

## Imaging Sciences Interesting Cases

### CASE 409

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**CLINICAL PRESENTATION:** A 66-year-old male presented with right upper quadrant pain.

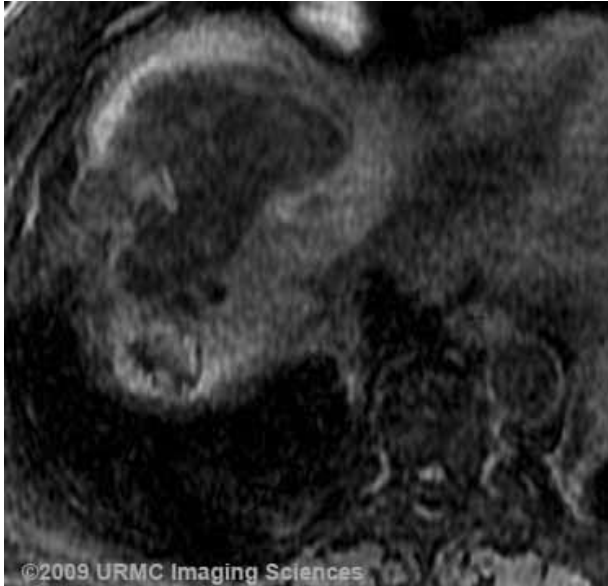
**IMAGING FINDINGS:** Axial CECT (Fig.1) image shows a large multiseptated cystic liver mass with an associated heavily calcified mass. The intrahepatic bile ducts are dilated. The lobulated mass of the right hepatic lobe is hyperintense on FST2 (Fig. 2) and hypointense on T1 (Fig. 3) weighted imaging. Coronal T2 (Fig. 4) image shows the lesion to a different advantage.



**Figure 1:** Axial CECT.



**Figure 2:** Axial MR FST2 WI.



**Figure 3:** Axial T1 WI.



**Figure 4:** Coronal T2 WI.

**DIAGNOSIS: Hydatid liver cysts**

**DISCUSSION:** Hydatid disease is caused by the larval stage of the Echinococcus tapeworm, where humans act as an accidental intermediate host after ingesting eggs usually released into the environment by a dog. The hexacanth embryo is released in the duodenum where it passes through the intestinal wall into portal circulation and develops into a cyst within the liver. Once in the liver, cysts grow to 1 cm during the first 6 months and 2-3 cm annually thereafter. Hydatid disease can also involve the lung (15%) and other anatomic locations (10%). The right lobe is most the most frequently involved portion of the liver.

Imaging findings depend on the stage of cyst growth. Calcification is seen radiographically in 20-30% of hydatid cysts. During healing, there is dense calcification of the cyst. Sonographically the cyst wall usually manifests as double echogenic lines separated by a hypoechoic layer. Simple cysts do not show internal echoes, although dependent echogenic foci may be seen due to hydatid sand. CT has a high sensitivity and specificity for hepatic hydatid disease. The typical appearance on CT is a cystic liver mass with high attenuation walls on unenhanced CT, even without wall calcification. Daughter cysts may be located peripherally within the mother cyst. On MRI, hydatid cysts demonstrate water signal intensity, and may have a low signal intensity rim on T2 weighted images.

Intrahepatic complications of hydatid cysts include cyst rupture and infection. Rupture may lead to anaphylaxis if the cysts gain passage into the blood stream. Other complications include migration into the thoracic cavity, perforation into hollow viscera, peritoneal seeding, biliary communication, portal vein involvement, abdominal wall invasion, and hematogenous spread.

**REFERENCES:**

1. Pedrosa I, Saíz A, Arrazola J, Ferreirós J, Pedrosa CS. Hydatid disease: radiologic and pathologic features and complications. Radiographics. 2000 May-Jun;20(3):795-817. PMID: 10835129 [PubMed]