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Case Report

Simultaneous primary hydatid cysts of liver and spleen with spontaneous intraperitoneal rupture of both cysts

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Abstract. Hydatid cyst is caused by infection of larvae of the parasite Echinococcus granulosus. The most common sites of hydatidosis are liver and lungs. We present a rare case of simultaneous hydatid cyst of the liver and spleen with spontaneous intraperitoneal rupture of both cysts.

Key words: Intraperitoneal hydatid cyst rupture, liver hydatid cyst, splenic hydatid cyst

1. Introduction

Hydatid cyst is caused by infection of larvae of the parasite Echinococcus granulosus. Hydatid cysts may form in any organ. The liver is most commonly involved (70% of cases), followed by the lungs (10–15%), and less frequently, the spleen, kidneys, heart, bones, and central nervous system (1-3). Hydatid cysts can rupture either spontaneously or following trauma. Ruptured hydatid cyst of the liver is an infrequent clinical entity and that of the spleen is exceedingly rare. Spontaneous and simultaneous intraperitoneal rupture of both liver and splenic hydatid cysts, in a single patient has probably not been reported so far in literature.

However we report a case with spontaneous and simultaneous rupture of both cysts of liver and spleen in a 35 years old female who presented to the emergency department with abdominal pain and shock like picture. The laminated membrane was removed from the liver cyst pouch and splenectomy wasdone for ruptured splenic cyst, and the peritoneal cavity was lavaged with hypertonic saline solution, followed by tube drainage of cyst cavity. Albendazole was administered for three months postoperatively. The recovery course was uneventful. Ruptured hydatid cyst of the liver should be included in the differential diagnosis of abdominal pain, in endemic areas.

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2. Case report

A 35 year-old female presented to the emergency department with abdominal pain associated with abdominal distention, with features of shock. Palpation revealed a tender abdomen with muscular rigidity. Findings on plain X- ray of the abdomen and chest were inconclusive. Abdominal computerized tomography (CT) scan demonstrated peripherally located cysts, one in the right lobe of liver and another in the spleen, in addition to minimal free fluid in the peritoneal cavity (Figure 1).

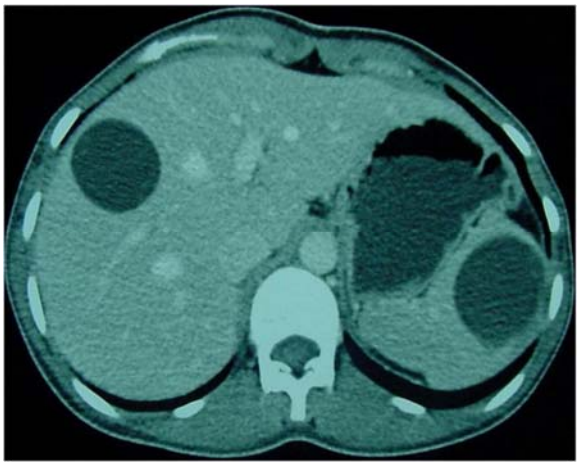

Fig. 1. Computed tomography picture showing hydatid cysts of liver and spleen.

Because signs of acute abdomen were present, laparotomy was performed. Exploration revealed approximately 300 ml of hydatid fluid in the perihepatic and perisplenic area and a ruptured hydatid cysts both in the liver and spleen (Figure 2,3). The germinative membrane was removed from the cyst pouch (Figure 4,), and splenectomy was performed. The peritoneal cavity was irrigated with 3% hypertonic saline for 15 minutes, followed by tube drainage of cyst cavity. Postoperatively, treatment with albendazole was continued for three months. The course of recovery was uneventful.

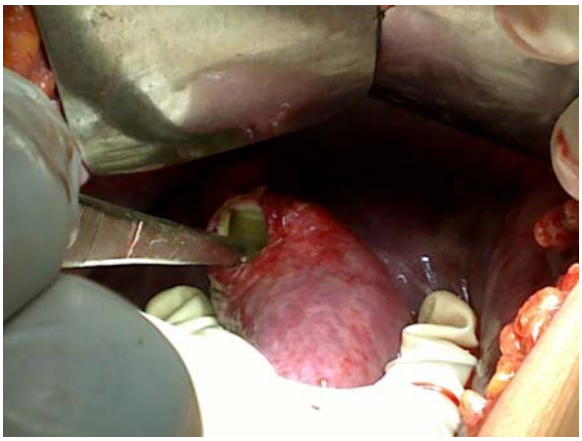

Fig. 2. Intraoperative image showing ruptured hydatid cyst of liver.

