

ECHINOCOCCOSIS OF THE LIVER: MODERN VIEWS

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Annotation. Liver echinococcosis is one of the most common parasitic diseases based on the formation of cysts in the liver. The main signs of this pathology are general weakness, a significant decrease in appetite, a decrease in body weight, a feeling of heaviness in the liver region, nausea after eating fried or fatty food, and stool disorders. To diagnose liver echinococcosis, general blood tests, immunological methods, abdominal ultrasound, magnetic resonance imaging, liver SPECT, laparoscopy, etc. are used. The most effective treatment is surgical excision of cysts; antihelminthic drugs are also used.

Keywords: echinococcosis of the liver, *parasitic infection, cyst, body.*

Echinococcosis of the liver is a parasitic pathology caused by the tapeworm *Echinococcus*. Its larvae infiltrate and multiply in the tissues of the organ, forming cysts. This disease is considered one of the most common helminthic diseases. The occurrence of echinococcosis in different countries of the world varies significantly. The disease is mainly observed in regions that are actively engaged in agricultural activities. *Echinococcus* parasitises the human body exclusively in the form of larvae, affecting not only the liver but also other organs such as the brain and lungs. At the same time, the involvement of the liver in the process occurs in 65% of all cases of this disease. Gastroenterology and infectology are engaged in the study of pathology. Treatment of echinococcosis is the responsibility of specialists such as infectious disease specialist, gastroenterologist, hepatologist and surgeon.

Echinococcosis of the liver is one of the most common parasitic diseases, which is based on the formation of cysts in the liver. The main signs of this pathology are general weakness, a significant decrease in appetite, weight loss, a feeling of heaviness in the liver, nausea after eating fried or fatty foods, and stool disorders. For the diagnosis of liver echinococcosis, a complete blood count, immunological methods, ultrasound of the abdominal cavity, magnetic resonance imaging, liver parameters, laparoscopy, etc., are used. anthelmintic drugs are also used.

Before introduction into the human body, the life cycle of *echinococcus* includes

several stages, which follow one after another. The final owner among pets are dogs and much less often cats. The parasite lives in the intestines of these animals in the form of mature worms. Their eggs with feces pass into reservoirs, soil, fruits, vegetables, and so on. In the future, there are several options for eggs to enter the human body:

1. Some of the eggs are swallowed by small rodents. In the liver of these animals, the larvae of echinococcus begin to mature. After eating rodents by wild predators, the latter are also infected with parasites. Therefore, with poor heat treatment of game, hunters can get liver echinococcosis.

2. Another part of echinococcus eggs ends up in the digestive system of agricultural animals, such as pigs, cattle, etc. Therefore, eating meat without appropriate processing can cause the development of liver echinococcosis.

3. The most common and relevant for humans is the third way the parasite enters the body. It is noted with insufficient compliance with hygienic rules, which is especially important for children. Echinococcus can enter the gastrointestinal tract when eating unwashed fruits or playing with pets after which you have not washed your hands thoroughly.

In the human body, larvae are initially absorbed into the blood from the intestines and pass to the liver. In the future, they contribute to the occurrence of liver echinococcosis. However, many parasites do not pass from the blood through the hepatic barrier, spreading with the bloodstream to other organs.

Symptoms of liver echinococcosis. Echinococcosis of the liver is a chronic disease that does not have pronounced symptoms that force a person to consult a doctor in time. After infection, symptoms do not begin to appear immediately, but after a few months or years.

Most often, patients are concerned about general weakness, decreased tolerance to physical activity, decreased performance, headaches, small punctate rash on the skin, periodic slight fever. These clinical signs are a consequence of the ingestion of toxic waste products of echinococcus into the blood and the body's reaction to the introduction of parasites. The development of echinococcus in the liver occurs in several stages, each of which has its own clinical characteristics.

First stage. At the first stage, there may be no symptoms at all. Therefore, an infected person feels normal and leads an active lifestyle. At this stage, echinococcus invades the liver tissue and forms a protective capsule. The only manifestation of the disease may be a slight discomfort in the right hypochondrium after eating a large amount of food.

Second stage. The second stage is characterized by clear clinical symptoms. Patients have a disturbed appetite and gradually reduce body weight. When taking drugs, infected people may experience more frequent adverse reactions, which is

associated with a decrease in the detoxification function of the liver against the background of echinococcosis.

Specific symptoms that are characteristic of echinococcosis of the liver are nausea or vomiting, heaviness in the right hypochondrium and diarrhea. Nausea, as a rule, develops after eating fatty, fried and spicy foods. Discomfort in the right side of the abdomen bothers after eating or against the background of physical activity. Patients with echinococcosis of the liver periodically note diarrhea, which is associated with impaired digestion of fatty acids in the intestine due to inhibition of bile production by hepatocytes.

Third stage. At the third stage of development, echinococcosis of the liver is manifested by complications that are associated with the violation of the integrity of the echinococcal cyst and the spread of parasite eggs to other organs. As a rule, when the parasite enters the blood, an allergic reaction occurs, which is accompanied by bronchial spasm and the development of respiratory failure. In addition, echinococcus can spread to bone tissue, brain, lungs and other organs, causing disruption of their functions.

One of the most common complications is considered to be suppuration of the contents of the cyst, which, if ruptured, can go into the abdominal or pleural cavity, causing purulent peritonitis or pleurisy. With a large size of the cystic cavity, it can infringe on closely located vessels and bile ducts. From the blood vessels, the portal vein is most often compressed, which is manifested by an increase in pressure in the venous system of the abdominal organs. As a result, the spleen enlarges and ascites appears.

Less commonly, an echinococcal cyst compresses the inferior vena cava, which leads to the development of heart failure. This complication is expressed by shortness of breath, swelling of the lower extremities, renal dysfunction and impaired blood supply to the internal organs. A common complication of echinococcosis of the liver is compression of the biliary tract, which is accompanied by impaired bile outflow. Symptoms of bile stagnation are yellowing of the skin, itching and stool disorders with a change in its color.

- **Diagnostics**

Laboratory and instrumental examination methods are used to diagnose liver echinococcosis. A thorough questioning of the patient is also carried out, which allows you to clarify the possible ways of infection with this parasite. As a rule, a high risk of the disease is noted in people who are engaged in agriculture and often come into contact with pets.

- **Laboratory diagnostics.** A complete blood count, a clinical urinalysis, immunological tests (complement binding test, indirect agglutination test) and an allergy Cazzoni test are performed. In a complete blood test, there is an increase in the

number of eosinophils and an increase in the erythrocyte sedimentation rate. Immunological tests are used to determine the presence of antibodies to echinococcus in the blood and the contents of the cyst. They allow you to accurately diagnose echinococcosis of the liver. Since the function of hepatocytes can be impaired in this disease, biochemical tests of the liver are carried out to assess it.

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