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TACTICAL ASPECTS AND COMPLICATIONS OF DISSEMINATED ECHINOCOCCOSIS OF ABDOMINAL CAVITY

Summary. The authors analyzed the results of surgical treatment of 118 patients with disseminated and complicated echinococcosis of abdominal cavity.

Key words: *ultrasonography, disseminated hydatid disease of the liver, chemotherapy.*

Urgency

Echinococcosis is one of the most severe human parasitic diseases. Long asymptomatic patients causes late uptake and leads to the development of dangerous complications. Despite the significant progress made in the diagnosis and treatment of hepatic echinococcosis (HE) and abdominal organs, its relevance is becoming more medical and social significance. [1,3,6,7].

Disseminated hydatid disease is the most severe form of disease, diagnosis and treatment of which presents considerable difficulties due to the fact that patients often operates under urgent indications, the nature of pathology and multiple lesions are unexpected finding in the audit of the abdominal cavity, so are non-radical surgery [3, 4,5].

Results of surgical treatment of multiple abdominal echinococcosis can not satisfy both surgeons and patients because of the high incidence of post-operative complications, mortality, and frequent recurrence of the disease (3-54% of cases) [2,5,7].

The purpose of the study

Improving the results of surgical treatment of disseminated and complicated echinococcosis by improving treatment policy and preventive measures to reduce postoperative complications and relapses of the disease.

Material and methods

We have analyzed the results of treatment of 118 patients with disseminated and complicated echinococcosis of the liver and abdominal organs, receiving hospital treatment in the ASMI clinics between 2001 and 2014.

All patients were divided into 2 groups: control - 57 (48.3%) patients who received inpatient treatment in 2000-2005. by conventional methods; Home - 61 (51.6%) patients who received inpatient treatment in 2006-2014. We optimized the methods of treatment.

In the control group, and the main bulk of the operated patients were of working age 19-44 years:

51 (89.4%) patients in the control group and 53 (86.8%) in the study group. The frequency of the disease at the age of 45-59 years was 5 (8.7%) and 6 (9.8%) and in the elderly in 1 (1.7%) 2 (3.2%) cases.

In order to use general clinical diagnostic methods (complaints, medical history, physical examination), clinical and laboratory methods. The blood chemistry, in particular the increase in ACT and ALT, bilirubin were observed in 13 (23%) patients in the control group and in 17 (28%) patients of the group, but they generally indicate the presence of functional disorders of the liver in patients with advanced defeat or complicated course.

Diagnostics performed with consistent application of X-ray, ECG, ultrasound (US), and in doubtful cases, magnetic resonance imaging (MRI). The method of ultrasound determined the location and size of hydatid cysts (EC) possible relationship with the surrounding organs, blood vessels and bile ducts, as well as the so-called revealed hypoechoic education, «chitin shell» - hyperechoic structure on the inner surface which defines multiple hyperechoic inclusion - «hydatid sand» (embryonic elements echinococcus – protoscolex and acephalocyst). The fibrous capsule is hyperechoic rim and divided from the chitin shell hypoechoic layer, which is a lymphatic «slit» (Fig. 1). When festering cyst celebrated its seal walls echogenic rim of the negative periphery (Fig. 1, 2).

Festering cyst is one of the most frequent complications of the disease, diagnosed in 12 (21%) patients in the control group, 16 (26.2%) patients of the group. Complications in the form of calcification of the fibrous capsule of the liver echinococcosis were observed in 8 (14%) patients in the control, in 6 (9.8%) of the main group. In 5 (8.7%) patients in the control group, 7 (13.1%) patients of the main group had been diagnosed with a cyst abscess clinic purulent intoxication. In 2 (3.5%) patients in the control group and 1 (1.6%) patients of the group took place due to the development of clinical peritonitis EC breakthrough in the free abdominal cavity. A breakthrough in the biliary tract and the clinic

