EXPERIENCE IN THE TREATMENT OF LIVER ECHINOCOCCOSIS

Senuri Randula Abeywickrama Dissanayake,
Nethuki Akithma Kulasinghe,
Mohammed Aslam Fathima Atheefa

Grodno state medical university

Научный руководитель: PhD in M, Associate Professor Shilo R. S.

Introduction. Echinococcosis of the liver is a severe zoonotic parasitic liver disease, the causative agent is the tapeworm Echinococcus granulosus form solitary or multiple cysts in the liver and rarly in the lungs, heart, spleen .other Echinococcus species : E. multilocularis, E. vogeli and E. oligarthrus [1]

In the life cycle of echinococcosis, carnivores are the definitive and herbivores are the intermediary Hosts. Echinococcosis transmitted by wolves, dogs etc.Intermediate hosts such as humans and farm animals are necessary for developmemt. A mature helminth lives in the intestines of an infected organism. Its eggs with feces enter the environment and contaminated by humans. [2] parasites are released from eggs due to action of the hydrochlioric acid in stcomach.Parasites penetrate through by lymphogenic and hematogenic pathways. Most parasites are fixed to the hepatic sinusoids wall.

Rarly parasites pass through the pulmonary capillaries. At the fixation point the hydatidous form developed. Cyst is a bubble filled with transudate. After a month single chamber bubbles reach 1 mm. Sizes vary from 2-3 to 20-30 mm and 15-20 cm in diameter. Aseptic inflammation develops due to its compression of the surrounding organ tissue and form a fibrous capsule which calcium salts are often deposited. The mechanical effect of the cyst on the tissues of the affected organ eventually leads to a violation of its function. Cysts can be localized in any part of the liver but 7-8 segments are more often affectd. This is due to the portal vein flows into the right lobe of the liver.

Aim of the study. Analysis of own results of surgical treatment of patients with liver Echinococcosis.

Materials and methods. The "Grodno University Clinic" in Belarus provided liver echinococcosis treatment to 27 patients between 2012 and 2022. Ten men and seventeen women, ages eighteen to eighty-three, were present. The patients' average age was 52.5 +/- 5 years.

Hydatid cysts were hypoechoic, double-configured on ultrasonography. A fibrous capsule showed the exterior hyperechogenic layer. The chitinous shell was the internal layer. From 40.6×36.4 mm to 160×105 mm, the size of the echinococcal cysts varied.The parasite cysts were shown to produce hyperintense and hyperintense

MRI echoes. The dead maternal cyst was found in a linear hypointense region within the bladder lumen recognized by a detached chitin shell.

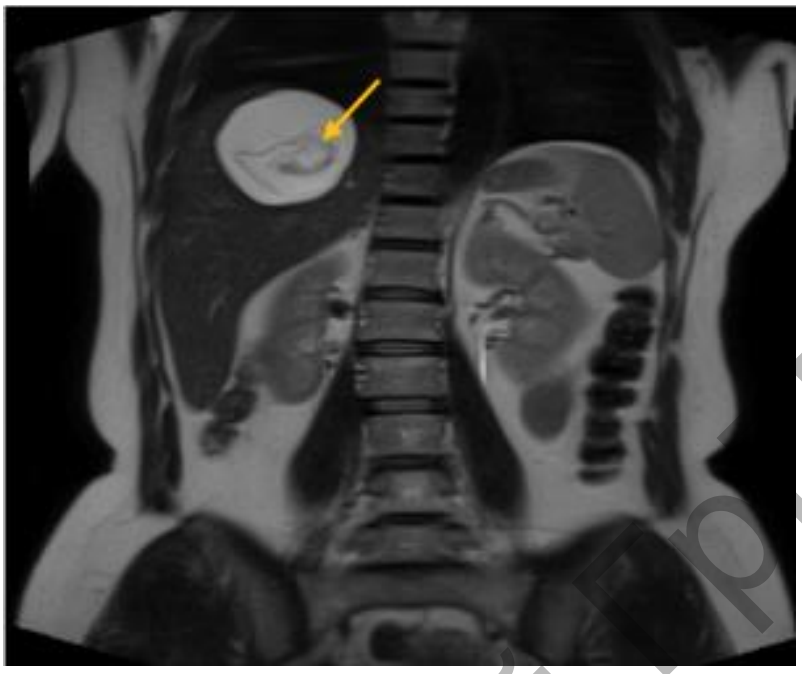


Figure 1. – MRI in the frontal projection. Echinococcal cyst of the 7th segment of the liver. The arrow shows the exfoliated chitinous membrane

