

CASE REPORT**A RARE CASE OF SPONTANEOUS INTRA-PERITONEAL EXPULSION OF UNRUPTURED HYDATID CYST: A CASE REPORT AND REVIEW OF THE LITERATURE**Daniel Zemenfes Ashebir, MD¹, Challa Haile, MD¹**ABSTRACT**

Hydatid cyst disease is a parasitic infection caused by the larval form of Echinococcus seen among sheep-raising communities in some endemic areas. It typically is found in the liver (1-7). Spontaneous intra-peritoneal extrusion, which can be life threatening is a rare phenomenon (2).

A 25-year old female patient was admitted to the emergency department of the Minilik II hospital with severe abdominal pain but no history of trauma. Abdominal ultrasonography suggested a ruptured Hydatid cyst. The patient underwent exploratory laparotomy, cyst removal, peritoneal saline wash and drainage. The patient had a smooth postoperative course and was discharged improved on a standard dose of albendazole.

INTRODUCTION

Echinococcosis is a zoonotic infection caused by adult or larval (metacestode) stages of cestodes, which belong to the family Taeniidae. The parasite is perpetuated in a life-cycle with a carnivore as definitive host and an intermediate host acquiring the infection by ingestion of the eggs. Accidental hosts, including humans, are not involved in disease transmission (4,7). The eggs hatch in the digestive system of the intermediate host, producing a larva, penetrates the intestinal wall and is carried by bloodstream to the liver, lung, brain, or other organs. The cycle is completed when the intermediate host is eaten by a suitable carnivore (4).

Hepatic Hydatid cysts, the commonest form of the human disease, can manifest with acute presentation by rupture into the peritoneal cavity, incidence ranging from 1% to 8% (1,2). Spontaneous extrusion of an intact cyst from the liver has not been described (2).

CASE SUMMARY

A twenty five-year old female patient from Bale, Oromia Region, presented with a sudden onset of abdominal pain associated with abdominal distention, fever, chills and rigor. There is no history of yellowish discoloration of the eyes and trauma to the abdomen. The patient was passing flatus and stools. She noticed painless RUQ swelling, which progressed to involve the epigastrium three months prior to the current complaint. In addition, there was a history of contact with domestic animals.

On examination, her blood pressure (BP) =100/60 mmHg, pulse rate (PR) =120/min, and respiratory rate (RR) =20/min. There was direct and rebound tenderness all over the abdominal. Baseline laboratory investigation showed normal findings except for leukocytosis of 13.2×10^3 . X-rays of the chest and the abdomen revealed no abnormality.

Abdominal ultrasonography showed left sub-hepatic, peri-gastric and pre-duodenal complex fluid collection with internal echo debris and floating membrane. With a diagnosis of ruptured hydatid cyst or a complex intra-abdominal abscess, the patient was kept on nothing per os (NPO), resuscitated with intravenous fluids, and provided hydrocortisone and prophylactic antibiotics.

Exploratory laparotomy revealed a ruptured cyst with 800 ml thick bile mixed fluid and floating hydatid membrane in the peritoneal cavity. In addition, there was a 13x15 cm intact cyst in the pelvis (Figures 1 and 2), and atrophied left lobe of the liver with cyst cavity leaking bile (Figures 3 and 4).

The peritoneal fluid was sucked, the cyst removed, and then the cyst cavity and the entire peritoneal cavity irrigated with warm saline. The cyst cavity was packed with omentum and a drainage tube placed in the right sub-hepatic space. The drain was removed on the seventh postoperative day and patient discharged improved with a standard course of albendazole.

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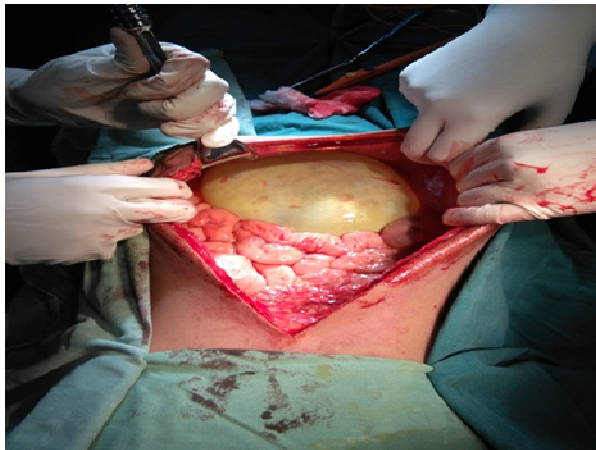


