

Rupture of Liver Hydatid Cyst into Gall Bladder

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Abstract

Hepatic hydatid cyst is a rare parasitic affection which constitutes a major health problem in countries endemic to hydatidosis. Rupture of hydatid cyst into gallbladder is an exceptional complication first described in 1952 by Atlas and Kamenev. We report the case of a hepatic hydatid cyst rupture into gallbladder in a 31-year-old patient with no history of disease.

Keywords

Echinococcus granulosus, Hydatid Cyst, Gallbladder, Rupture, Complication

1. Introduction

Hydatidosis is an endemic parasitic disease caused by *Echinococcus granulosus* [1]. Dogs constitute the definitive host whereas man may accidentally be affected in the course of the life cycle of this tania [1]. Intrahepatic rupture represents the most common complication of hepatic hydatid cysts. Rupture of hepatic cysts into gallbladder remains a rare possibility. We hereby report a case of ruptured hepatic hydatid cyst into the gallbladder in a 31-year-old female with no history of disease.

2. Case

A 31-year-old female with no significant history of disease was admitted in our unit for biliary colic and fever. History dated back to 4 days prior to her admission where patient presented with biliary colic associated with fever and vomiting with no other associated signs.

Physical examination found a conscious patient, 39°C febrile with a heart rate of 96 beats/minute and a 110/60 mmHg BP. Abdominal examination revealed tenderness in the right hypochondriac region.

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Laboratory tests came back with $14,990 \text{ mm}^3$ leukocytosis and CRP 320 mg/l.

Abdominal ultrasound revealed a homogeneous liver with a hypoechoic heterogeneous lesion in segment IV with thickened wall, measuring $74 \times 84 \text{ mm}$ associated with a distended thick-walled gallbladder containing stones tender under the probe.

Abdominal CT showed increased liver size with regular edges, a round lesion located in segment IV of the liver of liquid density and a wall unenhanced after contrast injection, measuring $75 \times 76 \text{ mm}$ as well as a distended thick-walled gall bladder containing a stone (**Figure 1**).

The patient was taken to the operating room for surgical exploration which revealed a pycholecystitis adjacent to the aforementioned lesion in segment IV of the liver. At the opening of the gallbladder there were hydatid membranes as well as a fistula communicating the gallbladder with the liver cyst (**Figure 2(A)** and **Figure 2(B)**). Retrograde cholecystectomy and hydatid cyst unloading was done after protecting the operating fields with surgical sponges imbibed with saline solution hence allowing the evacuation of about 400 cc of pus. Infected bile and hydatid membranes which were subsequently drained.



Figure 1. Abdominal CT scan showing a round lesion located in segment IV of the liver of liquid density and a wall unenhanced after contrast injection.

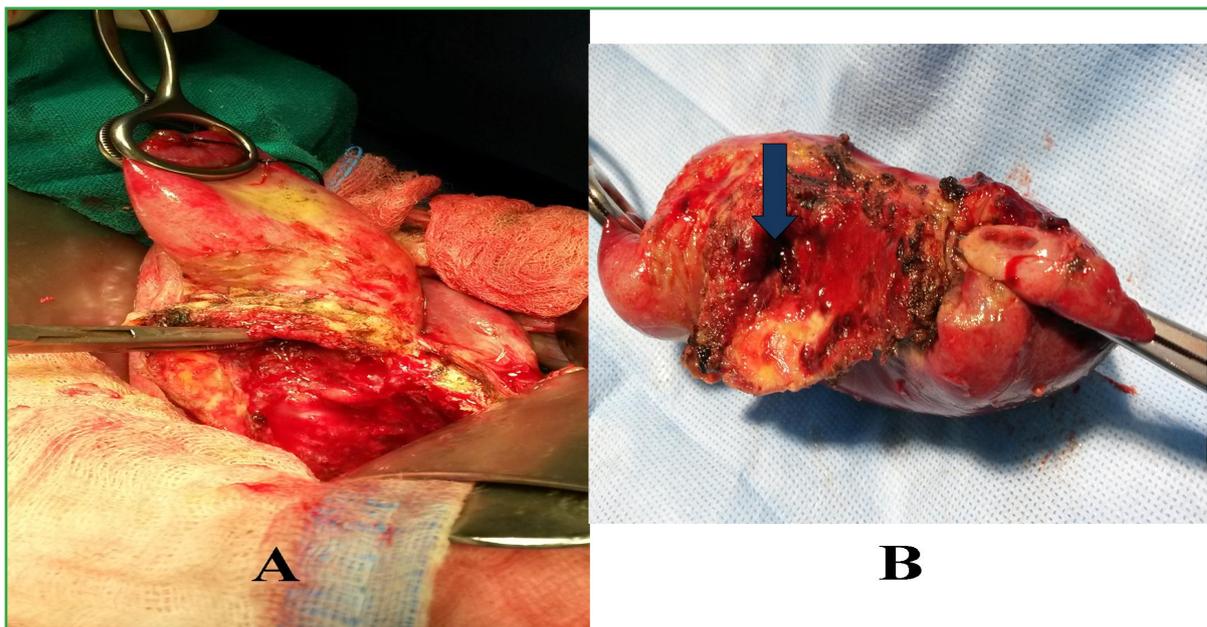


Figure 2. (A) Per operative image showing communication between the hydatid cyst and gallbladder; (B) cholecystectomy parts showing fistula.

The postoperative period was uneventful and the patient was discharged with favorable clinical outcome.

3. Discussion

Hydatid cyst is a parasitic disease caused by the development of the larval form of the dog taenia *Echinococcus granulosus*. This disease remains common and is a public health concern in countries endemic to hydatidosis. The clinical presentation of hydatid cyst is very diverse. Rupture of hepatic hydatid cysts occurs in 35% - 58% of cases, usually in the biliary tract [2] [3]. The rupture of a hydatid cyst in the gallbladder is very rare and it was first described by Atlas and Kamenear in 1952 [4].

Clinical presentations and circumstances of discovery are similar to that of gallbladder disease: most common symptoms boiling down to biliary colic or jaundice [4] [5].

The ultrasonographic features of a hydatid cyst in the gallbladder are comparable to those of other visceral localisations and are based on the detection of a membrane separation or hydatid vesicles.

Computed tomography (CT) is the best examination to clarify its link with the gallbladder: it is the first choice examination in the case of a possible rupture of cyst especially in the presence of a hepatic cyst located in segment IV and coming into contact with the gallbladder. The latter can be a victim of compression, with sometimes presence of hydatid membranes therein.

Hydatid serology can go a long way to provide diagnostic certainty.

Surgical treatment is indicated in any case and entails cholecystectomy [6] accompanied by the resection of the projecting dome [4] [5]. This procedure is simple, fast with low risk of bleeding and mortality. Total pericystectomy and rarely, regulated hepatectomy have the advantage of minimizing the chances of leaving behind a residual cavity as well as the difficulties caused by the treatment of biliary fistula. [6] However, it still remains a technically difficult procedure with a significant risk of bleeding.

4. Conclusion

Hepatic hydatid cyst rupture in the gallbladder is a rare complication. CT scan is the first choice examination that allows the diagnosis of this complication. Its optimal treatment remains surgery.

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