CASE REPORT

Hydatid cyst in abdominal incisional hernia

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Abstract: Recurrence of hydatid cyst is one of the important complications of primary hydatid surgery. Here we present a very rare case of recurrent hydatid cyst inside an incisional hernial sac. A 50-year-old male operated on for hydatid disease of the liver twice in 1998 and 2001 was admitted to our hospital for an abdominal mass formed under the old median incisional scar. On physical examination, a painless mass of 15 cm in diameter, stretched, hard and well bordered was palpated. There was also a fascial defect inferior to the mass. A herniated hydatid cyst was imaged with both of ultrasonography (US) and abdominal computed tomography (CT). As a surgical treatment hydatid cyst was excised totally together with primary repair of the fascial defect. The patient received preoperative Albendazole therapy, administered at a dose of 10 mg/kg body weight per day from 3 weeks before surgery to 6 months postoperatively. He had no problems in the 1-year follow up (Fig. 2, Ref. 19). Full Text in free PDF www.bmj.sk.

Key words: hydatid cyst, incisional hernia.

Hydatid cyst, which is caused by Echinococcus granulosus, is encountered endemically in India, Africa, South America, New Zealand, Australia, Turkey and Southern Europe (1). It still keeps its importance in Turkey and is encountered endemically.

Hydatid cyst is mostly localized in liver (55–70 %) and lung (18–35 %). In 5–13 % of the patients both organs are affected (2, 3, 4, 5). Surgery is still the mainstay in the treatment of hydatid disease. Recurrence of hydatid cyst is one of the most important complications of primary hydatid surgery. The main cause of local recurrence is failure to remove or kill all viable cyst or protoscolices at the original operation. The recurrence may be observed in the primary surgical area or anywhere in the abdominal cavity.

In this study, a very rare case of hydatid cyst recurrence which was localized in the hernial sac of the abdominal wall is presented.

Case report

50-year-old male operated on liver for hydatid cyst disease twice in 1998 and 2001 was admitted to our hospital for an abdominal mass which had gradually grown under the old median incisional scar (Fig. 1). On physical examination, a painless mass of approximately 15 cm in diameter, stretched, hard, well-bordered was palpated. There was a fascial defect inferior to the mass.

Fig. 1. Preoperative appearance of the abdomen.

Routine biochemical and hematological tests were normal. But serological tests, indirect haemagglutination and ELISA were positive (IHA: 1/40000 positive, ELISA: 1/20000, positive).

Both US and CT revealed many cysts with different sizes in liver, spleen, pancreas and abdominal cavity (some had calcified wall), and a hydatid cyst of 15 cm in diameter in the incisional hernial sac was also observed (Fig. 2). Additionally, there were gallstones in the gallbladder.

The patient received preoperative Albendazole therapy, administered at a dose of 10 mg/kg body weight per day 3 weeks before the surgery. At laparotomy a cyst of approximately 15 cm in diameter was located just below the old median incisional scar, and in accordance with the preoperative radiological findings it was inside the hernial sac. The top level of the cyst was 10 cm.

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Indexed and abstracted in Science Citation Index Expanded and in Journal Citation Reports/Science Edition
above the abdominal wall. It pressed to the left lobe of the liver. In spite of dense adhesions to the adjacent tissues and organs there was no invasion. The cyst was carefully mobilized from all its adherences and surrounding structures and totally removed. There were a lot of cystic masses in the abdominal cavity, liver, pancreas and spleen. Splenectomy was performed for splenic hydatosis. One mesenteric large hydatid cyst was totally removed. Then, two hydatid cysts of the liver and giant pancreatic hydatid cyst were punctured and hydatid fluid was aspirated with a syringe to reduce the tension within the cyst. Then, with five minutes of waiting after the introduction of an adequate amount of a scolicidal agent (povidone iodine) for killing protoscolices, the cysts were opened anteriorly, and all contents were removed. At the end, the cystic cavity was irrigated again with povidone iodine and physiologic serum respectively, partial cystectomy and omentoplasty was performed. During the dissection of one intraabdominal cyst an iatrogenic colon laceration which was sutured primarily, occurred. Cholecystectomy was applied because of cholelithiasis. For repairing the defect the fascia was sutured en-bloc with loop propylene (No:1). All specimens were confirmed histopathologically as hydatid cyst.

Postoperatively superficial incisional infection developed and was treated pharmacologically. Albendazole treatment was administered postoperatively, at a dose of 10 mg/kg body weight per day in six courses lasting 4 weeks separated by 14-day intervals. There was no problem observed in the patient during a 1 year follow-up.

Discussion

Radical surgical procedures (pericystectomy or hepatic resection) are the ideal treatment for primary hydatid disease but are not always possible, and conservative surgical procedures (removal of the cyst content by drainage, marsupialization, or enucleation of the parasite cyst from pericyst) are needed to be performed in most of the cases (5, 6, 7, 8). On the other hand, the recurrence rate is significantly higher following conservative surgery than after radical surgical procedures (6, 7). There are many causes of recurrence. The main cause of local recurrence is failure to remove or kill all viable cysts or protoscolices at the original operation. On the other hand intraabdominal recurrences are caused by the spillage during the first operation. Surgical management of liver hydatid disease has been associated with approximately 10 % of local recurrence (7, 8, 9).

Clinical findings of recurrent cases are similar with that of primary hydatid disease. Recurrent cyst is usually asymptomatic; however, some clinical signs may be observed depending on complications occurred in the cyst (perforation, infection, etc.) or by direct pressure it causes exerts on adjacent organs. Recurrence may also be diagnosed in the routine follow-up studies in the patients with previous hydatid cyst operation. In the present case, since the cyst was localized on the anterior abdominal wall and grew significantly, it could be observed easily on physical examination. Typical images of hydatid cyst were observed with both, US and CT which was similar to the literature (4, 5, 10, 11, 12). Particularly, CT has important value for these cases because it shows the relationship with adjacent organs and tissues. Serological tests may help to confirm a suspected case of echinococcus but negative tests do not exclude the diagnosis. US and CT are the best choices of imaging methods.

Surgery is more difficult for patients with recurrence, since the normal anatomic structure is impaired and there are a lot of adhesions or/and invasion into adjacent tissues and organs. In our case, removing the herniated hydatid cyst was easy because it didn’t have any linkage with other intraabdominal organs and it was located just below the skin. In contrast, during the excision of other cysts with intraabdominal cystic lesions, complete colonic wall laceration occurred.

As a scolicidal agent, povidone iodine was used in the treatment of three cysts in our case. Although different scolicidal agents (2 % formalin, 70–95 % ethanol, Povidine Yodine, ether, hypertonic 15–20 % saline NaCl, 0.5 % AgNO3, 0.5 % cetrimide, hydrogen peroxide) have been used long before the manipula-
tion of hydatid cyst there is no consensus on which is the ideal protoscolicidal agent (10, 13, 14, 15, 16, 17). Debates about the optimal agent and the most effective dose are continuing. New agents have also been investigated (18, 19). But, in our opinion, meticulous surgery is of utmost importance for the prevention of recurrences.

Preoperatively Albendazole treatment appears to reduce the risk of recurrent surgical spills of the cystic contents (9). In the present case, the patient received Albendazole (10 mg/kg) 20 days preoperatively and 6 months postoperatively.

To avoid recurrences it is important to perform surgery in obedience with surgical principles meticulously, to perform the operations in experienced centers, to use antihelmintics. Careful follow-up enables early diagnosis of recurrences.

References


Received March 4, 2009.
Accepted January 28, 2011.