Journal of IMAB - *Annual Proceeding (Scientific Papers)* 2007, vol. 13, book 1

RECURRENT HYDATID CYSTS - REPORT OF 9 CASES

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ABSTRACT:

The hydatid disease is widely spread and is rare zooantroponous parasitosis in endemic regions, one of which is The Balkan Peninsula. The size of the cyst is different: from a diameter in millimeters, which is undetectable, to prominent in epigastria. Many patients return after operation for hydatid cyst with a recurrence. The aim of this report is to present 9 cases with recurrent hydatid cysts: 7 patients after previous treatment and 2 with rupture and abdominal cavity dissemination of the cyst containing multiple laparotomies.

Key words: echinococcosis, hydatid disease, cyst, recurrence,

INTRODUCTION

History: In 1681 F.Redi, and later in 1760 Palas found out that the hydatid cysts are live parasites. The term echinococcus is established by Rudolfi in 1821. Premsek makes the first detailed description of it as a human disease. All further researches show, that the mostly affected organ, as a first stop on the way of the oncospheres of the small intestines, is the liver.

Parasitology: Echinococcus granulosus normally exists among the dogs and the sheep and occasionally among other animals. The humans are infected by ingesting dog feces. Hydatid disease is widely spread in many endemic regions: North Africa, Turkey, South France and The Balkan Peninsula.

The growth of the liver hydatid cyst is in concomitance with liver insufficiency. Its occurrence is explained, as follows:

- Mechanical and traumatical influence: the cyst grows and compresses the vascular and biliary tracts, which leads to compression of the liver parenchyma and intra and extrahepatal biliary ducts **(1).**

- Toxic influence of the hydatid liquid: a cyst in the liver may rupture and cause anaphylactic reaction **(2).**

It is obvious from the above, that the liver dysfunction is a drastic moment, which requires precise preoperative diagnostics, which in its turn will lead us to correct diagnosis.

Diagnosis:

The diagnosis "Recurrent hydatid disease "has a dual aspect:

- *Initial recurrence***:** the hydatid cyst is found by US and CT and in the same time there is a small, unrecognizable by a medical equipment methods cyst. After 1 to 5 years it grows and reoperation is needed.

- *Secondary recurrence*: traumatic or spontaneous or iatrogenic rupture - intraoperative rupture with effusion and dissemination in abdominal cavity**(3)**

Laboratory levels-eusinophilia**,** raised blood sedimentation rate and anamnesis data for previous operative intervention can help.

For the diagnosis we use the standard methods: ultrasonography, CT, scintigraphia.

Special tests for hydatid cyst were established, but they are not specific and sensitivity is not high: 30 % of the patients have an absolute eosinophilia. The Casoni test is negative in about 15% of cases.

In the serology, of great importance for the diagnosis of recurring hydatid cyst is the dynamic of the titre of the antibodies - ELISA, RIF.

For the first time in 1835 Recamier performs operative removal of hydatid cyst of the liver. The intervention has two stages. In 1877 Lindemann performs the same operation in one stage.

Liver resections – atypical and typical are the most preferred methods. By very large cyst, aspiration of the cyst liquid and injection of a chemical to kill

the scolex, followed by opening of the fibrous capsule and evacuation of the cyst is acceptable.

Material / Method:

The present report is about a group of 9 patients, operated several times for disseminated hydatid cysts in a period of time between 2 and 8 years in Department of Surgery.

Four of them are male and five are female.

The youngest one is 14 years old, and the oldest is 66.

Four of the patients are operated twice; four of them are operated three times and one is operated four times.

The operations are performed in a different period of time.

The longest interval (>30 years) between two operations is shown in one of the patients: the first operation is in 1958 and the second one in 1989.The third one in 1992.

The minimal period between two interventions is 2 years.

CLINIC:

It depends on the type of recedive.

In single hydatid cyst the process of growing takes several years and stays undiagnosed. Large ones can cause compression of the structure close to the liver, may have jaundice and cholangitis.

After hydatid cyst ruptures and disseminates in the abdominal cavity, clinical signs persistently progress after the "light" period of 12 to 24 months after every previous clean laparotomy.

1/ the most important for these patients is the progressive cachectic syndrome.

In four of the cases, the patients reported weight loss between 10 and 15 kg. One of the patients (a woman, with 4 laparotomies in which the last one with 16 hydatid cysts) was in terminal cachexia.

