Pseudolipoma of Glisson's capsule
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Section: Abdominal imaging
Area of Interest: Abdomen Liver
Imaging Technique: CT
Case Type: Clinical Cases
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Patient: 29 years, female

Clinical History:

A 29-year-old lady came with complaints of pain in the right hypochondrium since 1 week. The pain was sudden in onset and dull aching in nature. There was no history of trauma, fever or jaundice. There was no history of previous abdominal surgeries. Ultrasound examination of abdomen revealed gall stones.

Imaging Findings:

Plain and contrast axial CT sections of abdomen (yellow circle in Fig 1 and Fig 2 ) showed a well-defined fat density (average HU = - 80) nodule in peripheral subcapsular location involving segment VIII of liver with no post-contrast enhancement. No evidence of scalloping of underlying liver parenchyma. Coronal and sagittal contrast-enhanced CT images of abdomen showed the lesion in segment VIII of liver (orange arrow in Fig 3 and 4).

Discussion:

First described by Rolleston in 1891[1], pseudolipoma of Glisson's capsule (also called hepatic pseudolipoma) is a rare, benign, fat-containing, peripheral lesion of the liver. It is caused by the excursion of epiploic appendages which undergoes subsequent degenerative changes and is covered by a fibrous capsule before becoming lodged between the diaphragm and the superior aspect of the liver. Another possible causative factor could be traumatic inclusion of fat within the liver capsule during surgery, or during transcutaneous liver biopsy. On microscopic pathological examination, they are composed of a thick hyalinised capsule underneath which clusters of polygonal cells lacking nuclei (ghost cells) and focally filled with basophilic material are seen. [2]

Typically elderly males are affected with a mean age of 67 years. [3] They always lie outside the liver, within the Glisson's capsule. However, nutrition of the nodule is obtained from the hepatic circulation.[3] Mostly it is detected as an incidental finding, however, patients may present with right iliac fossa pain due to acute appendicitis or diverticulitis as a prequel to the dislodgement of the inflamed epiploic appendage.

On CT imaging, they appear as a well-defined, encapsulated, fat density (-10 to -100 HU) or soft tissue attenuation nodule on the diaphragmatic surface of liver.[4] MR imaging shows a well-defined lesion with fat signal intensity on all sequences, with complete suppression in opposed phase images in chemical shift imaging. Subcapsular migration of the lesion has been described [5] which may be a clue to differentiate it from seeded metastasis which remains fixed to the hepatic surface.
Since Pseudolipoma of Glisson's capsule is an imaging diagnosis, other fat-containing hepatic lesions need to be considered in the differential diagnosis. Macroscopic fat-containing lesions include lipomas and angiomyolipomas, with strong enhancement in arterial phase and peripheral angiomatous soft-tissue attenuation favouring the latter [6]. Focal hepatic steatosis needs to be considered when they occur in typical peri ligamentous and periportal location with non-distorted vessels coursing through the lesion [7]. Focal intrahepatic extramedullary hematopoiesis is another rare cause of a hepatic fat-containing lesion which needs to be considered in the presence of multiple intrahepatic lesions, extrhepatic foci involving spleen and lymph nodes in the correct clinical setting of anaemia, congenital haemoglobinopathies and acquired marrow replacement disorders. [8]

As this lesion was benign in nature and the patient’s symptoms could be attributed to underlying cholelithiasis, the lesion was left alone.

**Differential Diagnosis List:** Pseudolipoma of Glisson's capsule, Hepatic lipomas, Seeded metastatic nodule, Focal intrahepatic extramedullary haematopoiesis, Focal hepatic steatosis, Hepatic angiomyolipoma and myelolipoma

**Final Diagnosis:** Pseudolipoma of Glisson's capsule

**References:**

**Figure 1**

*Description:* Axial CT section of abdomen showing a well-defined fat density lesion (yellow circle) in subcapsular location involving segment VIII of liver *Origin:* © Department of Radiology, Government Medical College, Kozhikode, Kerala, India
Description: Axial contrast CT section of abdomen showing no post-contrast enhancement of the lesion (yellow circle) Origin: © Department of Radiology, Government Medical College, Kozhikode, Kerala, India
Description: Coronal contrast CT of abdomen showing the lesion (orange arrow) in subcapsular location

Origin: © Department of Radiology, Government Medical College, Kozhikode, Kerala, India
Description: Sagittal contrast CT of abdomen showing the lesion (orange arrow) in subcapsular location involving segment VIII of liver. Origin: © Department of Radiology, Government Medical College, Kozhikode, Kerala, India