

Specific Features of Giardiasis in Young Children

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Abstract: Currently, one of the factors determining the health status of the population is socially determined diseases, including parasitic diseases. The prevalence of giardiasis among children of different ages, especially in children's organized groups, is quite high due to the high probability of re-infection with giardia due to closer communication and contact in the group. Giardia affects predominantly the gastrointestinal tract, with damage to the duodenum, biliary system and small intestine being dominant in the clinical picture of the disease. Among children, the incidence of Giardia ranges from 27–70%, with the largest percentage occurring in young children. To accomplish this task, we carried out observation and examination (clinical, laboratory and instrumental) of 65 children aged 2 to 15 years who were treated at the helminthological department of the Bukhara Regional Hospital of Infectious Diseases in 2022. The main clinical symptoms of the disease were abdominal pain, loss of appetite, nausea, irritability and diarrhea. After the use of chemotherapy, all infected patients experienced complete recovery, as evidenced by negative laboratory tests and the absence of clinical symptoms in children.

The prevalence of infectious and parasitic diseases among adults and children is a criterion for the socio-ecological well-being of countries and regions [6]. The importance of the problem of the incidence of these diseases lies not only in their scale, but also in the damage caused to the health of the population by the complications provoked by them [2,9]. These are allergization and immunosuppression, carcinogenesis, anemia, lesions of the gastrointestinal tract and genitourinary system, dysbacteriosis. Children with parasitic infestation have a lag in neuropsychic development, irritability, and weakened memory. All these facts place parasitosis among the most important problems of modern health care [1,3].

Currently, one of the factors determining the health status of the population is socially determined diseases, including parasitic diseases. Parasitoses change the chemistry in the lumen of the gastrointestinal tract and can lead to disruption of the composition of normal intestinal microflora. Thus, under the influence of Giardia, the absorption of nutrients, primarily vitamins and microelements, is impaired, which is caused by pathomorphological and functional changes in the gastrointestinal mucosa [5,8]. The prevalence of giardiasis among children of different ages, especially in children's organized groups, is quite high due to the high probability of re-infection with giardia due to closer communication and contact in the group. At risk for Giardia infestation are not only children, but also medical, teaching, and service personnel working in children's medical institutions and preschool educational institutions, children's homes, orphanages, boarding schools, children's health camps, sanatoriums, etc. ., outbreaks of the disease, including large ones, are possible. In this connection, timely identification of infested individuals, their isolation, treatment and prevention of the spread of giardiasis in the outbreak is extremely important and relevant. It has been proven that the prevalence of giardiasis among children is 4–8 times higher than that in adults [6,7]. Giardia affects predominantly the

gastrointestinal tract, with damage to the duodenum, biliary system and small intestine being dominant in the clinical picture of the disease. Among children, the incidence of *Giardia* ranges from 27–70%, with the largest percentage occurring in young children [1, 4].

Purpose. To analyze the nature of damage to the gastrointestinal tract in preschool children due to invasion caused by *Giardia* parasitism.

Research method. To accomplish this task, we carried out observation and examination (clinical, laboratory and instrumental) of 65 children aged 2 to 15 years who were treated at the helminthological department of the Bukhara Regional Hospital of Infectious Diseases in 2022. The diagnosis was confirmed by the coproscopic method, as well as by enzyme-linked immunosorbent assay (ELISA) using test systems to detect antibodies to *Giardia* class G antigens. Statistical processing of the results was carried out using Microsoft Office Excel (Microsoft, USA) and the percentage expression of the data series (%) was determined.

Results and discussion. Under our supervision there were 65 children were young children from 2 to 7 years old. Lesions of the gastrointestinal tract in this group of children accounted for 44,6% (n = 29). Of the group of children under observation, the majority were children aged 3 to 7 years – 69,2% (n = 45). In the remaining cases, 7,2% (n = 11) were children whose age ranged from 2 to 3 years. Basically, the majority of children were in organized groups (attending preschool and school institutions) – 73,8% (n = 48). Almost all children lived in urban areas – 90,8% (n = 59). In isolated cases – 9,2% (n = 6) – children lived in the Bukhara region. Clinical manifestations of gastrointestinal lesions were observed in almost all examined children and amounted to 95,4% (n = 62). Thus, the most common complaints in children were: abdominal pain – 52,3% (n = 34) and loss of appetite – 41,5% (n = 27). Another part of the children had complaints of nausea and diarrhea – 24,6% each (n = 16), irritability – 18,5% (n = 12).

In rare and isolated cases, complaints of vomiting were noted – 13,8% (n = 9), a slight increase in temperature and alopecia – 7,7% each (n = 5). According to the results of the ultrasound examination, according to the complaints, the following changes were noted in all patients. Thus, in most cases, in children diagnosed with giardiasis, 29,2% (n = 19) had reactive changes in the pancreas, manifested in the form of an increase in its size and changes in echogenicity. Clinically, this was manifested by complaints of abdominal pain in 30,8% (n = 20), loss of appetite – 26,1% (n = 17), various allergic rashes on the limbs and abdomen – 7,7% (n = 5), as well as nausea and loose stools – 6,1% each (n = 4). Signs of biliary dyskinesia were observed in 9,2% (n = 6), various allergic rashes and irritability - in 3,1% each (n = 2), as well as abdominal pain, nausea, vomiting, loss of appetite, fever and alopecia – 1,5% each (n = 1 each).

Before starting chemotherapy, all children infected with *Giardia* underwent a blood test (complete blood count). Thus, in the majority of children – 78,5% (n = 51) - the results of a general blood test were normal. Some children had eosinophilia – 12,3% (n = 8), leukocytosis – 9,2% (n = 6) and anemia – 10,8% (n = 7). After receiving the results of laboratory blood tests, all children were given a course of chemotherapy with antiparasitic drugs: albendazole and makmiror. Thus, 52,3% (n = 34) received Macmiror, at the rate of 15–30 mg/kg body weight in 2–3 doses for 7 days. Albendazole was received by 47,7% (n = 31) - the drug was prescribed at the rate of children from 2 to 12 years old - 12 mg/kg body weight 1 time per day after meals and from 12 years and older - 400 mg 1 time per day. day after eating for 7 days. After the course of chemotherapy, a control laboratory test was carried out twice - the test result was negative in all cases.

Conclusion. 1. Giardiasis was recorded more often in children aged 3 to 7 years from organized groups. 2. The cause of the disease was most often non-compliance with personal hygiene rules, close contact with domestic animals, as well as onigo- and geophagy. 3. The main clinical symptoms of the disease were abdominal pain, loss of appetite, nausea, irritability and diarrhea. 4. After the use of chemotherapy, all infected patients experienced complete recovery, as evidenced by negative laboratory tests and the absence of clinical symptoms in children.

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