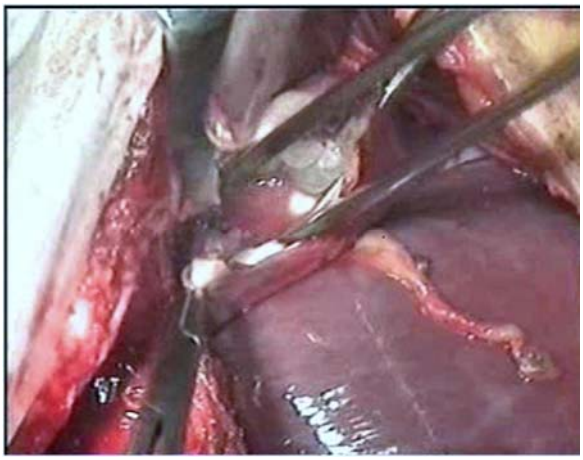

Fig. 3. Image showing ruptured splenic hydatid cyst.

3. Discussion

Rupture into the peritoneum occurs less often, with reported rates ranging from 3.2% to 16% (3). Akcan et al. (4) noted a 7.8% rate of peritoneal rupture of hydatid cysts in Turkey, where the disease is endemic. Sozuer et al. (1) noted a 19% rate of blunt abdominal trauma. Our patient, however, had no history of trauma prior to admission. Significant risk factors for hydatid cyst perforation include younger age, cyst diameter of >10 cm, and superficial cyst location (4). Our patient had peripheral cysts both in liver and spleen. Intraperitoneal rupture of a hydatid cyst is considered as an urgent clinical event, though there are reports whereby slow rupture of hydatid cyst into the peritoneal cavity without any serious symptom had been present (5-7).

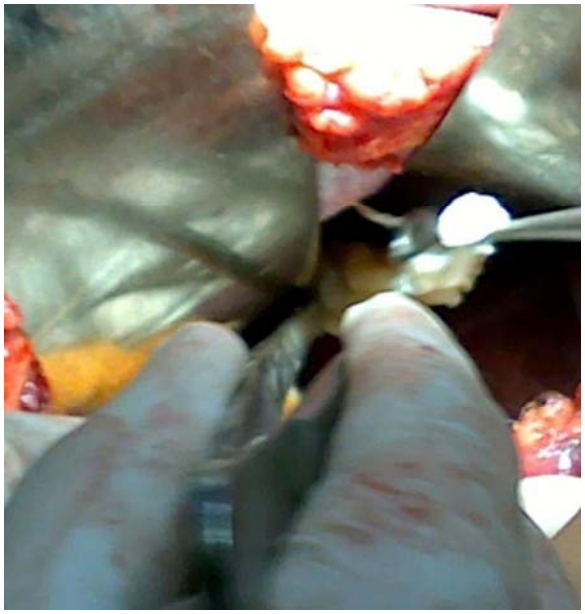

Fig. 4. Image showing removal of lamellated membrane from liver hydatid cyst.

The dissemination of the cyst contents poses a 1.0-2.5% risk of severe, life-threatening anaphylactic reaction (4). The most common complaints associated with hydatid cyst of the liver are abdominal pain, nausea, vomiting, and jaundice (1). The signs and symptoms of ruptured cyst are nonspecific. Our patient presented with acute abdomen, which is unusual in this setting. Ultrasound is considered the first diagnostic option in the examination of patients with suspected uncomplicated hydatid cyst of the abdomen. Its reported sensitivity is 85%. CT is currently the most sensitive tool for detection of hydatid cyst rupture in the liver and spleen, with 100% sensitivity (4).

Surgery remains the main treatment modality and splenectomy has been the traditional treatment of choice for splenic hydatid cyst (8). Lavage of the peritoneal cavity with scolicidal agents is well accepted (9). In the present patient, we used the 3% hypertonic saline solution for lavage of the peritoneal cavity. Albendazole has proven prophylactic activity in perforated hydatid cysts (1). Its safety and efficacy for 2-3 months of postoperative use is well recognized. Our

patient was treated with albendazole 10mg/kg/day for 3 months, postoperatively. Hydatid cysts are associated with 12%-63% morbidity. Although rupture of a hydatid cyst of the liver is an uncommon clinical entity, it may be fatal. Therefore, clinicians should maintain a high index of suspicion in patients who present with abdominal pain.

4. Conclusion

Spontaneous and simultaneous rupture of liver and splenic hydatid cysts is an extremely rare presentation of hydatid disease and probably the first case to be reported is the present one. It should be in the differential diagnosis of acute abdomen especially in the endemic areas of hydatid disease.

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