

CLINICAL AND DIAGNOSTIC FEATURES OF IRON DEFICIENCY ANEMIA IN ADOLESCENT SCHOOLGIRLS LIVING IN RURAL AREAS OF BUKHARA REGION

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Annotation: Adolescence is a complex period in which some diseases and deficiencies occur in adulthood. In this scientific article clinical and diagnostic features of iron deficiency anemia in adolescent schoolgirls living in rural areas of Bukhara region are analyzed.

Key words: Ontogenesis, hemoglobin, the need of iron, pressure of oxygen, sensitivity, iron deficiency anemia (IDA), occult iron deficiency (OID).

Adolescence or puberty is one of the critical periods of ontogenesis. By this period, rapid growth and rapid development of the body increase the demand for the blood-forming system. According to E.M. Mosyagina, the need for iron in teenagers is 2 times higher than that of adults. In such conditions, the lack of complete and regular nutrition or the influence of other factors quickly leads to a decrease in the amount of hemoglobin and a state of iron deficiency. (Otaniyozov O.A. 1989).

Currently, 2 types of iron deficiency are recognized: iron deficiency anemia (IDA) and occult iron deficiency (OID).

We aimed to study the clinical semiotics of iron deficiency anemia in adolescent schoolgirls living in rural areas of Bukhara region. The clinical semiotics of the disease was studied in 9-10th grade students by questionnaire method. The questionnaire consisted of 36 questions related to the clinical semiotics of the disease. Questionnaires were distributed to 270 schoolgirls of Bukhara, Peshku, Shofirkon and Vobkent districts.

Based on the results of questionnaire analysis and peripheral erythron indicators, 144 (60.5%) girls had anemic syndrome, iron deficiency was noted in 86 (59.7%) girls based on the results of iron metabolism analysis. Of these, OID 62 (72.1%), IDA-24 (27.9%).

During our inspections, 64.5% of schoolgirls with OID had average physical development, 25% below average, and 9.6% above average. 60.1% IDA corresponds to the age of physical development in observed schoolgirls.

The complete clinical semiotics of iron deficiency anemia (IDA) and occult iron deficiency (OID) is presented in Table 1.

Table 1. Clinical semiotics of OID and IDA in adolescent schoolgirls

Symptoms	OID (n=62)		IDA (n=24)		p
	n	M+m	n	M+m	
Headache	16	25,8+3,4	8	33,3+4,2	

Dizziness	15	24,1+3,1	6	25,0+3,8
Fatigue	48	77,4+6,3	20	83,3+4,9
Feeling sick in a stuffy room				
Decreased appetite	7	11,2+2,8	4	16,5+3,9
Pale skin and mucous membranes (pallor)	10	16,1+3,4	5	20,8+4,2
Changes in taste				
Dry skin	34	54,8+6,7	17	70,8+7,3
Hair loss	5	8,1+1,0	7	29,1+4,1
Koylonychia	13	20,9+3,7	8	33,3+3,6
Panting on physical exertion	18	29,0+1,9	7	29,2+2,6
	27	43,5+4,2	14	58,3+5,3
	25	40,3+3,8	11	45,8+4,2

As can be seen from the table, all the symptoms in schoolchildren who were in the OID were found with such frequencies in those who were in the IDA. It can be seen that many of the noted symptoms were also found in healthy girls with different frequencies and it was admitted that the main symptoms were added.

In IDA, Pica Chilorotica increased taste and smell (liking the smell of kerosene, gasoline, acetone, naphthalene), soil, toothpaste and dry tea 3-6 times more often. Examination reveals dryness of the skin, hair and nails, dysphagia, stomatitis, flattening of the tongue papillae, and in some, a bluish color in the sclera of the eye.

Most of the analyzed symptoms in girls with OID and IDA were clearly expressed and the main ones were combined together. It was found that 3-4 of the epithelial symptoms were present in 39.5% of the children in the OID group, and only in 18.4% of the children in the group of healthy children. It was found that the changes in the skin, hair and nails accompanied by changes in the perception of taste were clearly expressed in children with OID and IDA (20.9% and 33.3%) compared to the group of healthy children (6.5%).

The co-occurrence of taste changes and anorexia in the form of iron deficiency is more common (21.5% and 16.4%) than in the group of healthy children. (14.1%).

