

CLINICAL AND EPIDEMIOLOGICAL ASPECTS OF HYMENOLEPIDOSIS AMONG CHILDREN

Narzullayev N.U., Hamidova N.K., Mirzoyeva M.R., Ostonova G.S.

Bukhara State Medical Institute

✓ Resume

The data showed that the proportion of hymenolepiasis in different age groups of children about the same and vary from $19,0 \pm 3,9$ to $31,4 \pm 7,8$ %. In this rather alarming high rate among children aged less than 4 years ($19,0 \pm 3,9$ %). Indicators symptomatic clinical form hymenolepiasis a^ had severe confinement and age ranged from $21,5 \pm 5,1$ to $30,8 \pm 5,7$ %, with subclinical form hymenolepiasis ranged from $12,3 \pm 5,5$ to $31,4 \pm 7,8$. Symptoms such as regular acute abdominal pain due to trauma of the mucous membrane of the intestinal wall hooks embedded parasite, subfebrile body temperature (usually marked increase to $37,5^\circ$, at least until $38,0^\circ$), moderately expressed normal and hypochromic anemia (marked reduction hemoglobin in the blood to 100 g / l or less), moderate enlargement of the liver pr., observed with high frequency in many children - up to $65,7 \pm 8,1$; $83,1 \pm 4,7$ %.

Key words: hymenolepiasis, helminthiasis, children

КЛИНИКО-ЭПИДЕМИОЛОГИЧЕСКИЕ АСПЕКТЫ ГИМЕНОЛЕПИДОЗА СРЕДИ ДЕТЕЙ

Нарзуллаев Н.У., Хамидова Н.К., Мирзоева М.Р., Остонова Г.С.

Бухарский Государственный медицинский институт

✓ Резюме

Приведенные данные показали, что удельный вес гименолепидоза в разных возрастных группах детей примерно одинаковый и варьирует от $19,0 \pm 3,9$ до $31,4 \pm 7,8$ %. При этом настораживает довольно высокий показатель среди детей в возрасте менее 4 лет ($19,0 \pm 3,9$ %). Показатели манифестной клинической формы гименолепидоза также не имели выраженной возрастной приуроченности и варьировали от $21,5 \pm 5,1$ до $30,8 \pm 5,7$ %, при субклинической форме гименолепидоза варьировали от $12,3 \pm 5,5$ до $31,4 \pm 7,8$. Такие симптомы, как регулярные острые боли в животе в результате травматизации слизистой оболочки стенок кишечника крючьями внедренного паразита, субфебрильная температура тела (обычно отмечается повышение до $37,5^\circ$, реже до $38,0^\circ$), умеренно выраженная нормо- и гипохромная анемия (отмечается снижение уровня гемоглобина в крови до 100 г/л и меньше), умеренное увеличение печени и пр., наблюдались с высокой частотой у многих детей - от $65,7 \pm 8,1$ до $83,1 \pm 4,7$ %. При манифестной форме отмечаются эпилептиформные судороги, частая диарея с примесью крови, дисбактериоз, которые были зафиксированы у большинства детей - от $67,7 \pm 8$ до $87,7 \pm 4,1$ % случаев.

Ключевые слова: гименолепидоз, гельминтозы, дети

BUXORO AHOLISI BOLALAR O'RTASIDAGI GIMENOLEPIDOZ KLINIK VA EPIDEMIOLOGIK ASPEKTLARI

Narzullayev N.U., Hamidova N.Q., Mirzoyeva M.R., Ostonova G.S.

Buxoro davlat tibbiyot instituti

✓ *Rezume*

Taqdim etilgan ma'lumotlar shuni ko'rsatdiki, bolalarning turli yosh guruhlarida gimenolepidozning nisbati taxminan bir xil va $19,0 \pm 3,9$ dan $31,4 \pm 7,8\%$ gacha. Shu bilan birga, 4 yoshgacha bo'lgan bolalar orasida juda yuqori ko'rsatkich qo'rqinchli ($19,0 \pm 3,9\%$). Gimenolepidozning aniq klinik shakli ko'rsatkichlari ham aniq chegaralangan emas va $21,5 \pm 5,1$ dan $30,8 \pm 5,7\%$ gacha o'zgargan, gimenolepidozning subklinik shakli $12,3 \pm 5,5$ dan $31,4 \pm 7,8$ gacha.

Ichki devorlarning shilliq qavatiga singib ketgan parazit ilgaklari, tana haroratining subfebrilligi (odatda $37,5^\circ$ gacha ko'tariladi, kamdan-kam hollarda $38,0^\circ$ gacha ko'tariladi) natijasida o'rtacha o'tkir qorin og'rig'i, o'rtacha normo- kabi belgilar. va gipoxromik anemiya (qonda gemoglobin darajasining 100 g/l ga kamayishi va undan kam), jigarda o'rtacha o'sish va boshqalar ko'p bolalarda yuqori chastotada kuzatilgan - $65,7 \pm 8,1$ dan. $83,1 \pm 4,7\%$. Manifest shaklda epileptiform tutilishlar, ko'pincha qonda aralashgan diareya, disbiyoz, aksariyat bolalarda qayd etilgan - $67,7 \pm 8$ dan $87,7 \pm 4,1\%$ gacha.