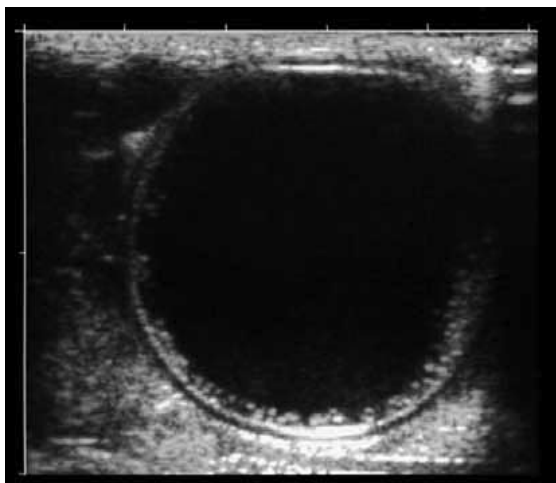


Fig. 1. Liver cyst

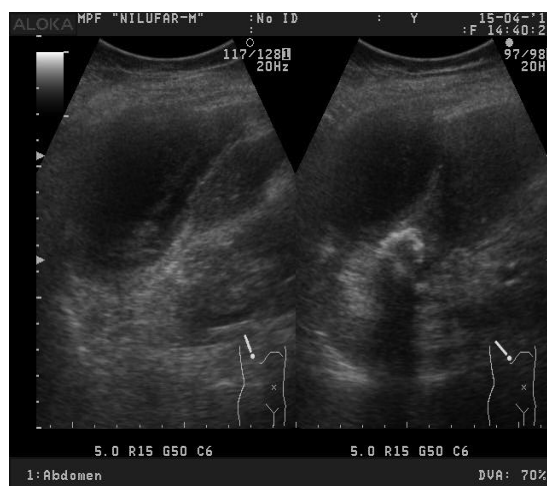


Fig. 2. Festering echinococcus

cholangitis occurred in 2 (3.5%) patients in the control group, in 1 (1.6%) patients of the main group.

In the control group disseminated hydatid disease diagnosed in 27 (47.3%) in the study group - in 31 (50.8%) patients.

In both groups, the number of women prevailed: 36 (63.1%) and 41 (67.2%), respectively, and to increase the incidence of disseminated EP (plural) and abdominal organs about 20 years of age.

In the main group of patients with disseminated and complicated echinococcosis liver and abdominal cavity during the preoperative preparation, we apply a set of measures, with a personal touch and to eliminate existing before the operation of functional disorders of the internal organs and systems, and prevent all kinds of complications intra- and postoperative periods. In patients with latent hepatic insufficiency as detoxification, antioxidant and hepatoprotective agent in combination with other chemotherapy drugs and used the drug Essentiale forte 300 mg intravenously, Hepa-Merz 10g 400 ml infusion solution, ascorbic acid 5% -6.0 intravenously, Riboxinum 2% -10 intravenously, as well as enteral intake was recommended a sufficient number (do2-3 liters) of fluid.

One of the most effective methods of prevention of relapses of operated patients had preventive chemotherapy for albendazole developed in the clinic circuit (certificate for rationalization Offer №942) and was carried out in 2 hours at the standard dosage of 10-12 mg/kg body weight per day with mandatory joint intake of vegetable oil. Chemotherapy is also combined using furazolidone 50 mg x 3 times a day, metronidazole 250 mg x 2 times per day. Carrying out preventive chemotherapy pursued task - sanitation of the patient echinococcosis anthelmintic chemotherapy drugs to prevent postoperative recurrence of the disease. For the prevention of infectious complications in the study group conducted a preventive antibiotic treatment with antibiotics (klaforan 1 oz.) For 1 hour before surgery, during surgery

and immediately after its completion. Which is the same has not been evaluated in patients in the control group.

All the patients received were subjected to surgery. Surgical interventions, were performed with a special observance of anti-parasitic rules.

Analyzing data on the localization of hydatid cysts in complicated echinococcosis liver and abdominal organs, we noted more frequent lesion in the right lobe of the liver, which occurred in 11 (19.2%) patients in the control group, 10 (16.3%) patients of the group have 8 (14%) patients, 10 (16.3%) patients of the main group of cysts were located in the subdiaphragmatic region. Last Localization is a factor contributing to the emergence of pulmonary complications. It also greatly complicates the implementation of operative measures. The defeat of the left lobe of the liver was diagnosed in 4 (7%) patients in the control and 7 (11.4%) patients of the group, the defeat of the right and the left lobe was diagnosed in 4 (6.5%) patients in the control and in 6 patients of the main group.

