and 4 children (8.7%) had a severe form of the disease. The average hemoglobin level in children with mild anemia was 108.4 ± 1.62 g/l, while in children with moderate anemia it was 92.7 ± 2.14 g/l, and in children with severe anemia it did not exceed 68.3 ± 3.05 g/l. Serum ferritin levels decreased progressively with the severity of anemia, averaging 18.6 ± 1.24 µg/l in the mild group and 6.9 ± 0.87 µg/l in the severe group.

Analysis of risk factors showed that artificial feeding was noted in 61% of children with iron deficiency anemia, compared with 24% in the control group. Low birth weight was registered in 34.8% of anemic children, and late introduction of complementary foods was found in 28.3% of cases. The most frequent clinical manifestations were pallor of the skin and mucous membranes (89.1%), decreased appetite (73.9%), increased fatigability (67.4%), and recurrent respiratory infections (52.2%). Trophic changes, such as brittle nails and dryness of the skin, were observed mainly in children with moderate and severe forms of anemia.

Children with severe anemia demonstrated a significantly higher frequency of developmental delay signs (motor and speech) compared with children with mild and moderate forms, which is 3.2 times higher than in the mild group. Treatment with iron preparations led to a gradual increase in hemoglobin levels, with an average rise of 1.8 ± 0.21 g/l per week during the first month of therapy.

Conclusions

Our clinical study shows that iron deficiency anemia remains a common condition among children of early age, occurring in more than a third of the examined children, with a predominance of mild and moderate forms. Artificial

feeding, low birth weight, and late introduction of complementary foods are the leading risk factors for the development of the disease.

The severity of clinical manifestations and the risk of developmental delay increase in parallel with the severity of anemia, which emphasizes the importance of early diagnosis and timely correction of iron deficiency in children of early age.

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