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Original Research Paper

# Cysto-Biliary Fistula with fat Fluid Level in Hydatid Cyst of the Liver: A Case Report

Gastroenterology

KEYWORDS :

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## ABSTRACT

*Echinococcal disease can develop anywhere in the human body, liver being its most frequent location. Hepatic hydatid cysts may rupture into the biliary tract, thorax, peritoneum, viscera, digestive tract or skin. Hence the diagnosis of liver hydatidosis should be fast to avoid relevant complications that may arise. US, CT and MRI are the most useful pre-operative imaging that help in diagnosis of a hydatid cyst. They allow thorough knowledge regarding size, location, relations to intrahepatic vascular and biliary structures. Though various signs and findings on imaging are popularly used, presence of fat-fluid level suggesting biliary communication is rarely found. We report a rare case with rupture of biliary radicle into a hydatid cyst in a man with hydatid disease diagnosed on the basis of fat-fluid level in the CT imaging. The increased intra-luminal pressure in the biliary tree caused the rupture into the adjacent hydatid cyst. The creation of the fistula between the biliary radicals and the hydatid cyst decompressed the biliary tree, decreased the bilirubin levels and resolution of the obstructive jaundice.*

**Introduction**

Echinococcal disease can develop anywhere in the human body, liver being its most frequent location. US, CT and MRI are the most useful pre-operative imaging that help in diagnosis of a hydatid cyst. They allow thorough knowledge regarding size, location, relations to intrahepatic vascular and biliary structures. Though various signs and findings on imaging are popularly used, presence of fat-fluid level suggesting biliary communication is rarely found. We report a case with rupture of biliary radicle into a hydatid cyst in a man with hydatid disease diagnosed on the basis of fat-fluid level in the CT imaging.

**Case history**

60 year old male patient presented with complains of right upper quadrant pain for a duration of one month. Patient also had nausea, vomiting and loss of appetite.

**On examination**

Patient was febrile and vitals were stable. Diffuse tenderness in right upper quadrant and epigastrium. Blood reports revealed rised WBC's.

**Chest X-ray**

-Elevated right dome of the diaphragm

-Cystic lesion with calcified wall seen in right upper quadrant(Fig 1)

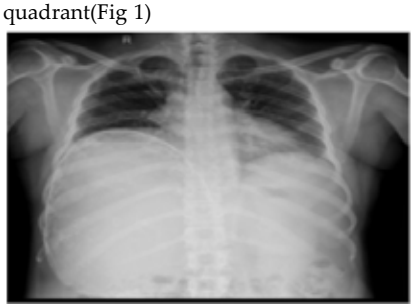

**Fig. 1**

**USG Abdomen**

-Solitary univesicular, well defined anechoic cyst with calcification(Fig 2)

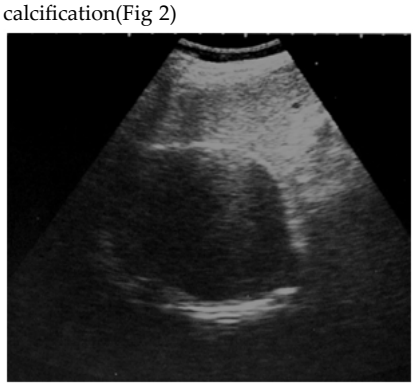

**Fig. 2**

**CT – Abdomen**

-A large fat-fluid level with a superior component measuring -89HU and an inferior component measuring 22HU(Fig 3)

**Fig 3**

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**MRI - Abdomen**
-Well capsulated cystic lesion occupying segment 5,7 and 8 of liver
-Multiple intracystic hypo intensities s/o daughter cysts(Fig 4)