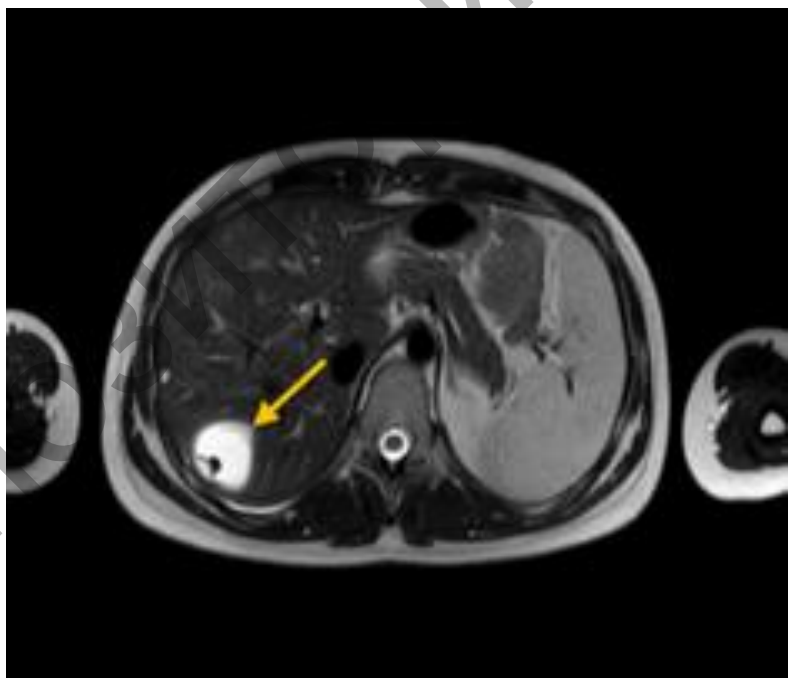


Figure 2. – MRI in axial projection. Echinococcal cyst of the 7th segment of the liver. The arrow shows the bay of the fibrous capsule protruding into the liver parenchyma

Contrast CT scan assess the thickness, age,integrity and cyst invasion. [4] A patient had an echinococcus in the left lung. Seven individuals showed an elevated ESR and an increased eosinophils in toal blood test. In nine cases increased in total

blood plasma protein. 24 patients were tested ELISA to detect antibodies to echinococcus antigens

Three patients had large liver cysts were referred to the Minsk Scientific and Practical Centre for Surgery, Transplantation and Hematology. One cyst was 160 x 105 mm,the second 104 x 86 mm. The third patient previously had two liver procedures due to a recurrence. Two individuals experienced right hemi hepatectomy.Three patients had left hemi hepatectomy. Ten patients underwent atypical liver resection at the cyst edge among them seven underwent open segmentectomy.seven patients received laparoscopic segmentectomy. Two patients had cyst invasions into right liver veins which required liver resection utilizing the total vascular isolation.

A laparotomy was performed to excise an echinococcal cyst from the fifth segment of the liver,middle hepatic vein and a cholecystectomy. Cholecystectomy, excision of the sigmoid colon, upper ampulla of the rectum, construction of a sigmorectal anastomosis and resection of 4b and 5 segments of the liver with an echinococcal cyst were all performed during open surgery.

A cyst was the target of three trocars: one for a laparoscope, the other for tools used for liver resection, wound care, and abdominal drainage.further trocars were inserted for additional cysts.Surgical incision made in the abdomen's white line.