Manifest and combined (2-3 or more symptoms) asthenovegetative disorders were found in children with OID and IDA. In all variants of hyposiderosis, compared to healthy children, susceptibility to the disease has a high level of importance in children. More than 40% of girls (out of 270) reported feeling worse in rooms with heavy air (bus, bathroom).

When these girls were studied individually, it was found that in narrow, stuffy rooms, i.e. classrooms, bathrooms, buses, short-term fainting occurs, and sometimes (in 10.5% of cases) girls feel bad about themselves for no reason, and these parents it was determined that it always caused concern. Researchers attribute the frequent occurrence of fainting in children with paroxysms associated with increased sensitivity and low partial pressure of oxygen even at rest.

Despite the fact that a regular diet consisting mainly of carbohydrates and fats fully covers the caloric deficit, it can lead to the development of iron deficiency anemia in healthy people, especially children, adolescents, menstruating women with heavy blood loss, and pregnant women. (T.I. Shaikhova, 1990).

We focused on the onset, duration and cycle of menstruation in schoolgirls with iron deficiency. The identified data are as follows: the average age of the onset of menarche is 13 years, the duration of 6 months is 5 days in 77.9% of girls, 6-7 days in 21.9% of girls, it should be noted that in 75.5% of girls with IDA, the average duration of menstruation is 6-7 days and full details are given in Table 2.

Table 2. The onset of mensis in OID and IDA

Character of Mensis	Healthy (n=94)		OID(n=62)		IDA(n=24)	
	Abs	%	Abs	%	abs	%
1. Beginning						
13	55	58,5	44	70,9	15	62,5
14	23	24,4	14	22,5	4	16,6
15	8	8,5	5	8	2	8,3
16	2	2,1	-	-	1	4,1
2. Periodicity						
Every 3 weeks	4	4,2	24	38,7	13	54,1
Every 4 weeks	64	68	37	60	6	25
More than 4 weeks	20	20	1	1,6	3	12,5
3. Menstrual period						
- painful	27	28,7	38	61,2	11	45,8
-painless	61	64,9	22	35,5	13	54,2
4. Duration						
2-3 days	24	25,5	18	29,1	4	16,7

4-5 days	62	66	38	61,3	5	20,8
6-7 days	2	2,1	4	6,4	15	62,5
5. There was no menses	6	6,4	2	3,2	-	-

The period of onset of menstruation is 13 years and 6 months, it was found that the menstrual process is disturbed mainly in OID and IDA, that is, the periodicity and duration are disturbed. We believe that menstruating girls with heavy blood loss need iron supplements. It is not possible to satisfy the body's need for microelements that fall with food products and are absorbed into the body from menstrual blood losses that last more than 4 days and go with the separation of clots. In such cases, iron preparations should be taken for 10 days after each menstruation.

In order to confirm the diagnosis of iron deficiency, 238 schoolgirls were examined by the direct selection method, 94 of them were healthy, 62 had iron deficiency anemia (OID), and 24 had iron deficiency anemia (IDA). The total amount of hemoglobin and erythrocytes, hematocrit, reticulocyte formula, average amount and concentration of hemoglobin in erythrocytes were determined. In order to determine the level of starvation of the serum, as well as determining the level of saturation of iron and transferrin in the blood, indicators of the total iron-binding capacity of the serum were determined. And this last indicator in healthy schoolgirls ranges from 38 to 68.8 $\mu\text{mol/l}$, and the iron saturation level of transferrin is 17-26%.

Conclusions.

1. With the help of a questionnaire test-questionnaire, it helps to accurately assess the clinical semiotics of iron deficiency in a quick and short time.
2. Based on the results of a special questionnaire and red blood cell indicators, the clinical features of latent and manifest forms of iron deficiency in adolescent girls living in rural conditions are studied.
3. Objective examinations of peripheral erythron indicators revealed anemic syndrome in 60.5% of girls and iron deficiency in 59.7% based on the results of iron metabolism analysis.
4. Despite the fact that a constant diet consisting mainly of carbohydrates and fats fully covers the caloric deficit, it can cause iron deficiency anemia in children, adolescents with a lot of blood loss, and pregnant women, a particularly dangerous group.

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