Hepatic hydatid cyst fistulised into the hepatic flexure: CT evaluation of a rare complication

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DESCRIPTION
Zoonotic infections like cystic echinococcosis are significant health concerns in developing countries. Humans are the intermediate hosts and acquire the infection by accidentally ingesting dog faeces. Hydatid cyst is usually asymptomatic or can be an incidental finding during radiological workup, the liver being the most common organ to be involved. There may be slight abdominal discomfort or pain due to compression of the adjacent organs until they rupture. Although hydatid cyst is a common entity, rupture or fistula is an uncommon complication. Rupture of this silent cyst is the primary concern that may be of two types: internal rupture occurs within the biliary tract, into the peritoneal cavity or in the gastrointestinal. In contrast, external rupture leads to a cutaneous fistula. Following rupture of a hepatic cyst, a fistulous tract is observed to form with the duodenum or the colon (hepatic flexure).

A woman in her late 40s came to the hospital with dull aching pain in the right hypochondrium and on and off fever for the last 2 months. There were no histories of any comorbidities, prior illness or surgery. There was slight fullness in the right hypochondrium without any guarding or rigidity on physical examination. Laboratory data revealed an increased white cell count of $21 \times 10^9/L$ with an elevated C reactive protein level of $331 \text{mg/L}$. Initially, ultrasonography was done, which showed multiple heteroechoic lesions in the liver; after which, to confirm the diagnosis and look out for the extent, a contrast-enhanced CT of the abdomen was done, which showed a large well-defined cystic lesion with peripheral calcification and internal septations (white arrows) in segments IVb and VIII of the liver that signify a hydatid cyst. Another similar characteristic cyst is seen involving segment IVb (white arrows).

Contrast-enhanced CT of the abdomen axial plane (A) shows a large well-defined cystic lesion with peripheral calcification and internal septations (white arrows) in segments IVb and VIII of the liver that signify a hydatid cyst. (B) Another similar characteristic cyst is seen involving segment IVb (white arrows).

Contrast-enhanced CT of the abdomen in the axial plane (A,B) in the reformatted coronal plane, revealing another large cyst with multiple air foci within the V and VII segments of the liver, extending into the extraparenchymal region of the liver (black arrows). (C) Illustrating the communication between the extraparenchymal cystic part (white star) with the colon (white arrow) (lying proximal to the liver in the infrahepatic region).
was performed, which revealed two well-defined, round-to-oval-shaped cystic lesions measuring approximately 7.5 × 7.7 × 6.9 cm and 5.5 × 4.6 × 4.3 cm in segment VIII and segment IV, respectively. These cystic lesions show internal septations representing daughter cysts and capsular calcification (figure 1A, B). There is another mixed density lesion with internal multiple air density foci, measuring approximately 14 × 8.5 × 8.6 cm involving V and VII liver segments. This lesion was extending in the subcapsular region and communicating with the colon (ie, hepatic flexure) (figure 2A–C). The treatment of choice for such cases is surgical, and the best approach is a right subcostal laparotomy performed for this patient. There were three hydatid cysts found intraoperatively, with one in the segments V and VII having extraparenchymal extension into the colon. There was a small exovesiculation of 3 cm, communicating with the hepatic flexure, which was dissected. The colon was divided with the stapler device below the fistula. The stapled lines were buried with a layer of mattress sutures, and a Roux-en-Y anastomosis was performed. The diagnosis was confirmed by histopathology examination (figure 3) from the gross collected after the curettage performed for all the cyst cavities (figure 4A, B). The patient was discharged on the 7th postoperative day. The patient had an uneventful recovery.

**Patient’s perspective**

I am satisfied with the diagnosis and the treatment I am undergoing.

**Learning points**

- A colonic fistula as a complication of a ruptured hepatic hydatid cyst is extremely rare, and clinical diagnosis of this entity is very difficult. Being aware of the hydatid disease complications, especially in endemic areas, and using proper imaging and serological tests are important for reaching a diagnosis.

- CT is the ideal modality for the diagnosis of hydatid cyst as well as its complications.