Volume 2, Issue 3, March 2024 ISSN (E): 2938-3765

HELMINTHIASIS

Kamoldinov Marufjon
Department of Infectious Diseases Andijan
State Medical Institute Andijan. Uzbekistan

Abstract
The basic concepts of epidemiology, clinical manifestations, treatment and prevention of the most common helminths are presented in this lecture.

Keywords: helminthes, contamination paths, risk factors, prevention, and treatment.

Introduction

Definition of the concept. Helminthiases are common parasitic diseases of humans caused by various representatives of lower worms - helminths.

Epidemiology. On the territory of Uzbekistan, there are about 30 species of helminths that parasitize humans, and about 2 million cases of various helminthiasis are registered annually. Children most often suffer from helminthiasis. The most common are enterobiasis, ascariasis, trematodes, trichuriasis and hymenolepiasis. 89% is accounted for by enterobiasis, 6.8% by ascariasis and 3.1% by trematodes, mainly opisthorchiasis. Echinococcosis and trichinosis are recorded much less frequently. A factor in the spread of helminth infections is environmental pollution with helminth eggs as a result of the discharge of wastewater, in which up to 15 types of eggs of various helminths are detected. The source of helminths is the human body or animals, both domestic and wild, in which the worms reach sexual maturity and produce eggs or larvae. Routes of infection include water, food, household contact, and airborne dust.

Risk factors and primary prevention. Infection with helminths occurs both during work related to the cultivation of soil contaminated with feces, and when walking on it without shoes. Infection is possible by eating uncooked meat, raw or lightly salted fish, by drinking raw water containing helminth larvae, and by washing vegetables, fruits, and dishes with such water. Infection with pinworms and dwarf tapeworm occurs through contact with an infected person, sharing underwear, dishes, and toiletries. In addition, contact with domestic animals, which may be infected with helminths, is a risk factor for infection.

Primary prevention of helminthiases involves measures aimed at combating fecal pollution of water bodies. Personal prevention involves observing basic hygiene rules. You should not consume raw water from open reservoirs, you should eat meat and fish after heat treatment, and you should periodically deworm your pets.

Etiopathogenesis. The most common human helminths belong to three classes of worms: Nematoda (roundworms), Cestoidea (tapeworms), and Trematoda (flukes). The last two classes are represented by flatworms. Helminthiases, depending on the biology of the helminths and the routes of their transmission, are divided into geohelminthiasis, biohelminthiasis and contact helminthiasis. When infected with the causative agent of contact helminthiasis, a person releases mature helminth eggs and becomes the source of the disease. Contact helminthiases include enterobiasis and hymenolepiasis (helminthiasis caused by dwarf tapeworm). A characteristic

feature of geohelminthiasis is that the eggs and larval forms of pathogens develop in the soil at a certain temperature and humidity. Infection occurs through contact with contaminated soil. Biohelminths, unlike others, have the most complex development cycle. Their pathogens must undergo part of the development cycle in another host (ticks, mollusks). More pronounced pathological changes in the human body occur when helminths are at the development stage. Helminth larvae can migrate throughout the body, while adult individuals are characterized by stable localization.

In the development of the pathogenesis and clinical picture of helminth infections, two phases are distinguished: acute and chronic. The acute phase lasts the first 23 weeks after invasion, but in severe cases it can take up to 2 months or more. Pathological changes characteristic of this phase are associated with a general allergic reaction to antigens of migrating larvae and are characterized by stereotypic syndromes regardless of the type of pathogen, its location and the routes of migration of the larvae. The chronic phase can last from several months to many years. In this phase the character developing disorders and associated clinical manifestations are mainly determined by the localization of the pathogen, its number and nutritional characteristics [2].

Diagnostics. Clinical manifestations of the acute stage of helminthiasis usually develop 2–4 weeks, less often 1–6 weeks after infection. At this stage, patients may complain of fever, cough (usually dry), skin rashes, conjunctivitis, swelling of the face, and sometimes loose stools. They may have lymphadenopathy, and wheezing of various types can be heard in the lungs. X-ray examination of the lungs may reveal lesions of varying degrees of intensity from transient infiltrates to focal pneumonia. Depending on the intensity of invasion and the type of helminth, clinical signs of myocarditis or hepatitis may be detected. The most constant laboratory sign of helminthiasis is pronounced eosinophilia (from 20–30 to 8090%), which, with intensive invasion, is combined with leukocytosis (12.0–30.0 × 109/l). The severe course of the acute stage is characterized by a decrease in the proportion of eosinophils and an increase in the proportion of neutrophils. Aneosinophilia is a poor prognostic sign. The clinical picture of the chronic phase of helminth infections is determined by the intensity of invasion and the location of the parasite, sometimes by its size. In the chronic phase, three main syndromes predominate: chronic gastroduodenitis, damage to the biliary tract and gallbladder, chronic colitis, asthenic syndrome.

