



"PARASITIC HELMINTHIASIS: CLINICAL AND DIAGNOSTIC ASPECTS OF ECHINOCOCCOSIS AND TRICHOCEPHALOSIS"

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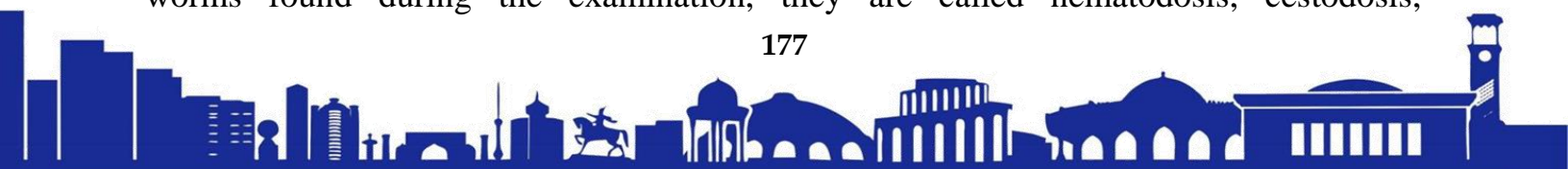
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Abstract: This article discusses helminthiasis (worm diseases) in children, their etiology, transmission routes, clinical symptoms, and modern methods of diagnosis and prevention. The article provides information on the main symptoms of the disease, diagnostic methods, including laboratory tests and modern methods, for the example of such common helminthiasis as helminthiasis, echinococcosis, and trichocephalosis.

Keywords: helminths, echinococcus, trichocephalosis, worms, routes of transmission, treatment methods, helminthiasis, echinococcosis.

INTRODUCTION

Helminthiasis (Greek helmins, helminthos - worm, worm) - diseases caused by parasitic worms - helminths in humans, animals and plants. More than 150 species of worms are found in humans. Depending on living conditions: climate, soil conditions, farming characteristics and the level of hygienic skills of the population, different types of worms are found in different regions. There are mainly 4 classes of helminths: nematodes, cestodes, trematodes and acanthocephalans. Accordingly, depending on the class of worms found during the examination, they are called nematodosis, cestodosis,



trematodosis, acanthocephalosis. Helminthiasis is very common and is one of the ancient parasites that, having adapted to the human body, causes various pathologies in human organs and systems. In addition to parasitizing the body, they cause many complications. In the prevention and treatment of helminthiasis, it is necessary to observe the rules of personal hygiene, diet, and conduct awareness-raising activities among children about the factors that cause the disease, its course, and prevention.

Main part

Parasitic diseases are one of the most important medical problems that negatively affect human health. Helminthiasis, including enterobiasis and echinococcosis, which are especially common among children, are one of the most urgent problems today.

Echinococcosis is caused by *Echinococcus granulosus*. This disease is a disease caused by the development of the larval stage of the parasite in various human organs. It can affect various organs both primary and disseminated. The most common localization of the worm is the liver (up to 80%) and lungs. Echinococcosis is characterized by organ destructurization, allergization of the body, and severe complications, often leading to disability and death. Humans and some animals (sheep, pigs, horses, cattle) are considered intermediate hosts. The disease is most common in South America, Australia, Greece, China, the former Soviet Union (Stavropol Territory, Crimea, Azerbaijan and Central Asia). In most cases, it develops in the liver and lungs, in general, in all organs and tissues. The mature stage of echinococcus is a small cestode (tapeworm) 2.5-5.5 mm in size, which has a head (scolex), a neck with two rows of hooks and 3-4 segments. The main host of echinococcus is a predator (wolf, fox, dog). Mature echinococcus eggs fall into water, soil, wild plants and fruits through animal waste. Also, the wool of animals can be contaminated with echinococcus eggs and cause infection as a result of direct contact with humans. Humans are infected with the infection from slaughtered cattle, when consuming contaminated meat products. In this case, the oncosphere-like helminth eggs spread throughout the body through the stomach wall, lymph and blood vessels.

Diagnostics - 0.2 ml of fluid from a centrifuged echinococcus cyst is injected into the skin of the forearm and observed for 24 hours. A positive reaction, characterized by redness



and enlargement of the skin, is considered more accurate than the Katsoni reaction. In this case, latex serves to adsorb the antigen. X-ray, ultrasound, tomography examinations help in diagnosing echinococcosis. It is necessary to be able to distinguish this disease from liver cancer, cirrhosis, hematomas and hemangiomas.

Treatment - Surgery is performed (the affected organ is cut to healthy tissue, treated with enucleation with a fibrous capsule, hemihepatectomy, radical echinococcectomy). If the liver cyst is suppurating, it is emptied as much as possible, and the capsule is marsupialized.