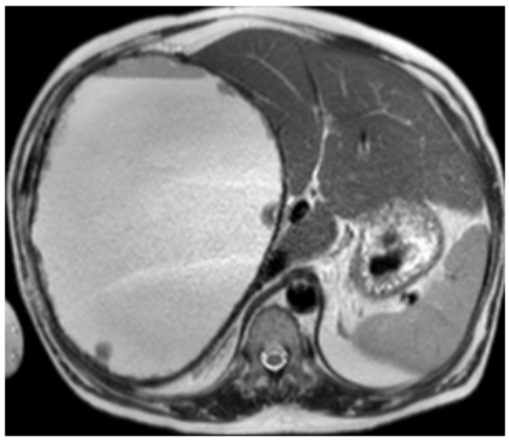

**Fig. 4**

**Operative Findings**
-Laparotomy, followed by pericystectomy, marsupialization were performed(Fig 5)
-Visible biliary orifices were sutured with 3-0 polyglycolic acid sutures
-Drain was placed in the cavity to monitor any bile leak

**Histopathology**
-Thick fibrous pericyst,
-Hyaline ectocyst s/o hydatid cyst wall

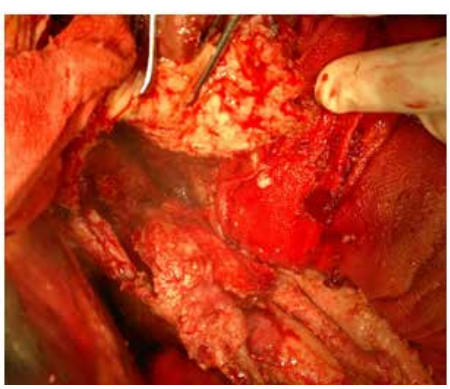

**Fig. 5**

| Biochemical analysis of cyst contents | |
|---|---|
| Bilirubin | 3.25mg/dl |
| Biliary acids | 400umol/l |
| Cholesterol | 150mg/dl |
| Culture | No growth |

**Discussion**
Echinococcal disease involves the liver in 70% of cases, with communication rates between the cyst and the biliary tree ranging from 9% to 25%. Montero et al., first reported fat fluid level in a hydatid cyst, explained the finding by its rupture into the biliary tree[1]. The rupture may be classified as: contained rupture when the endocyst is torn, but the cyst content is confined within the pericyst; communicating rupture consists of tear of the endocyst with loss of the cyst content via small biliary ducts and direct rupture when a tear of both endocyst and pericyst occurs, allowing the cyst content to spill into the peritoneal or pleural spaces[2]. Diagnosis of hepatic hydatid cyst rupture should include clinical, laboratory and imaging data. In frank rupture daughter vesicles and fragmented membranes escape into the biliary tree causing obstructive jaundice, acute cholangitis or septicemia[2]. US can categorize cysts as univesicular, multivesicular, solid echogenic mass or collapsed, flattened and calcified[3]. In CT, a hydatid cyst is typically seen as a round lesion with water attenuation density, surrounded by a calcified ring like or highly attenuated wall representing the pericyst.

CT also depict gas or air fluid or fat inside the hydatid cyst, indirect signs of infection and/or communication with the biliary tree[4].

MRI is the best diagnostic investigation to differentiate the cystic component from the others and to demonstrate a biliary tree involvement. The necrotic fluid components are hypo intense on T1 images and hyper intense on T2 weighted images[5]

**References**


1. Montero JVM, Garcia JA, Lafuente JL. Fat-fluid level in hepatic hydatid cyst: a new sign of rupture into the biliary tree. AJR 1996;167:91-4
2. Spârchez Z, Osian G, Onica A, Barbânta C, Tantau M, Pascu O:Ruptured hydatid cyst of the liver with biliary obstruction: presentation of a case and review of the literature. Rom J Gastroenterol 2004, 13:245-250
3. Lewall DB. Hydatid disease: biology, pathology, imaging and classification. Clin Radiol 1998;53:863-874
4. Lim JH. Parasitic diseases in the abdomen: imaging findings. Abdomen Imaging 2008; 33:130-132
5. Coskun A, Ozturk M, Karahan OI. Alveolar echinococcosis of the liver: correlative color doppler US, CT and MRI study. Acta Radiol 2004;45:492-498