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Letter to the Editor

Intraperitoneal Rupture of Liver Hydatid Cyst in Children

*Samia Belhassen, Dorsaf Makhlouf, Arije Zouaoui, Sabrina Ben Youssef, Haifa Bradai, Sana Mosbahi, Nahla Kechiche, Lassaad Sahnoun, Mongi Mekki, Mohsen Belguith, Abdellatif Nouri

Research Laboratory LR12SP13, Department of Pediatric Surgery, Fattouma Bourguiba Hospital, Monastir, Tunisia

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*Correspondence Email:
samia.belhassen@yahoo.fr

Dear Editor-in-Chief

The rupture of a hepatic hydatid cyst is a serious complication. Its rupture into the peritoneum is even rarer (1). This complication in particular can lead to secondary echinococcosis, which is a difficult problem to manage, and a major cause of morbidity and mortality (2).

The purpose of our study was to determine the clinical, paraclinical and management particularities of intraperitoneal liver hydatid cysts rupture in children.

We reported a retrospective study of children with intraperitoneal hydatid cyst rupture who underwent emergency surgery years 2006 and 2016 in Department of Pediatric Surgery of Monastir, Tunisia. We selected patients in whom the tests confirmed the diagnosis of rupture of liver hydatid cyst in the peritoneum.

The patients were 3 boys and 2 girls with the mean age of 5, 8 year, ranging from 2 to 11

year old. Two children had a history of abdominal trauma. All patients showed symptoms of peritoneal irritation with abdominal pain and fever. A skin rash was observed in only one case. Ultrasonography and computed tomography were performed in all cases, which confirmed the rupture of the hepatic hydatid cyst.

Informed consent was taken from the patients and parents before the study. The study was approved by the local Ethics Committee.

A double localization, liver-lung, was discovered in 2 cases. All patients were operated: three of them had laparotomy (Fig. 1) and the two others underwent laparoscopy. A postoperative medical treatment with albendazole was prescribed in all cases at the dose of 15 mg/kg/d for 6 months.



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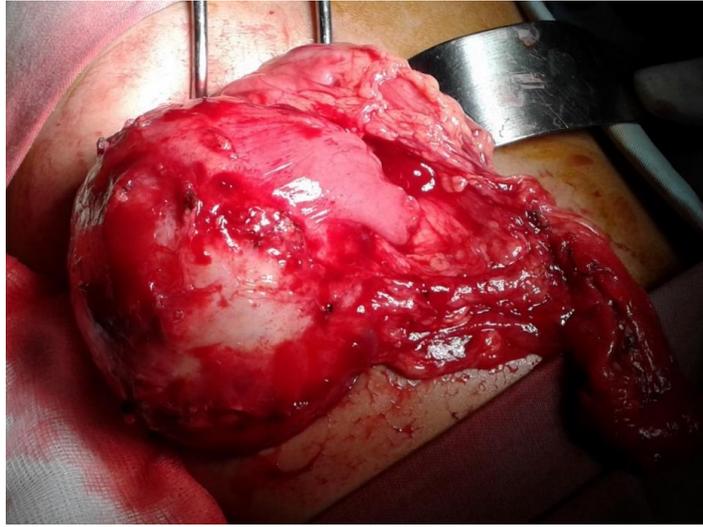


Fig. 1: Organised and adherent hydatid cyst after rupture

The clinical evolution was good and uneventful without recurrence in 4 cases. The mean follow-up was 1 year and 7 months. In one case, a recurrence of the hepatic hydatid cyst was observed and required surgery. No recurrence was observed after 10 years.

The rupture of a liver hydatid cyst into the peritoneal cavity is rare. Abdominal trauma is the most frequent cause. It was observed in 3.2 to 16% of the cases in adults (3). Few cases in children have been reported. This complication may be the discovery background of the hepatic hydatid cyst (1). It results from trauma or may occur spontaneously depending on the diameter of the cyst (>10 cm) or increased intra-cystic pressure (4-5). Our patients had a history of abdominal trauma before their admission in two cases. The rupture occurred spontaneously in three cases. This rare condition occurs most often in patients with superficially located and bigger lesions (3). Location of the cyst on segment VI of the liver or multiple hydatid cysts may be predisposing factors for perforation (1). When ruptured, all the hepatic hydatid cyst content is spilled into the peritoneal cavity (4). A patient with intraperitoneal hydatid cyst rupture can present with abdominal pain, nausea or/and

vomiting, urticarial or anaphylaxis symptoms (5). However, allergic reactions such as macular eruption, fever, hypotension or anaphylaxis are not frequent. It may be seen in 25% (3) of cases and it is caused by the dissemination of the hydatid fluid and protoscolices (5). The rupture of liver hydatid cyst should be diagnosed immediately as it must be immediately treated by emergency surgery (3).

The key tools for diagnosis are a radiologic investigation and hydatid serology (3). Ultrasonography and computerized tomography have been reported to be the main diagnostic methods with high sensitivity (85% and 100% respectively) (5). The US is used as a first line examination for all our patients. The CT is used as the golden standard to confirm the diagnosis and to identify complication that may interfere with the operative plan (3). The only curative treatment for a perforated hydatid cyst is emergency surgery (3-5).

The main goals of surgical treatment are to eliminate the local disease, prevent complications, and minimize the recurrence risk (4). After removal of the entire cyst and its contents, the peritoneal cavity should be washed with a normal saline solution (3). Hypertonic saline can cause hypernatremia (5). To prevent

recurrences, medical treatment is necessary (4). Albendazole is used after surgery and was used in all our patients with the dose of 15 mg/kg/d (3-4). In this study, we had a recurrence in one patient who underwent additional surgery. The follow up of patients with imaging and hydatid serology tests is important and has to be done (3).

The rupture of a hydatid cyst of the liver into the peritoneal cavity is rare. Specific imaging findings allow defining the diagnosis. The emergency surgery is the main treatment and medical treatment should be given postoperatively.

Conflict of interest

The authors declare that there is no conflict of interest.

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