Figure 1: intact extruded cyst in the pelvic cavity

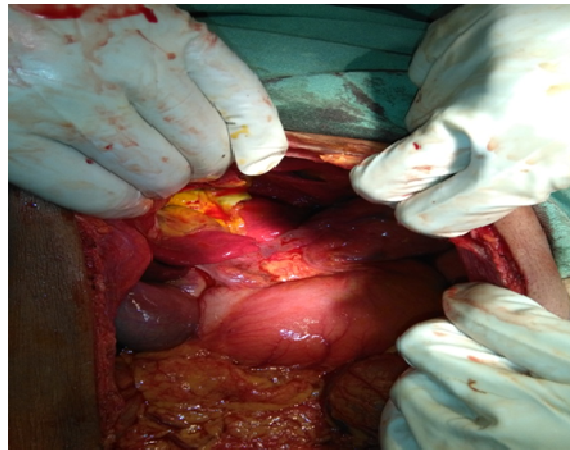


Figure 2: membrane with greenish fluid in peritoneum

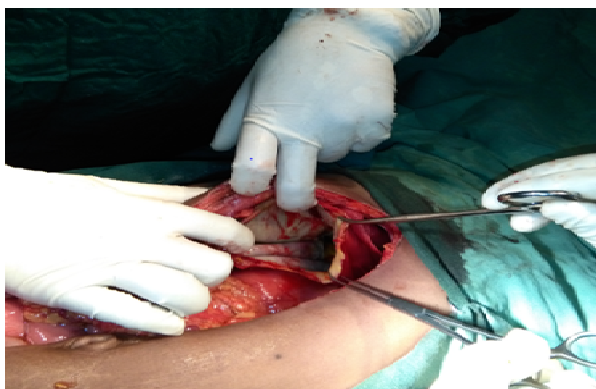


Figure 3: big cyst cavity on left lobe of the liver



Figure 4: post-operative specimen

DISCUSSION

Hydatid cysts are usually located in the liver accounting for 70% of cases, followed by the lungs (25%) and the rest of the organs (5-10%) (4). The cysts are usually located at the periphery of the liver and lungs because of very fine vascular filtration at the periphery. The initial phase of the primary infection is always asymptomatic and may remain asymptomatic for many years or even permanently (5,7). Although spontaneous cure is a possibility, the infection may become symptomatic if cysts exert pressure on the adjacent tissues and induce other pathological events. Sudden symptomatology may be due to spontaneous or traumatic cyst rupture.

Presentation is usually acute with abdominal signs, such as guarding and rebound tenderness with anaphylactic reactions occurring in 1% to 12.5% of cases, which at times could be life threatening following intraperitoneal rupture (6).

The most common complication of hydatid liver cysts is spontaneous rupture (2,3,5,6). Infection and suppuration of the cyst are the second most common complications (2).

This patient presented with a rare complication of biliary peritonitis with spontaneous expulsion of an intact large hepatic hydatid cyst of 20x20 cm size in to the general peritoneal cavity, which we did not identify in the reviewed literature (2). Although rare, a ruptured hydatid cyst should be considered in the differential diagnosis of the acute abdomen in a patient residing in an area where the parasite is endemic (7,8).

Radiology, serology, and fine needle aspiration biopsy (FNA) can be used for the diagnosis of hydatid cyst. The most preferred radiological method is abdominal ultrasound as it can be used to detect abdominal cysts, determine their number, site, dimensions (cyst >1 cm), and identify whether they are hydatid in nature.

Magnetic resonance imaging (MRI) and computerized tomography (CT) are also important to show the relationship of the cyst with adjacent organs. In a review of 22 cases of hydatid cysts, radiology and serology were used for the diagnosis of hydatid cyst (4,8).

Serology is also a valuable test for the differential diagnosis of hydatid liver cysts. However, it turns out negative in 79% of the reviewed cases of primary subcutaneous hydatid cyst (8). FNA has not been used widely as a diagnostic method for fear of spillage and anaphylactic shock. However, review of the literature debunks that long held belief and show that fine-needle aspiration biopsy is a very safe procedure. In a study that reviewed the role of FNA in the diagnosis of 17 cases of hydatid cysts, 13 patients were positive for the cyst. Nevertheless, serious and fatal complications rarely occurs and those who perform FNA should be cognizant of the possibility and take all the necessary precautions in order to reduce the incidence (9-11). Surgery is indicated for large liver cysts with multiple daughter cysts and single liver cysts situated superficially that may rupture. Surgery is the treatment of choice with 90% success rate (1-7).

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The introduction of chemotherapy and of the PAIR (puncture – aspiration – injection – respiration) technique offers an alternative treatment, especially for patients with a high surgical risk. Cysts with homogeneously calcified cyst walls need probably no surgery, but only a ‘wait and observe’ approach (5). Recurrence of hydatid disease may occur after surgery for primary cysts, although up to 60% of the cases may be asymptomatic, or become symptomatic with time. The use of intra-operatively protoscolicidal substances is questionable, as there is no ideal agent that is both effective and safe. (4).

In conclusion, spontaneously extruded liver Hydatid cyst has not been reported, and makes the case unique. This patient presented with a rare complication of biliary peritonitis. This should be considered in the differential diagnosis of an acute abdomen in a patient residing in an are endemic for the parasite.

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