When disseminated echinococcosis in 21 (36.8%) patients in the control group were diagnosed only defeat of the right lobe of the liver, along with the defeat of the abdomen. In 2 (3.5 %) patients with multiple lesions along the left and right lobe of the liver was diagnosed lesion of the gland and in 2 (3.5 %) spleen. The defeat of the left lobe only single cysts observed in 2 (3.5%) patients, of which 1 (1.8%) case, liver and spleen, in 1 (1.8%) case, liver and pelvis. Multiple lesions of the left lobe of the liver was observed in 2 (3.5%) patients, along with the defeat of the entire abdomen and pelvis.

In the control group upper medial access it was made in 32 cases. Of these, 1 (1.8%) case localization of cysts in the VI-VII-VIII segments of the liver, abdomen and pelvis, upper medial surgical approach supplemented lower medial. With a diameter of 11-20 cm with a cyst lesion VII-VIII segments of the liver, abdomen and pelvis, 8 (14%) patients used



the median total-surgical approach. Oblique right subcostal access used in 17 cases.

The final stage of surgery after opening, disinfection residual cavity is to eliminate its cavity, which were closed, semi-closed or open, as well as the complete or partial removal of the fibrous capsule cysts that often these operational techniques combined. In the control group, made mainly combined elimination of residual cavities 28 (49.1%) cases, EE leaving open one drain - 21 (36.8%) cases, in 8 (14%), leaving a certain drainage and two other cavities.

In 2 (3.5%) patients with breakthrough echinococcus in the biliary tract and cholangitis occurred choledochotomy was conducted with external drainage of the common bile duct.

In the main group with disseminated echinococcosis defeat of the right lobe was diagnosed in 19 (31.1%) patients. Thus lesion V-VII-VIII and omentum in 12 (19.6%), 2 patients (3.2%) of them were localized in spleen cyst, 2 patients (3.2%) in the retroperitoneal space, y 2 (3.2%) were diagnosed in the local spread of large and small packing. In 5 (8.1%) patients with lesions along VI-VII-VIII segments of the liver was diagnosed total defeat of the abdomen and pelvis, in 2 (3.2%) defeat VI-VII-VIII segments of the liver and liver round ligament. The left lobe of the liver failure was 4 (6.5%) patients, with the defeat of II segment and pelvic 1 (1.6%), III segment with the defeat of the round ligament in 1 (1.6%) and 2 (3.2%) cases were diagnosed lesion segment III with the presence of hydatid cysts in the greater omentum. The defeat of both lobes of the liver with dissemination in the abdominal organs and pelvis were diagnosed in 1 (1.6%) case. In 7 (11.4%) patients, along with multiple liver marked dissemination to the abdominal cavity.

Depending on the location, the size of the cysts, complications, patient body choice of surgical approach in the study group determined by us individually and relied mainly on US data, as well as the location of the postoperative scar. Upper medial access was used in 38 (62.2%) patients with single or multiple lesions of the left lobe of the liver, at the edge of localization of the parasite in the right, or both lobes of the body (in patients with acute angle costal arch) and combined lesions of the liver and other abdominal organs cavity. Of these, 12 (19.6%) cases applied separate access to the conservation of the abdominal wall below the navel and up to 8 cm. When localization VII -VIII segments of the liver, spleen, omentum and 2 (3.2%) patients used total median access with retractor Segal.

Oblique right subcostal access used in 23 patients with single and multiple echinococcosis the right lobe of the liver.

The isolation of the surgical wound, toilet, sanitation, abdominal carried towels and large towels soaked in a solution of 2% formalin, which was enough to prevent contact injuries and surround-

ing of the contents of the cyst, which is confirmed by the lack of recurrence of echinococcosis in the postoperative period.

