

## Treatment of hepatic echinococci

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### Resume

In article results of the operative treatment 68 sick with plural Echinococcus liver. They Are Executed following interference: Ideal Echinocectomy beside 8(17,4%), cistpericectomy beside 6(13%), Echinocectomy beside 24(52,2%)sick. The Remaining cavity liver is processed betadin with exposure  $5 \pm 0,2$ ; which in 99 % events has brought about ruins scolex parasite. At postoperative period given preparation was entered through drenaj tube in remaining cavity that has allowed to conduct the preventive maintenance of the relapse of the disease. In early and remote postoperative period beside handled sick relapse of the disease did not exist.

**Keywords:** echinococcus liver, scolecsizid, betaden, relapse

**Relevance.** The most radical and modern method of treating patients with liver echinococcosis (EP) is surgical [4]. The traditionally performed method of open echinococectomy does not fully satisfy surgeons, because the frequency of developing postoperative complications remains high, reaching from 36% to 40% - [2]. Multiple lesions of liver echinococcal cysts (IEL) occur in 6.4-28% of cases [3], more often recurrence occurs precisely in the share of multiple forms of EP.

**Purpose of the study.** The purpose of this study is to study the results of surgical treatment of multiple and recurrent forms of EP, to develop ways to improve the results.

**Material and methods.** The results of surgical treatment of 67 patients with multiple EP were analyzed. In 46 patients with primary multiple EP, localization of cysts in the right lobe of the liver was observed in 20 (43%) patients, in the left lobe of the liver in 8 (17%), in both lobes of the liver in 21 patients. Uncomplicated forms of MEP occurred in 28 patients, complicated forms in 18 patients. In the preoperative period, the following complications were observed: cyst rupture into the biliary tract in 4 (22%), rupture into the abdominal cavity in 1 (5.6%), rupture into the pleural cavity in 2 (11%), compression of the biliary tract with the development of a mechanical jaundice in 5 (28%), cyst calcification in 2 (11%), cyst suppuration in 4 (22%) patients. With multiple liver echinococcosis, the following surgical interventions were performed: ideal echinococectomy in 8 (17.4%), cystpericistectomy in 8 (17.4%), echinococectomy + cystpericistectomy in 6 (13%), semi-closed echinococectomy in 24 (52.2%) sick. The largest percentage of operations were 23 patients with external drainage of the residual cavity, and in 17 cases, options for reducing residual cavities were used (partial pericystectomy, invagination, capitonnage). The residual cavity of the liver was treated with betadine, which has a detrimental effect on the germinal elements of the parasite. In 100 mg of betadine, consisting of active iodine in an amount of 10 mg, when treating the residual echinococcal cavity with an exposure of  $5 \pm 0.2$ , in 99% of cases it provides a reliable disinfecting effect on all elements of the echinococcal cyst. Unlike many other antiscolexical drugs used in the clinical practice of liver echinococcosis surgery, which are hepatotoxic, betadine is free from such disadvantages. Using in the

postoperative period the introduction of betadine through a drainage tube into the residual cavity of the liver allowed to minimize the cases of suppuration of the residual cavity, and served as a reliable germicide in the prevention of recurrence of the disease. In 4 cases, with complicated EP, a breakthrough of the contents of the cyst into the biliary tract occurred. These patients underwent endoscopic papillosphincterotomy (EPST), sanitation of the extrahepatic biliary tract with decasan + open liver echinococectomy with drainage of the residual cavity. In the postoperative period held antiparasitic and hepatotropic therapy. After the operation of traditional liver echinococectomy in the early postoperative period, the following complications developed: exudative pleurisy in 3 (6.5%) cases, an allergic reaction in 2 (4.3%), and the formation of a biliary fistula in 6 (13%) patients. In the diagnosis of exudative pleurisy, along with polypositional X-ray examination, ultrasound of the pleural cavity is of particular importance. The advantage of the ultrasound method is that in the pleural cavity, the accumulation of fluid with a volume of about 10 ml is clearly visualized by this method, while with fluoroscopy, the fluid in the pleural cavity is detected only at a volume of more than 100 ml. Under the control of ultrasound, it is possible to determine the depth, localization and the possibility of repeated punctures without damaging the internal organs.

