



ULTRASOUND PICTURE OF THE CASE OF LIVER ECHINOCOCCOSIS

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Abstract

Hydatidous echinococcosis belongs to a group of severe parasitic diseases, which remains a serious medical problem on a global scale due to the existence of a huge number of endemic foci and a steady increase in the number of patients. Echinococcosis is a zoonotic disease caused by infection with the tapeworm *Echinococcus*. [1, 2, 3, 4, 6, 8, 7, 14] Humans are random intermediate dead-end hosts, infected by ingesting parasite eggs in contaminated food or by direct contact with animal hosts. Getting into the duodenal mucosa, the larvae of the parasite reach the bloodstream and then enter the liver (75%), lungs (15%) or other areas (heart, central nervous system, kidneys (extremely rare: 1-5%), bones, eyes, etc.), where they continue their development.[5, 7, 18]

Key words: *Echinococcus granulosus*, ultrasound diagnostics, enzyme immunoassay, albendazole.

Introduction

Echinococcosis is widespread in the world and is found on all continents except Antarctica. The high frequency of echinococcosis in regions with a predominant development of animal husbandry is associated with a low level of socio-economic development and sanitary culture of the population. In economically developed countries, the increase in morbidity is mainly due to immigrants and the development of tourism. In these regions, as well as in non-endemic foci, doctors are often not ready



for timely diagnosis and adequate treatment of patients with echinococcosis. [10, 11, 12, 13, 15, 16, 17] Ultrasonography, supported by serology, is the main diagnostic method. [14]

A woman born in 1966, a resident of Kashkadarya region, Koson district, and the village of Darcha, applied to the Research Institute of Medical Parasitology named after L. M. Isaev. Epidemiological history: the patient lived in an area endemic to echinococcosis. The family is engaged in cattle breeding, there is a domestic dog. Until the summer of 2019, I considered myself healthy. In July, she felt soreness in the right side of her abdomen and went to a local private clinic, where two cysts were detected by ultrasound examination on the Medison sonoace – X4 device. In the VII segment of the right lobe of the liver, a single-chamber fluid cyst with a size of 93x75 mm, with a pronounced fibrous capsule. In the IV segment – a two-chamber liquid cyst, measuring 101x68 mm. Given the large size of the cysts, surgery was offered, but the patient refused the operation.

When applying to the L. M. Isaev Research Institute of Parasitology (Samarkand) in July 2018, the condition is satisfactory, the lungs are vesicular, there are no wheezes, the frequency of respiratory movements is 20 per minute. Heart tones are muted, the rhythm is correct, the heart rate (HR) is 80 beats / min, blood pressure is 120/80 mm Hg. The abdomen is soft, painless. The liver on palpation is dense, with a sharp edge, painless, not enlarged.

At the Institute, the research was carried out with a portable device (manufactured in South Korea) Alpinion e-cube i7, a 3.5-5.0 MHz convex sensor, oblique, longitudinal and transverse scanning of parenchymal organs. During the ultrasound examination, it was found that the echostructure of the liver is homogeneous, the echogenicity is average. The contours are smooth, the corners are sharp. The anteroposterior size of the right lobe is 136 mm, the cranio-caudal size of the left lobe is 102 mm. The intrahepatic passages are not dilated. The choledochus is 5 mm, the portal vein is 11 mm, and the contours are smooth. In the VII segment of the right lobe of the liver, a single - chamber fluid cyst with a size of 95x74 mm with a pronounced fibrous capsule is located, and in the IV segment-a two-chamber cyst with a size of 102x69 mm. According to the WHO classification of 2003, cysts correspond to the CE1 stage. Echopathology was not detected in the gallbladder, pancreas, spleen, and kidneys, as well as in the thyroid gland. Chest X-ray: no fresh focal and infiltrative shadows were found in the lungs

In the general blood test, the concentration of hemoglobin is 109 g/l. The number of red blood cells - 4, 1h1012/L., platelets-354x109/L., white blood cells-6, 7x109/L. The eosinophil content is 2.7%, and the erythrocyte sedimentation rate is 27 mm / h. General analysis of urine without pathology.

For the first time, a study to determine specific antibodies in the blood to single-chamber echinococcus (IgG) by ELISA showed a result of 0.2 units of OP. (Figure 1)

Based on the epidanamnesis, the nature of the development of the disease, the data of instrumental studies and the results of serological tests, the diagnosis was made-multiple echinococcosis of the liver (two cysts, CE-1).