Kalit so'zlar: gimenolepidoz, gelmintozlar, bolalar

Relevance

Hymenolepiasis is one of the most widespread human helminthiasis, and is one of the urgent problems for practical health care, due to the imperfection of the complex of health-improving measures. Currently, there are no scientifically based measures for its prevention [1,2,3,9]. The peculiarities of the mechanism of transmission of hymenolepiasis (contagious helminthiasis) make it a difficult disease to control. It is very widespread even in a comparatively good hygienic setting. The widespread decrease in the immune status among children, on the one hand, and the acquisition of anthelmintic resistance by pathogens, on the other hand, contributes to the fact that the clinical picture of hymenolepiasis undergoes changes [4,5,6,7,8]. Some symptoms subside or subside altogether, and other symptoms appear instead. As a result of this, timely and reliable clinical diagnosis of hymenolepiasis and especially the differentiation of its main forms on the part of practitioners is **In complicated. this regard, theurpose of** our study was to study the clinical forms of hymenolepiasis among the child population.

Material and methods

The work was carried out among 65 children with manifest and 35 children with subclinical forms of hymenolepiasis at the age of 4-15 years, identified during parasitological examination in preschool institutions in the

city of Bukhara. As a result of repeated observations and examinations, detailed questioning of children and their parents, clinical symptoms of various forms of hymenolepiasis were recorded.

Hymenolepiasis was diagnosed by coproovoscopy. Feces were taken 3 times with an interval of 2-3 weeks due to the peculiarities of the development cycle of the causative agent of hymen-lepidosis - dwarf tapeworm. Moreover, it is necessary to examine fresh material (morning feces sampling). Statistical analysis of the data was carried out using the Microsoft Excel spreadsheet program, which were generated in accordance with the requests of the study.

Result and discussion

It is accepted to judge the state of providing qualified medical care for parasitic infestations by the age distribution of diseases among children. We also used this method and distributed the identified children with hymenolepiasis by age groups (Table 1).

At the same time, statistical data (outpatient cards) are not informative enough, since they cannot be used to judge the true prevalence of hymenolepiasis among children= zxcV BN,M.... The analysis of the objective

clinical symptoms of hymenolepiasis, revealed by a thorough clinical and parasitological examination of children, is given in table. 2.

Table 1
The specific gravity of various forms of hymenolepiasis based on the analysis

Age groups, years	Hymenolepiasis					
	Total (n = 100)		Manifest form (n = 65)		Subclinical form (n = 35)	
			abs.	%	abs.	%
< 4	19	19,0 ± 3,9	14	21,5 ± 5,1	5	12,3 ± 5,5
4-7	26	26,0 ± 4,4	18	27,7 ± 5,6	8	22,9 ± 7,1
8-11	24	24,0 ± 4,3	13	20,0 ± 4,9	11	31,4 ± 7,8
12-15	31	31,0 ± 4,6	20	30,8 ± 5,7	11	31,4 ± 7,8
Total	100	100,0	65	65,0 ± 4,7	35	35,0 ± 4,7

There is no definite pattern in the data given in the table. Thus, the proportion of hymenolepiasis in different age groups is approximately the same and varies from 19.0 ± 3.9 to $31.4 \pm 7.8\%$ ($C_2 = 2.50$; $p > 0.05$). However, the rather high rate among children under 4 years of age ($19.0 \pm 3.9\%$) is alarming, which is associated with the contact transmission mechanism.

Indicators of the manifest clinical form of hymenolepiasis also do not have a pronounced age-related relationship and vary from 21.5 ± 5.1 to $30.8 \pm 5.7\%$ ($\chi^2 = 3.36$; $p > 0.05$). Although this form, as the age of children increases, it should increase due to the accumulation of pathogens, in addition, with this form, the indicator among children under the age of 4 is too high ($21.5 \pm 5.1\%$). The above fully applies to the subclinical form of hymenolepiasis, varying from 12.3 ± 5.5 to 31.4 ± 7.8 ($\chi^2 = 0.36$; $p > 0.05$). Hence, the fact of existing flaws in the diagnosis of hymenolepiasis is obvious, especially in the differentiation of their clinical forms. On the basis of this, the state of the provision of helminthological care to children in general can be assessed as satisfactory. However, the lower turnover of the population to medical institutions and the preference for treatment at home should be seriously alarming, and therefore it is necessary to identify the reasons for this situation. Even more unsightly is the fact that the cases of self-treatment by parents of children with helminthiases have become more frequent. And only after repeated unsuccessful attempts, according to the outpatient