All three patients with reactive pleurisy underwent daily puncture of the pleural cavity, followed by the use of a broad-spectrum antibiotic for 5-7 days. The criterion for the effectiveness of puncture sanitation of the cavity was the elimination of manifestations of intoxication and the absence of accumulation of exudate in the pleural cavity. Bile leakage during external drainage of residual liver cavities was observed in 6 patients, which stopped by 15-16 days after conservative treatment. In the postoperative period, software dynamic ultrasound was performed to control the regression of the residual liver cavities. Complete reduction of residual cavities in operated patients occurred by  $26 \pm 5.6$  days. In 6 cases, after surgery for MEP, a relapse of the disease was observed, which was successfully cured by puncture-aspiration echinococectomy under ultrasonography control.

After traditional and minimally invasive methods of MEP treatment, 3 courses of antiparasitic therapy with albendazole (10-12 mg/kg of the patient's weight) were carried out for 28 days with a break interval of 1 month. Of the 21 recurrent forms of MEP, cysts were localized mainly in segments VII, VIII of the liver. The diagnosis was established on the basis of ultrasound, CT, MRI and high titers antibodies - 400 or more, enzyme immunoassay (ELISA). All patients underwent percutaneous minimally invasive surgical interventions – minilaparotomy. All patients underwent percutaneous minimally invasive surgical interventions – minilaparotomy. Indications for such interventions were sonographic pictures of echinococcal cysts II, III types according to H.G. Harbi, suppuration of the parasitic cavities of the liver, 8-10 cm in size, the severity of the general condition of patients. The technique for performing percutaneous interventions from a mini-access under ultrasound control was as follows: all manipulations were performed under intravenous ketanalev anesthesia. Before the intervention, an ultrasound scan was performed, the place for minilaparotomy was determined, observing the principle of antiparasiticity. The cyst or the residual cavity was punctured, the fluid was evacuated, the wound was expanded along the needle, the residual cavity was sanitized and drained with PVC drains. Antiparasitic treatment of the residual cavity was carried out with a solution of betadine with an exposure of 15 minutes. The terms of drainage of the cavities averaged  $16.8 \pm 4.2$  days.

## **Results and discussions.**

After minimally invasive interventions under ultrasound control, puncture methods for extracting fluid from the pleural cavity were performed in 2 patients with reactive pleurisy. No other complications were observed in the early and late postoperative period. Patients with recurrent EP in the postoperative period underwent chemotherapy with albendazole at a dose of 10-12 mg/kg per day, recommended by

WHO (1996). According to it, patients with a live parasite and a thin-walled cyst (type I and II cyst according to Garbi) started treatment 4 days before surgery and continued for 2 weeks after surgery at a daily dose of up to 200 mg. The drug albendazole with severe fibrosis and calcification of the cyst (III and IV type of cyst according to Garbi) tried to start treatment earlier and increased the preoperative daily dose of albendazole to 300 mg, and in the postoperative period, the intake of this drug remained unchanged.

In case of intraoperative difficulties and doubts about the observance of the principle of aparasiticity of the stages of the operation, the chemotherapeutic postoperative daily dose of albendazole was increased to 300 mg and the course of treatment was extended to 1 month. No complications of chemotherapy were observed. The analysis of the results of surgical treatment of liver echinococcosis in patients showed that intraoperative complications are not so significant (4.2%). Clear advantages of external drainage of an unreduced fibrous cavity over the option of drainage with a reduced residual cavity were noted - omentoplasty, capitonnage and invagination methods.

### **Conclusion.**

Thus, the most effective methods of surgical treatment of liver echinococcosis should be considered cystpericistectomy, ideal echinococcectomy, in which the risk of recurrence of the disease is reduced to zero, and from open methods, echinococcectomy is external drainage of the residual cavity with repeated treatment of the residual cavity with betadine. Echinococcectomy of the liver from a mini-access in case of relapse of the disease creates favorable conditions for compliance with the principles of aparasitism and antiparasitism, being a low-traumatic operation, strictly observing the principles of aparasitism and antiparasitism, while the time spent by the patient in the hospital is rarely reduced, the development of postoperative complications was not observed.

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