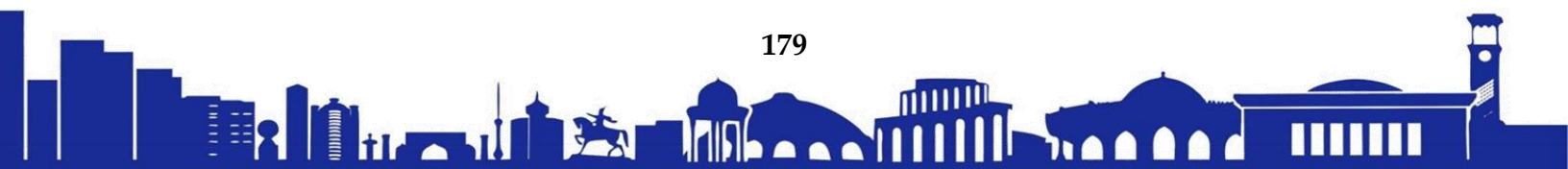
Prevention - Sanitary and veterinary control is established, sanitary work is carried out among the population. Stray dogs should be destroyed, hunting and domestic dogs should be dewormed (free from worms).

Trichocephalosis (from the Greek trichos - hair and kephale - head) is an infectious disease caused by roundworms. Roundworms mainly parasitize in the large intestine. Roundworms can live in the human intestine for years (up to 5 years). Eggs laid by the female roundworm are excreted into the external environment through feces. The roundworm eggs mature in the external environment for 2 weeks and turn into larvae. The larvae enter a healthy person through vegetables, fruits and water. They mature in the human intestine for 30-35 days. The main source of the disease is the patient. Often, he may not feel any symptoms at the beginning of the disease. Sometimes symptoms such as loss of appetite, headache, dizziness, constipation appear. To detect the infection, the patient's feces are examined. The patient is treated only in the hospital. During the spread of the disease, the contamination of the surrounding area with human waste poses a great danger. Preventing human feces from entering water and soil, observing personal hygiene rules, washing hands before eating, washing fruits and vegetables in boiled water, drinking boiled water, and other important measures to prevent the disease are.

Etiology and epidemiology

Trichuris trichiura.

The causative agent of trichuriasis is the whipworm (*Trichuris trichiura*). In most cases, the disease is asymptomatic; in severe infestations, gastrointestinal disorders are observed.



Like other geohelminthiasis, trichuriasis is widespread in the tropics and subtropics and often affects children from poor populations.

The posterior end of the whipworm is wide and the anterior end is fibrous, giving it a whip-like appearance. Adult worms parasitize in the cecum and colon, penetrating deep into the mucous membrane with their anterior ends. Thousands of eggs laid by the female every day are excreted with feces and are deposited in the soil. After the eggs enter the body through the mouth, they develop into larvae in the duodenum, mature, and then move to the large intestine. The development period of the parasite lasts about three months. The life span of adult helminths is several years.

Pathogenesis

The pathogenic effect manifests itself through damage to the intestinal mucosa. Whipworms penetrate the intestinal mucosa with a thin head end, creating favorable conditions for the subsequent penetration of pathogenic bacteria and the development of infectious diseases. In addition, whipworms secrete toxins that poison the body.

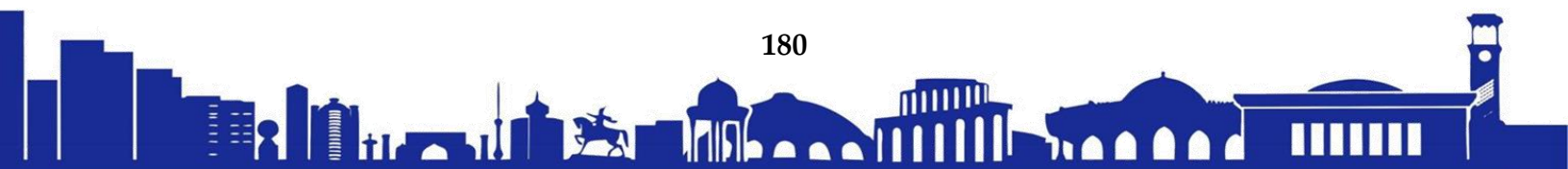
Diagnosis and treatment

Trichuristrichiura eggs

Microscopic examination of feces reveals eggs measuring 50x20 μm and lemon-shaped. Mature whipworms are 3-5 cm long and are sometimes visible during rectoscopy.

The main differences between echinococcosis and trichocephalosis:

	Causative agent	Location of Route of transmission	Route of transmission	Symptoms	Diagnosis
Echinococcus	Echinococcus granulosus	Liver and lungs	Through animals (mainly dogs)	It may not be felt for a long time, and then the pain	UTT, CT, serology



				will appear.	
Trichocephalosis	Trichuris trichiura	Intestine	Through dirt and dirty hands	Diarrhea, abdominal pain	Fecal analysis

Conclusion

In conclusion, echinococcosis and trichocephalosis are parasitic helminthiasis that affect the human body in different ways. Their causative agents, routes of transmission, localization and clinical course differ significantly from each other.

Echinococcosis is a relatively severe disease, dangerous due to the formation of cysts in the internal organs, while trichocephalosis occurs mainly in the intestines and leads to more digestive system disorders.

The use of modern diagnostic methods allows for early detection of diseases, and compliance with preventive measures is of great importance in their prevention.

Therefore, having sufficient knowledge about parasitic diseases and following the rules of hygiene are one of the important factors in maintaining human health.

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