Due to the refusal of surgical treatment, the patient was prescribed antiparasitic therapy with albendazole, at a dose of 15 mg / kg / day per / os. The patient's weight was 53 kg, a day of 800 mg 2 times with a fatty meal took albendazole. As a pathogenetic therapy, the hepatoprotector hepanorm was used 3 times a day, 1 capsule 30 minutes before meals, during the entire period of treatment.



During the entire treatment, a two-week monitoring (every 2 weeks) of the patient's blood biochemical parameters (Table 1), as well as platelets and eosinophils in the blood was carried out. The result of the effectiveness of the treatment was the data of ultrasound and blood ELISA.

So, in the second week of treatment, an increase in eosinophils was detected to 7.7% (N-0.5-5.0 %).

Graph 1. Dynamics of the units of optical density of the enzyme-linked immunosorbent assay for the detection of echinococcal class G immunoglobulin:

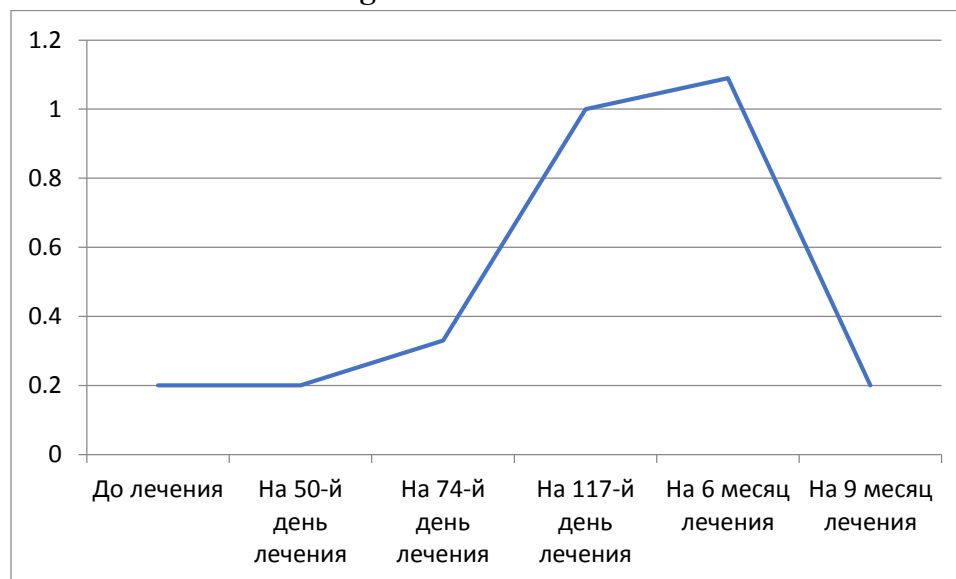


Таблица 1. Биохимические показатели крови в динамике:

	До лечения	Через 2 недели	На 35 день
Билирубин, общий, мкмоль/л	10,8	10,6	10,8
Прямой, мкмоль/л	6,4	5,7	5,6
Непрямой, мкмоль/л	4,4	4,9	5,2
Тимоловая проба, Ед.	9,8	7,2	8,9 Ед
АЛАТ, мкмоль/л	0,94	0,96	0,94
АсАТ, мкмоль/л	0,51	0,61	0,58
Протромбиновое время, сек	14	16	17 сек
Протромбиновый индекс, %	107	100	94%

Positive dynamics of ultrasound was observed after 35 days of treatment. According to the results, the size of the cyst in the IV segment of the right lobe of the liver was 81x51 mm, while the size of the cyst in the VII segment was 62x60 mm. The wall of the chitinous shell began to peel off in both cases. According to the WHO classification, the condition of both cysts corresponded to the stage of CE1. ((Fig. 1a, b). On the 79th day of treatment: anechoic formations with clear contours and heterogeneous internal echostructure in the IV segment measuring 31x36 mm and 20x22 mm, and in the VII segment it was 43x47 mm. According to the WHO - CE3 classification (Fig. 2a, b).



1а. В IV сегменте размер кисты 81х51 мм

1б. В VII сегменте размер составил 62х60 мм

Рис 1. На 35-й день лечения в правой доле печени



2а. В IV сегменте размер кисты составил 31х36 мм 2б. В VII сегменте размер кисты составил 43х47 мм и 20х22 мм

Рис.2. На 79-й день лечения

The examination and observation of the patient continues.

Conclusion

Thus, the positive dynamics of the disease was observed with long-term administration of chemotherapy. Ultrasound diagnostics is the most accessible and informative method of visual monitoring during long-term therapy of liver echinococcosis.[9] Due to the fact that before the development of complications, echinococcosis is clinically latent, for early detection of the disease in



risk groups, it is necessary to conduct an ultrasound examination at least once a year, and in areas where a high incidence rate is registered 2 times a year.

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