Locked echinococcectomy (EE) is configured in 14 patients with cyst diameter of 5-6 cm. In some cases, 12 (19.6%) patients of the main group removal hydatid cysts edge location, typically with a diameter of 6-10 cm cysts, type «ideal echinococcectomy» made without opening them. Open EE with drainage OP performed 14 (23%) patients. These were mostly patients with large and giant cyst 11-20 cm, with suppuration, with dense, often rigid and calcified fibrous walls. Of these six cases, after removal of cyst located subdiaphragmatic for adequate drainage produced through subphrenic space polychlorvinil drainage tube 8 patients with large diameters residual cavities with suppuration, produced by draining the type of «flow system» (certificate on rac. Offer number 45), 1 case of a breakthrough in the echinococcuscholedochotomy conducted with external drainage of the common bile duct, which later 20 days after the operation at the termination of the outflow of drainage has been removed. In 1 patient with biliar fistula due to a deep cavity in the VIII segment of the liver and the difficulty suturing also been made on the type of drainage «flow system».

The combined EA made 20 (32.7%) patients, and in more than half of the cases they were combined Echinococcectomy perfect.

For intraoperative treatment of hydatid cysts, we will in all cases after removal of the shell used chitin comprehensive intraoperative antiparasitic treatment of the inner surface of the fibrous capsule sequentially 2% formalin 2 minutes, hot furacillin (700-750S), 96% alcohol, 5% iodine tincture 3 minutes, the edges of the excised fibrous capsule electrocauter coagulate. When accessibility and small (6-8 cm) size hydatid cysts produce electrocoagulation inner surface of the fibrous certificate for (rationalisation Offer №826. On 19.12.2011).

Great influence on postoperative outcomes has preventive chemotherapy with albendazoletherapy, which is needed to influence the screenings echinococcus small size, are not yet available modern methods of diagnosis, as well as for the prevention of recurrence.

We have in the main group in the postoperative period was also held antiparasitic chemotherapy drug «Albendazole» to 3 days - 10 mg / kg per day for 28 days in combination with the drug «Essentiale 300 mg» Hepa-Merz, 10 mg intravenously. Chemotherapy albendazole, metronidazole and combined using 250 mg 2 times a day, furazolidone 50 mg three times a day. It is known that worms, including Echinococcus on the host organism acts in two ways. On the one hand, to stimulate the immune system accompanied by the development of a number of cellular and humoral responses, and on the other hand causes inhibition of the immune re-

sponse. Thus, it suppresses host defense mechanisms against both their own antigens (homologous immunosuppression) and antigens of infectious organisms other agents. For the purpose of immunostimulation applied - 1.0 immunomoduline intramuscularly or Immunal 1 tablet 4 times a day. Given the toxicity of drugs on blood sprouts bone marrow and liver during treatment at regular intervals (1 every 15 days) conducted clinical, laboratory tests (blood count, functional-functional liver function tests, bilirubin, ACT and ALT). In disseminated echinococcosis rates were more prolonged (60 days without interruption, and after 2 weeks - even at 28 days) with increasing doses up to 12 mg / kg, 2 times per day.

Thus we have in the main group during echinococcectomy been complied with principles of mechanical anti-parasitic (EE perfect in 12 patients), anti-parasitic chemicals (complex processing), and postoperative anti-parasitic biological principles (stimulation of specific immunity, chemotherapy - albendazole).

In connection with the foregoing, we in our clinical practice Pryderi still applicable, the following definitions:

- recurrent hydatid disease - a return of symptoms characteristic of the disease, characterized by the development of cysts in any location and any time after adequate surgical treatment;
- disseminated multiple) echinococcosis - a defeat ne-liver and abdominal organs more three and four cysts, including the total defeat of the abdominal cavity.

Results and discussion. In the analysis of anamnestic data communication, localization and biology of the parasite and the volume of operative treatment, it was found; that the lowest risk of recurrence with dissemination echinococcosis observed in the presence of the living parasite diameter of less than 5 cm, and the maximum exposure in the presence of multiple and disseminated liver echinococcosis complicated cysts larger than 10 cm in diameter localized in remote segments of the liver and abdominal cavity, as well as the presence of multiple subsidiaries and granddaughter cysts. In the control group of general postoperative complications were observed in 3 (5.2%) patients; in 1 (1.7%) as bronchopneumonia, death was caused by renal failure was observed in 1 (1.7%) patients. In 1 (1.7%) patients of advanced age on the 5th postoperative day on the background of a relatively prosperous state there pulmonary embolism with fatal consequences. Recurrence of the disease was diagnosed in 3 (5.2%) patients.

