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CLASSIFICATION OF LIVER ECHINOCOCCOSIS AND METHODS OF ITS SURGICAL TREATMENT

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ANNOTATION

In percutaneous echinococcectomy, anaphylactic reactions occur in 4.2% of patients and are the most common complication of the intervention. Haemorrhage, subcapsular hematomas, cholesophagus, abdominal contamination and disease recurrence are rare complications not exceeding 1-1.5% each. Formation residual cavity is a natural course of postoperative.

Key words: classification, echinococcosis, cholesophagus, Haemorrhage, subcapsular hematomas.

Echinococcosis has been known to humans since ancient times. The oldest findings date back to the 6 millennium BC. Hippocrates' "Father of Medicine" described echinococcal cysts as "water-containing tumors" and the liver affected by the parasite as "filled with water." Data on liver cysts are in the writings of authors such as Aulus Cornelius Celsus (c. 25 BC - 50 AD), Areteus of Cappadocia (80 or 81-130 or 138), Galen of Pergamon (129 or 131-200 or 217) [1,3,5,7,9,11,24,26,28,30].

Echinococcosis is a disease widespread everywhere. Endemic regions for this disease are Central Asia, the North Caucasus, the countries of the former USSR [1,5,8]. Endemic regions also exist in northern Africa, Europe, Australia and New Zealand. There is evidence in the literature that the number of cases of helminthiasis has increased in recent years [14,16,18,20,22,25,27,29,31]. An increase in incidence is observed in countries such as the USA, Switzerland, Germany, Japan [54, 55]. Thus, there is a tendency to increase the overall incidence and expand the geography of the parasite. And the fact that more than half of cases of echinococcosis occur in people of working age gives particular

social significance to the development of scientific activity in the field of this pathology [13,15,17,19,21,23,33,35].

Echinococcosis is one of the common parasitic diseases in a number of regions of Uzbekistan [2,4,6,8,10,12,34], In the past 10-15 years, there has been a widespread increase of 2.5-3 times in the number of patients with echinococcosis with predominant liver damage. The most common method of surgery remains echinococcectomy with one option or another to close the residual cavity. Also, in clinical practice, minimal invasive technologies in the treatment of patients with liver echinococcosis are becoming increasingly widespread. 10 years ago, miniinvasive technologies in the treatment of patients with liver echinococcosis met with obvious disapproval and frank opposition from surgeons [1,5]. However, in recent years there has been a clear tendency towards a more favorable perception of these methods. Although this to some extent served the methods themselves poorly - the number of intraoperative complications increased, there was a tendency for unreasonable expansion of indications and non-compliance with the intervention methodology. This is especially true for percutaneous echinococcectomy, which captivates with its seeming simplicity and ease. Thus, severe complications after percutaneous echinococcectomies occur, according to literature, in 3% -25% of cases [1,2,5].

The most common and specific complications in the miniinvasive treatment of liver echinococcosis are anaphylaxis, suppuration of the residual cavity, contamination of the puncture canal and abdominal cavity. Moreover, deaths on the operating table during percutaneous intervention have been described. However, in the literature there is no full analysis of the causes of these complications and methods of their timely diagnosis and prevention.

Purpose of the study. Improvement in the results of treatment of patients with liver echinococcosis by developing an algorithm for the prevention and treatment of complications in percutaneous echinococcectomy.

Materials and methods: For the purpose of the study, 58 inpatient charts of patients who underwent miniinvasive interventions for liver echinococcosis in the clinic of faculty and hospital surgery of the Bukhara Medical Institute were analyzed. All patients underwent a comprehensive physical and laboratory-instrumental examination. Skin and visible mucous membranes were evaluated. The general condition of the patient, the function of organs and systems were assessed. Examined respiratory, digestive, cardiovascular, urinary systems. The main and concomitant diseases were also diagnosed (if any) and, in the absence of contraindications, the patient was prepared for operative intervention. All patients had complete blood and urine count, biochemical blood count and coagulogram. Liver function was assessed by total protein and fractions, direct and indirect bilirubin, aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphotase (ALP), gamma-glutamine transferase, blood glucose, serum amylase, creatinine and urea. Activated partial thromboplatic time, fibrinogen concentration in blood, international normalized ratio, prothrombin index were determined to assess the condition of the blood coagulation system.

The almost twofold predominance of women over men in the structure of the incidence of echinococcus is associated with their greater involvement in the cooking process, participation in the production of skins, housekeeping, with the care of cattle, etc. Cysts ranged in size from 11 mm to 196 mm and averaged 81 mm. Predominantly, the cysts had a regular spherical shape. In the case of an irregular cyst shape, the size was taken to be the mean value between the cyst diameters measured in three planes. Cysts less than 3 cm were found in 21 patients, which was 36.2%. This size division of cysts is due to the fact that with cysts less than 3 cm we performed only puncture and antiparasitic treatment of cysts, while with a larger diameter we performed percutaneous percutaneous echinococcectomy. The exception was only 5 pregnant patients who, despite the size of the cysts, underwent puncture and antiparasitic treatment.Some of the

patients had a history of surgery for various diseases. Among them are operations for gallstone disease, appendicitis, peptic ulcer of the stomach and duodenum, hernia of the anterior abdominal wall, gynecological diseases, malignant neoplasms, etc. 17.5% of patients had comorbidities. They were represented by coronary heart disease, hypertension, diabetes mellitus and others.