Objective clinical symptoms, as well as subjective ones, are also very informative in diagnosing hymenolepiasis. Symptoms such as regular acute abdominal pain as a result of trauma to the mucous membrane of the intestinal walls by hooks of an embedded parasite, subfebrile body temperature (usually there is an increase to 37.5°C , less often to 38.0°C), moderately expressed norm- and hypochromic anemia (there is a decrease in the level of hemoglobin in the blood to 100 g/l and less), a moderate increase in the liver, etc., were observed with a high frequency in many children - from 65.7 ± 8.1 to $83, 1 \pm 4.7\%$ ($\chi^2 = 3.87$; $p < 0.05$).

In addition, this symptomatology is available to doctors of the parasitological service, and with a careful examination of children, the diagnosis of helminthiasis is not associated with great difficulties and should not lead to erroneous results. In addition, in table. 2 shows the indicators of symptoms, which, along with the diagnosis of hymenolepiasis, also make it possible to differentiate its clinical forms.

In the manifest form, such symptoms include epileptiform seizures, frequent diarrhea with an admixture of blood, dysbiosis, which were recorded in the majority of children - from $67.7 \pm .8$ to $87.7 \pm 4.1\%$ of cases ($\chi^2 = 7.50$; $p < 0.01$). The incidence of these symptoms in the subclinical form is much less ($\chi^2 = 7.16$; $p < 0.01$), and therefore their significance in the diagnostic relation is small - from 8.6 ± 4.8 to $40.0 \pm 8, 4\%$ ($C_2 = 9.40$; $p < 0.01$).

Table 2
Analysis of objective clinical symptoms among children with different forms of hymenolepiasis

Symptom	Clinical forms				Significance of the difference	
	Manifest form (n = 65)		Subclinical form (n = 35)			
	abs	%	abs	%	c ²	p
Subfebrile body temperature	53	81,5 ± 4,9	26	74,3 ± 7,5	0,53	> 0,05
Dyspeptic manifestations:						
- nausea, vomiting	10	15,4 ± 4,5	3	8,6 ± 4,8	0,93	> 0,05
-diarrhea mixed with blood	44	67,7 ± 5,8	10	28,6 ± 7,7	14,02	< 0,01
- loss of appetite, thirst	21	32,3 ± 5,8	22	62,9 ± 8,3	8,66	< 0,01
Asthenoneurotic syndrome:						
- asthenia, irritability	31	47,7 ± 6,2	6	17,1 ± 6,5	9,11	< 0,01
- headache	27	41,5 ± 6,2	10	28,6 ± 7,7	1,64	> 0,05
- dizziness	7	10,8 ± 3,9	19	54,3 ± 8,5	22,39	< 0,01
Allergic manifestations:						
- urticarial rash	23	35,4 ± 6,0	12	5,7 ± 4,0	10,68	< 0,01
- vasomotor rhinitis	36	55,4 ± 6,2	21	34,3 ± 8,1	4,06	< 0,05
- itchy skin	6	9,2 ± 3,6	2	60,0 ± 8,4	29,75	< 0,01
Dysbacteriosis	53	81,5 ± 4,9	3	8,6 ± 4,8	49,16	< 0,01
Unstable stool	12	18,5 ± 4,9	32	91,4 ± 4,8	49,16	< 0,01
Bowel trauma	54	83,1 ± 4,7	29	82,9 ± 6,5	0,01	> 0,05
Moderate anemia	52	80,0 ± 5,0	27	77,1 ± 7,2	0,36	> 0,05
Epileptiform seizures	57	87,7 ± 4,1	14	40,0 ± 8,4	25,13	< 0,01
Weight loss	21	32,3 ± 5,8	29	82,9 ± 6,5	23,25	< 0,01
Abdominal cramps	3	4,6 ± 2,6	33	94,3 ± 4,0	79,40	< 0,01
Moderate enlargement of the liver	47	72,3 ± 5,6	23	65,7 ± 8,1	0,74	> 0,05

Reliably frequent in the manifest form and the following symptoms - asthenoneurotic syndrome: general asthenia, headache, dizziness - from 41.5 ± 6.2 to $55.4 \pm 6.2\%$ ($c_2 = 2.49$; $p > 0.05$). It is noticeably less in the subclinical form ($c_2 = 0.86$; $p > 0.05$) - from 17.1 ± 6.5 to $34.3 \pm 8.1\%$ ($c_2 = 1.14$; $p > 0.05$).