2/ Gastrointestinal syndromes – nausea, vomiting, tense to abdominal pain, malaise are present after the cyst reaches a diameter of 5 cm.

3/ Hypersensitivity reaction – it is varying from urticaria to acute anaphylactic

incidences and depends on the contact with close organs. A cyst may cause anaphylactic reaction after secondary rupture.

DIAGNOSTICS:

The diagnosis of recurrent hydatid cysts is made on the basis of the patient's complaints and complete imaging studies-US, CT and MRCG**.**

During the operations, in 7 of the cases were found cysts in the liver.

The number of the hydatid cysts found in every patient was different – between 1 and 4:

- In 4 of the patients there was only 1 cyst with localization closely to the evagination of the fibrous capsule after the previous treatment of the hydatid cyst.

- In 1 patient there were 2 cysts located subdiaphragmaticaly in the left and right lobe of the liver respectively.

- In 1 patient we found 1 hydatid cyst located in the right hepatic lobe plus a large 6 cm one in retroperitoneal spatium near the right kidney.

In another patient were found: 2 cysts in the left lobe and 1 cyst in the omentum of the small intestines.

In the last two of the patients were found respectively 11 and 16 hydatid cysts with different size, between 4 and 15 cm, with intra abdominal localization in the Douglas's pouch and the parietal peritoneum. It is important to mention that we found 3 hydatid cysts subcutaneously in right groin. That can be explained with hematogenous dissemination after vessels invasion.

All 9 patients present facts for effusion of the cyst contents:

- In 2 patients, rupture after abdominal trauma in epigastria and right upper quadrant

- In 7 patients, iatrogenic rupture of the cyst with dissemination of the echinococcus liquid in the free abdominal cavity intraoperativelly.

In none of the cases, before the last operation, no complex treatment incorporating operative and conservative treatment of the disease was performed.

DISCUSSION:

The recurrence frequency in the treatment of the hydatid disease of the liver gives us the opportunity to make the following conclusions:

1. The recurrent hydatid cyst is probably not previously diagnosed. Small cyst or disseminated live daughter membranes after spontaneous rupture or

iatrogenous infection

2. The morbid entity requires precise preoperative diagnosis, meaning exact number of cysts and their anatomical localization.

3. During the operation one must observe very precisely the rules for removal of the echinococcus cyst.

4. Of all methods for operative treatment the preferred one is atypical resection of the liver (french authors-pericystectomy) with resection of the fibrous capsule, without opening of the cyst. It is physiologically **(4, 5).**

The applied and preferred in our country echonococcectomia (cystectomia) with preservation of the fibrous capsule is connected with good intraoperative results, but high percentage of late complications:

- Residual cavity – not complete closing of the intrahepatic spatium

- Suppuration – infection of the residual cavity is very rare and needs evacuations of the collection endoscopicaly or reopening

- Postoperative false diagnostic-may be misdiagnosed as new cyst.

5. After the operation and the recovery period, the patient must continue with chemotherapy in a specialized clinic. The use of Mebendazol and Albendazol shows significant results.

The patient is in a follow-up observation for a period of 5 years. Two times every year follow-up of the serological titre of the antibodies, as well as follow-up by ultrasound, CT **(6).**

Only by the observance of all these conditions in combination with the surgical and therapeutic method of treatment we could be able to avoid the disagreeable complication of the hydatid disease – the recurrences.

REFERENCES

1. Dadoukis, J., Gamvros, O., Aletras, H (1984) intrabiliary rupture of the hydatid cyst of the liver. World J Surg.8, 788-790.

2. Asli Gelincik et all. Recurrent Anaphylaxis due to Non-Ruptured Hepatic Hydatid Cysts.Int Arch Allergy Immunol 2007; 143:296-298(DOI: 10.1159/00100576).

3. Vanek VW, Phillips AK. Retroperitoneal, mesenteric, and omental cysts. Ach.Surg.

4. Kune CA, Morris DI. Hydatid disease. In: Schwastz SI, Ellis H, eds. Maingot's abdominal operations. 9th Ed. USA: Appleton & Lange, 1990: 1225–40.

5. Wagholikar GD, Sikora SS. Surgical management of liver hydatid. Trop Gastroenterol 2001;22:159–62.

6. Todorov T, Stojanov G. Circulating antibodies in human echinococcosis before and after surgical treatment. Bull W H O. 1979;**57**:757–758.

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