Figure 3. – postoperative wounds after laparoscopic liver resection

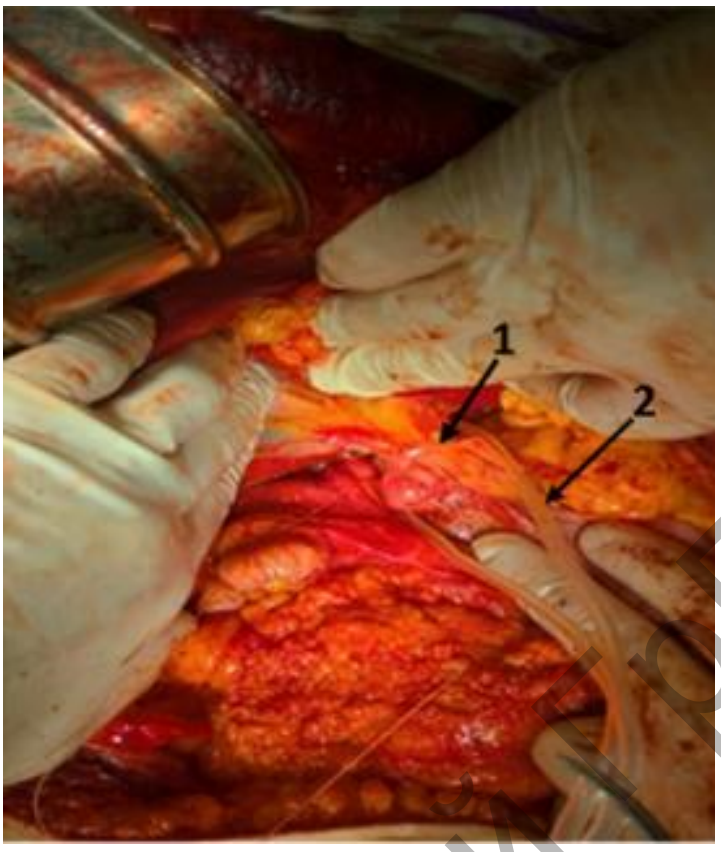


Figure 4. – Operational photo, the stage of mobilization and taking on the tourniquet elements of the hepatoduodenal ligament. Arrow number 1 shows the hepatoduodenal ligament, arrow 2 – tourniquet

Figure 5. – liver mobilization and determination of boundaries. The arrow shows the echinococcal cyst, the tweezers show the resection borde

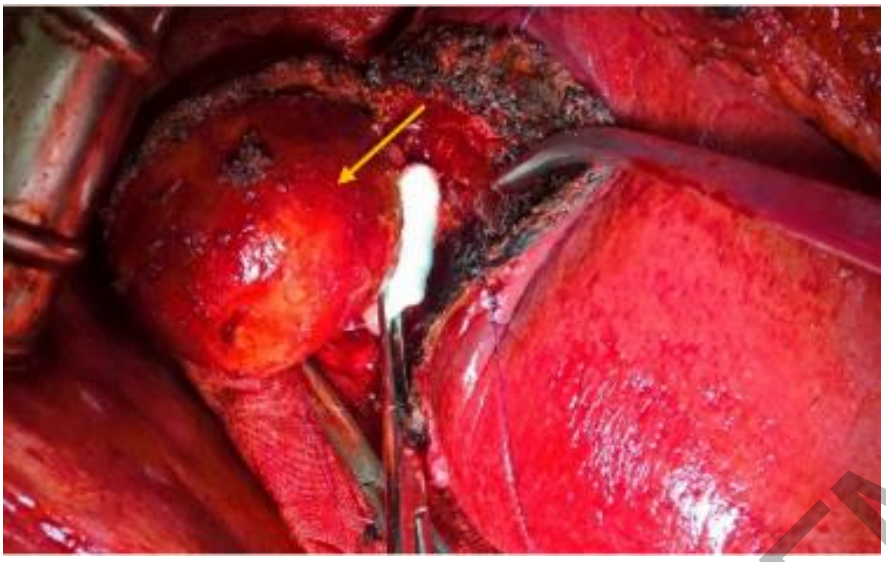
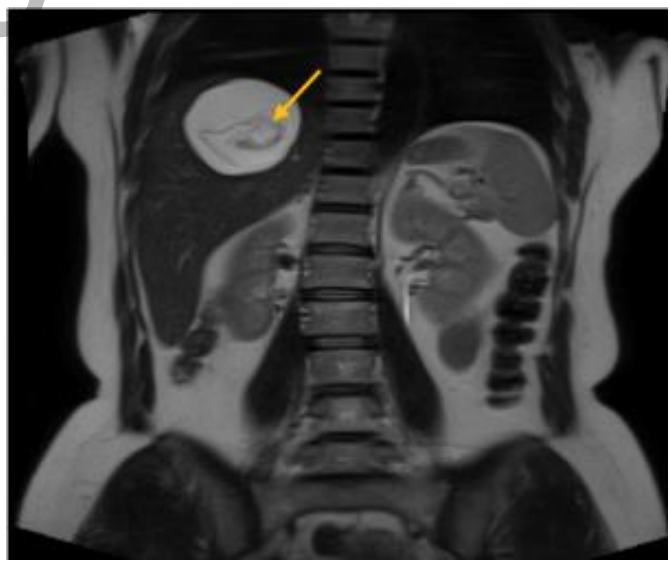


Figure 6. – the isolation of a parasitic cyst along with a fibrous capsule from the liver parenchyma. The arrow shows an echinococcal cyst

Figure 7. – Surgical photo of the residual cavity. Arrows show: 1 – right hepatic vein with tributaries from the segments; 2 – residual cavity after liver resection



Results and discussion. One patient underwent a two stage treatment due to an invasion of echinococcosis in the left lung. first a video assisted lung resection with a parasitic cyst perofrmed. Two months later a laparoscopic atypical resection of the liver was performed.[5] there were satisfactory hemostasis and expedite the surgical intervention time. Total vascular isolation approach to segmentectomy in the cyst was close to the right hepatic vein in two cases. Cysts can eventually led to hypertrophy of other lobes.