Laboratory diagnosis of most helminthiasis is based on the identification of eggs or larvae of helminths in feces. To diagnose fascioliasis and strongyloidiasis, in addition to examining feces, duodenal contents are examined. If genitourinary schistosomiasis is suspected, urine is examined to identify helminth eggs. Serological research methods (ELISA, RNGA), PCR diagnostics are of greater importance for tissue helminthiases.

Of the instrumental examination methods that are important are: X-ray examination of the lungs, ultrasound of the abdominal cavity, CT and MRI of the brain and abdominal cavity.

The diagnosis is established on the basis of an epidemiological history, clinical data (allergic manifestations), and the presence of persistent, long-term eosinophilia.

The goal of treatment is deworming, relief of the main symptoms of the disease and prevention of complications.

In the acute phase of helminth infections, detoxification and desensitizing therapy is carried out [4].

Indications for referral to a specialist. Indications for consultation with other specialists arise when symptoms appear that indicate a complicated course of helminth infections.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

If abdominal pain occurs, a consultation with a surgeon is indicated, symptoms of central nervous system damage should be consulted with a neurologist, and eye symptoms should be consulted with an ophthalmologist. In case of complicated schistosomiasis, consultation with a proctologist or urologist is necessary.

Indications for hospitalization. In inpatient conditions, moderate and severe forms of opisthorchiasis, fascioliasis, and trichinosis are treated. Treatment of schistosomiasis, taeniasis, neurocysticercosis, and ocular cysticercosis is carried out only in a hospital setting. Patients with a severe form of toxocariasis, as well as children with toxocariasis under 3 years of age, are subject to hospitalization. In addition, hospitalization is indicated if complications develop.

Observation plan. A control examination after deworming is carried out after 13 months. Dispensary observation is carried out by an infectious disease specialist or family doctor. For opisthorchiasis, clinical observation is carried out for 1–2 years together with a gastroenterologist. Patients who have recovered from ascariasis are monitored for 2–3 months. Control studies are carried out after 3 weeks with an interval of 2 weeks. Patients who have recovered from trichinosis are monitored for 1 year. Convalescents are examined 2 weeks, 1–2 and 5–6 months after treatment. After surgical treatment of echinococcosis, medical examination is carried out for 5 years, examination 1–2 times a year; after surgery for alveolar echinococcosis, medical examination is carried out for 8–10 years, examination once every 2 years.

They are removed from the register after three or four negative serological tests over a period of 3–4 years.

Forecast. The prognosis for most helminthiases is favorable. A worsening prognosis is observed with the development of complications. The prognosis is unfavorable for cysticercosis of the central nervous system, eyes, as well as for echinococcosis, if surgical treatment is impossible. An unfavorable prognosis is also observed in hyperinvasive and disseminated forms of stronthyloidosis in patients with an immunodeficiency state.

References

1. Human parasitic diseases (protozooses and helminthiases): A guide for doctors / Ed. V. P. Sergieva, Yu. V. Lobzina, S. S. Kozlova. - St. Petersburg: FOLIANT Publishing House LLC, 2006. - 592 p.: ill.

2. Infectious diseases: national guidelines / Ed. N. D. Yushchuk, Yu. Ya. Vengerova. - M.: GEOTAR Media, 2009. - 1056 p. — (Series “National Guidelines”).

3. Guide to infectious diseases / Ed. Corresponding member RAMS prof. Yu. V. Lobzina. - St. Petersburg: FOLIANT Publishing House, 2003. - 1034 p.

4. Selected issues in the treatment of infectious patients. Guide for doctors / Under the general editorship of the ZDN of the Russian Federation, member. corr. RAMS Professor Yu.V. Lobzin. - St. Petersburg: Foliant, 2005. - 912 p.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5