Postoperative complications associated with surgery were diagnosed in 10 (17.5%) patients remaining abscess cavity due to inadequate drainage of residual content of its cavity with insufficient drainage - in 3 (5.2%) patients with festering wounds - 3 (5.2%), liver abscess - in 2 (3.5%) patients due to the aban-

donment of a fairly large volume and inadequate removal of the residual cavity and joining a secondary infection. When you open the EE biliary fistula is marked - in 2 (3.5%) patients after drainage, and one OP 2 Drainage As a result of inadequate audits fibrous capsule during the intervention, and because of the enormous size of the residual cavity.

Postoperative complications of a general nature in the study group were diagnosed in 1 (1.6%) patients, decreased in 2 times; 1 (1.6%) developed a case of death, the cause of which was acute myocardial infarction.

Postoperative complications associated with surgery were diagnosed in 4 (6.5%) patients: OP abscess was diagnosed in 1 (1.6%) patients, which is 2.2 times lower than in the control group, festering wounds - in 2 (1, 6%).

Bile leakage from the gall fistula in the postoperative period was observed in 1 (1.6%) patients. This was due to the presence of deep cavities in liver segment VIII, the difficulty of its thorough revision and suturing. After treatment, all patients were on follow-up. Dynamic ultrasound monitoring was performed 1 time per month for a year, 2 times every 6 months for 2 years, then 1 per year. Recurrence of disease was observed in 1 (1.6%) patients, it is necessary it should be noted that its primary operation the patient transferred to another hospital of the Ferghana Valley.

Conclusions

1. Integrated use of ultrasound of the liver and abdominal cavity, magnetic resonance imaging, allows to confirm the presence of cavity formation in the liver and abdominal cavity, as well as features and variety of complications, and to determine further tactics of treatment measures.

2. In keeping with the optimized tactics of preoperative preparation of patients with echinococcosis of abdominal cavity using reasonable access methods and techniques of surgical interventions reduced the incidence of postoperative complications with surgery from 17.5% to 11%, the incidence of complications of general from 5.2% to 3, 6%.

3. Hepatotropic, immunostimulant, anti-relapse chemotherapy in patients with complicated multiple EP in the pre and postoperative benzimidazolecarbamate derivatives (Albendazol, Zentel), as well as preventive antibiotic therapy, to minimize the frequency of relapses and postoperative septic complications.

4. The main reasons for relapse and dissemination of the disease: Neglect-locality which perform the primary operation, violation of the art of surgery, not the antiparasitic principles during surgery, insufficient equipment of medical institutions, qualification of the surgeon, and not conduct of anti-preventive chemotherapy before and during the postoperative period .



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ТАКТИЧЕСКИЕ АСПЕКТЫ ДИССЕМИНИРОВАННОГО И ОСЛОЖНЕННОГО ЭХИНОКОККОЗА ОРГАНОВ БРЮШНОЙ ПОЛОСТИ

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Резюме. Авторы проанализировали результаты хирургического лечения 118 больных осложненным и диссеминированным эхинококкозом органов брюшной полости.

Ключевые слова: *ультразвуковое исследование, диссеминированный эхинококкоз печени, химиотерапия.*

ТАКТИЧНІ АСПЕКТИ ДИСЕМІНОВАНОГО ТА УСКЛАДНЕНОГО ЕХІНОКОКОЗА ОРГАНІВ ЧЕРЕВНОЇ ПОРОЖНИНИ

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Резюме. Авторы проанализировали результаты хирургического лечения 118 больных на усложненный та дисеминированный эхинококкоз органов черевной порожнини.

Ключові слова: *ультразвукове дослідження, дисемінований ехінококкоз печінки, хіміотерапія.*