Study results. Percutaneous percutaneous echinococcectomy, as well as puncture and antiparasitic treatment, belong to miniinvasive methods of treating liver echinococcosis. Depending on the size of the cysts, we performed one or another type of intervention. We applied this technique to 406 patients. All interventions were performed in a specialized operating room equipped with standard operating equipment, as well as an ultrasound apparatus and an X-ray telescope. As protection against radiation, the entire operating and anesthesiological teams used X-ray protective aprons and collars. The operation was performed under intravenous anesthesia in the supine position. Before the operation, the patient underwent polypositional ultrasound to determine a safe access path. The trajectory was chosen in such a way that in the path of movement of the needle there were no blood vessels, bile passages, hollow organs, pleural sinus. Also important was the presence of a layer of liver parenchyma over the cyst at the entrance of the instrument. With a partially extraparenchymal location of the cyst, the entrance to it through the free, not covered by the parenchyma liver, the edge carries the danger of leakage of hydatid fluid into the abdominal cavity and an increased risk of recurrence. Access also depended on the location of the cyst. So, when the cyst was located in the left lobe, the injection was carried out in the epigastric region, when the cyst was located in the right lobe, access was carried out in the right subcostal region, and the location of the cyst in the posterior segments of the right lobe dictated the need for intercostal access. At the same time, each access carries its own dangers. Dangers of access in the epigastric region: risk of damage to the hollow organ (stomach, risk of cyst rupture due to greater mobility of the left lobe. With subcostal access, there is a high risk of damage to large vessels and bile ducts. Intercostal access carries the

following risks: damage to the intercostal vessels, the passage of instruments through the pleural sinus After choosing the optimal trajectory at the site of the alleged scalpel injection, an incision of several millimeters was made, a mosquito-type clamp pushed soft tissues to the peritoneum. Further, a special nozzle was put on the UZ sensor to set the needle direction. A needle-catheter complex with a diameter of 7-8.5Fr was fixed in the nozzle. In rare cases, in the absence of direct safe access, we used the "free hand" technique, which allows you to change the trajectory of the tool and bypass various structures along the path of the tool. We used this method in 39 patients (67.2%). The use of this technique can lead to significant injury to liver tissue by changing the trajectory of the complex inside the liver parenchyma. There is also an increased risk of damage to small vascular structures of the liver, which can sometimes lead to the formation of small intraparenchymal hematomas. Therefore, we believe that this technique should be used for strict indications and should not become a routine way of performing the operation. The moment the instrument enters the echinococcal cyst is one of the most responsible and dangerous. At this point, the risk of echinococcal cyst tearing and spilling its contents into the abdomen is very high. No less dangerous is the detachment of the chitin sheath, which can lead to the needle-catheter complex entering the space between the chitin sheath and the fibrous capsule, which greatly complicates the adequate germicidal treatment of the cyst. In view of the above, to prevent complications, the following conditions must be observed: rigidly fix the sensor on the anterior abdominal wall, preventing its dislocation during manipulation; entry into the cyst should be sharp, simultaneous, barbed; abandon the Seldinger technique, the use of which in relation to echinococcal cysts is deliberately vicious and will certainly lead to abdominal contamination; prevent reciprocal movements of instruments in the cyst. After removing the mandrene and stiletto and fixing the drainage in the cyst cavity, complete aspiration of the contents was performed. Aspiration evaluated the appearance of the contents, color, clarity, presence of impurities, volume. A living echinococcal cyst is characterized by pure

clear contents without impurities. This type of content was noted by us in 306 observations (75.4%). In a third of these observations, the presence of the so-called. "Hydatid sand" - brood capsules, which indicated a significant fruiting of the cyst. The cloudy opaque contents spoke of the beginning of the death of the parasite. The greenish-yellow shade of aspirate indicated the possible presence of cisto-biliary fistula. After aspiration of the entire contents, an adequate amount of the germicidal preparation was injected into the cyst cavity. One of the effective germicides that we prefer is an 80-100% aqueous solution of glycerol. We used a 87% aqueous glycerol solution with an exposure of at least 6-7 minutes. We added an X-ray contrast substance to glycerin, which made it possible to assess the location and shape of the cyst, the connection with the bile duct, neighboring structures and the free abdominal cavity. All subsequent manipulations were performed under X-ray control. During the exposure on the monitor screen, one could observe the detachment of the chitin shell, which looked like "crumpled paper" in the cyst cavity. After 6-7 minutes, glycerol was completely aspirated. From that moment on, the echinococcal cyst was recognized as dead, without living germ elements. In this regard, further manipulation of the cyst can be carried out without the risk of abdominal contamination. According to the literature, the risk of suppuration of the residual cyst cavity is significantly higher with the chitin coat left. In this regard, we consider it necessary to completely remove the latter. However, performing this manipulation through a drainage with a diameter of 8.5Fr carries certain difficulties.

Conclusions. 1.The most common complication of percutaneous echinococcectomy is anaphylaxis (3.3%). Hemorrhage, subcapsular hematomas, cholemia, abdominal contamination, and disease recurrence do not exceed 2-2.6% each

2. The main risk factor for complications in percutaneous echinococcectomy is non-compliance with the intervention methodology, the use of the Seldinger method and the use of ineffective intraoperative germicides.

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