Specific, diagnostically significant symptoms are also characteristic of the subclinical form of hymenolepiasis. So, among children, symptoms are very frequent - the presence of weight loss, skin itching, loss of appetite, unstable stool - from 60.0 ± 8.4 to $91.4 \pm 4.8\%$ ($c_2 = 9.40$; $p < 0.01$). The frequency of these symptoms in the manifest form was less, and therefore they are of little use in the diagnostic relation ($c_2 = 7.16$; $p < 0.01$) - from 9.2 ± 3.6 to $32.3 \pm 5.8\%$ ($c_2 = 10.52$; $p < 0.01$). We have already stopped on the rest of the symptoms of the subclinical form, which are less common. Especially it is necessary to dwell on the most common objective symptom of this form - abdominal cramps, which are acute attacks with interruptions of several days or constant dull aching pain, which occurs in $94.3 \pm 4.0\%$ of children.

Conclusion

The revealed symptoms of hymenolepiasis is a clear indication of how much this invasion is of a systemic nature, has a pathogenic effect on the organs and systems of the body. It is easy to guess (and the latest literature data indicate this) that such a high incidence of hymenolepiasis and its pronounced pathogenic effect on the body is possible with a weakened immune system of children, weakness of nonspecific protective functions of their body.

It is well known the importance of timely and reliable diagnosis of helminthiasis, including hymenolepiasis, since the earlier its qualified treatment is carried out, the higher the achieved therapeutic effect. Even more important is the timely differentiation of the clinical forms of this invasion. The fact is that if the advanced stages of the subclinical form of invasion can be completely cured with the correct specific selection of specific anthelmintic drugs, then the launched forms of its manifest form are difficult to treat and pose a serious threat to the health of children.

In this regard, practical parasitologists should be armed with accessible and objective cadastral indicators that allow, when examining children, both on an outpatient basis and at home, to diagnose in them not only the type of helminthiasis itself, but also its clinical forms and not slow to start treating the invasion, and in its

severe cases, send children to specialized children's medical institutions. It should be added to the above that the work of parasitologists at the polyclinic level should be of an active preventive nature, i.e. as sick children call for medical help or call doctors at home. Our experience shows that with periodic visits to territorially timed children's institutions, it is possible to identify a significant number of children with helminthiasis who, for various reasons, do not currently seek medical help. The effectiveness of such a formulation of work is due to the fact that most children under 7 years old attend preschool childcare institutions and almost all children aged 7-15 years attend schools. In addition, when visiting territorial children's institutions, it is possible to cover the parents of children with appropriate sanitary and educational work, who willingly make contact and then themselves bring even healthy children for parasitological examination.

LIST AND REFERENCES:

1. Azimova N.M. Kliniko-immunologicheskie pokazateli gimenolepidoza i ljamblioza u detej s intoksikaciej CNS // Sbornik tezisov 4-go sezda nevrologov Uzbekistana. Tashkent, 2012. pp. 167.
2. Poljakov V. E., Lysenko A. Ja., Konstantinova T.N., Avd-juhina T. I. Gimenolepidozy u detej i podrostkov // Medicinskaja pomoshh. 2015. no. 5. pp. 43-48
3. Sadykova G.K., Ahmedova H.Ju. Kliniko-nevrologich- eskaja i immunologicheskaja harakteristika bolnyh s sudorozh- nym sindromom pri gimenolipidoze i ljamblioze // Vrach aspirant. Voronezh, 2010. no. 1.(38). pp. 4-8.
4. Narzullaev N.U., Khamidova N.K. Clinical and epidemiological characteristics of hymenolipidosis in children // New day to medicine. Tashkent 2020 p. 441-443.
5. Abdel Hamid M.M., Eljack I.A., Osman M.K., Elaa- gip AH., Muneer M.S. The prevalence of Hymenolepis nana among preschool children of displacement communities in Khartoum state, Sudan: A cross-sectional study // Travel Med Infect Dis., 2015 Mar-Apr; 13(2): 172-177
6. Kilincel O., Ozturk C.E., Gun E., Uzun H. A rare case of Hymenolepis diminuta infection in a small child // Mikrobiyol Bul. 2015 Jan; 49(1): 135-8.
7. Kim B.J., Song K.S., Kong H.H., Cha H.J. Heavy Hyme- nolepis nana infection possibly through organic foods : report of a case // Korean J Parasitol. 2014 Feb; 52(1): 85-7.

8. Kumar H., Jain K., Jain R. A study of prevalence of intestinal worm infestation and efficacy of anthelmintic drugs // Med J Armed Forces India. 2014 Apr; 70(2): 144-8.
9. Lin R.J., Chen C.Y., Lu C.M., Ma Y.H. Anthelmintic constituents from ginger (*Zingiber officinale*) against *Hymenolepis nana* // Acta Trop. 2014 Dec; 140: 50-60.
10. Mirzoeva M.R., Khamidova N.K. Clinical and epidemiological characteristic of hymenolepidosis children // Academia An International Multidisciplinary Research Journal. - 2020. - P. 169-173.

Entered 09.02.2021