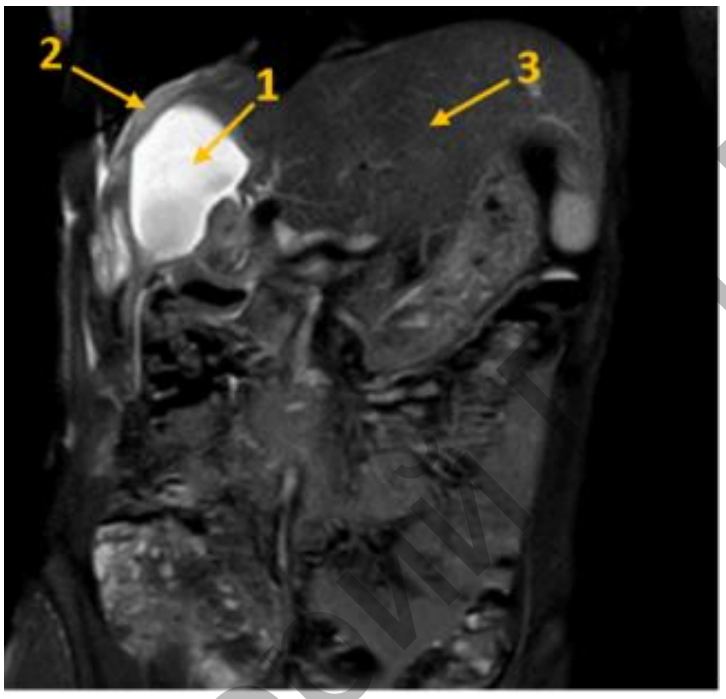


Figure 8. – MRI in the frontal projection. before surgical treatment. Arrows show: 1 – cyst 2 – hypotrophied right lobe of the liver 3 – hypertrophied left lobe of the liver

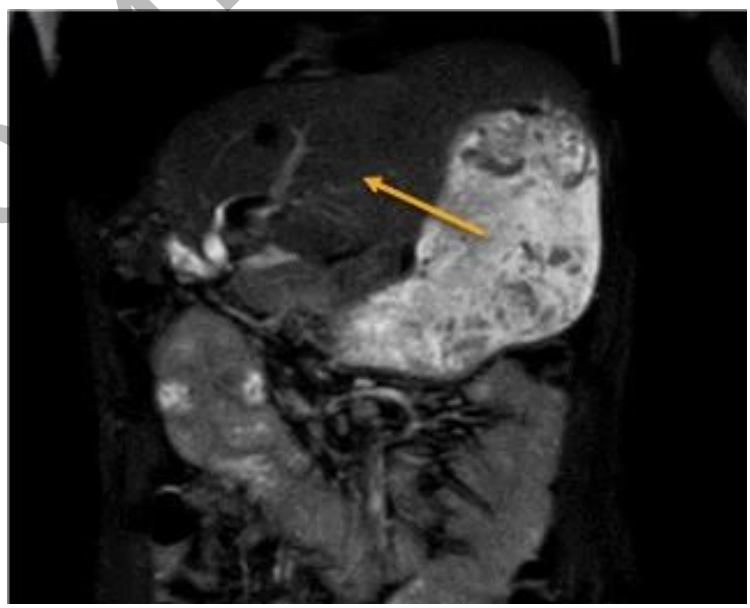


Figure 9. – MRI in the frontal projection. 5 years after surgical treatment of the right lobe. The arrow indicates the hypertrophied left lobe of the liver

Conclusion.

1. Regardless of the size and location of the cysts should be treated surgically in a specialized hospital
2. minimally invasive technologies are minimally traumatic and contribute to the early rehabilitation of patients
3. Ultrasound and MRI diagnostic tests for echinococcosis size and shape, the nature of ontents and the thickness of the fibrous capsule daughter cysts and the degree of penetration
4. Serological reactions to echinococcosis are mandatory
5. CT scan for internal organs and vessels condition
6. total vascular isolation control blood loss during surgery

ЛИТЕРАТУРА

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ОБЩЕЕ ПРЕДСТАВЛЕНИЕ О ФАРМАКОЛОГИЧЕСКИХ ПРЕПАРАТАХ

Бектемирова З. О.

Ташкентский педиатрический медицинский институт

Научный руководитель: канд. мед. наук, доц. Мирзаахмедова К. Т.

Актуальность. Фармакологические препараты играют важную роль в профилактике, лечении и управлении различными медицинскими состояниями. Они разработаны для взаимодействия с определенными целями в организме, модулируя физиологические процессы и восстанавливая здоровье. В данной статье представлен обзор фармакологических препаратов, исследуются их классификация, механизмы действия, терапевтические применения и соображения для их безопасного и эффективного использования.

Фармакологические препараты охватывают широкий спектр веществ, включая лекарственные препараты по рецепту, безрецептурные препараты и растительные добавки. Они разрабатываются через строгий процесс