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RESEARCH ARTICLE

A CASE OF CHOLECYSTITIS FISTULA LEADING TO A SUBCAPSULAR BILOMA

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Abstract

The term biloma refers to an encapsulated and well-circumscribed collection of bile in the abdomen. It can be inside or outside the biliary system, spontaneous, iatrogenic or due to an abdominal trauma. Usually, a combination of patient's medical history, symptoms and imaging modalities help establish the diagnosis at ease. We herein present a rare case of a hepatic subcapsular biloma formed by a fistula formed on an inflamed gallbladder wall depicted on CT images. The aim of this report is to report the odd condition in which the biloma was formed.

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Introduction:-

Bilomas are a loculated extrahepatic or intrahepatic collection of bile. They are usually found in patients with previous history of cholecystectomy and therefore they can be the consequence of two main types of injuries; iatrogenic and traumatic. However, rare are the case where the biloma is not cause by none of the previous mechanics. In which case, they are described as spontaneous, and can be secondary to choledocholithiasis, cholangiocarcinoma hepatic abscess, tuberculosis, and, as for our case, acute cholecystitis via a fistula into the subcapsular hepatic space.

Case Report

A 46-year-old woman, was admitted in the emergency room, complaining of radiating right upper quadrant pain. In the emergency room, the vital signs were as follows: Blood Pressure 90/40, heart rate 120/min, respiratory rate 30/min, temperature 39,5°C. No history of cholecystectomy. On examination, the patient seemed to be in acute distress, she presented tenderness over the abdomen, chills and fever. Acute cholecystitis was suspected. Ultrasound (US) examination showed gallbladder wall thickening and pericholecystic infiltration with no identified gallstones which confirmed the cholecystitis, the radiologist noticed a large defect in the right hepatic lobe. For better analysis, computed tomography (CT) scan was done, which revealed a large, well circumscribed, hypodense subcapsular fluid collection in the right hepatic lobe. Two diagnosis was suspected: an abscess or a biloma. Because there was no definitive diagnosis, a CT-guided percutaneous drainage of fluid collection was performed, and 1430 mL of bile was aspirated. The diagnosis of spontaneous biloma secondary to a fistula on the wall of an inflamed gallbladder was made. The drain was removed on the 10th day and the patient was discharged in stable condition.

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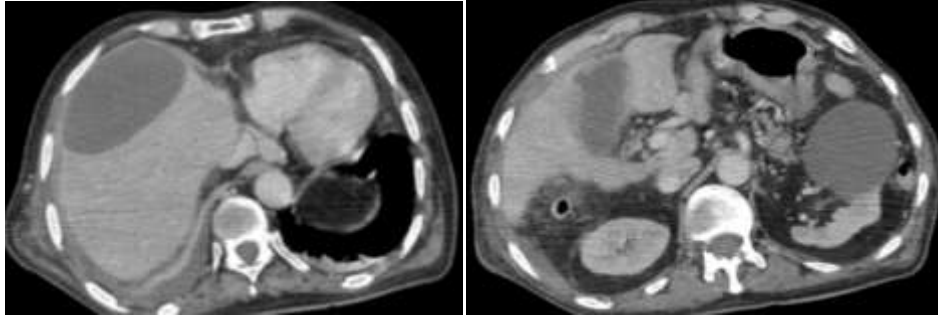


Figure 1:- Computed tomography scan with intravenous contrast in the axial plane showing (A) hypodense subcapsular and (B) a thickened gallbladder wall with the entrance of the fistula feeding off the biloma (yellow arrow).

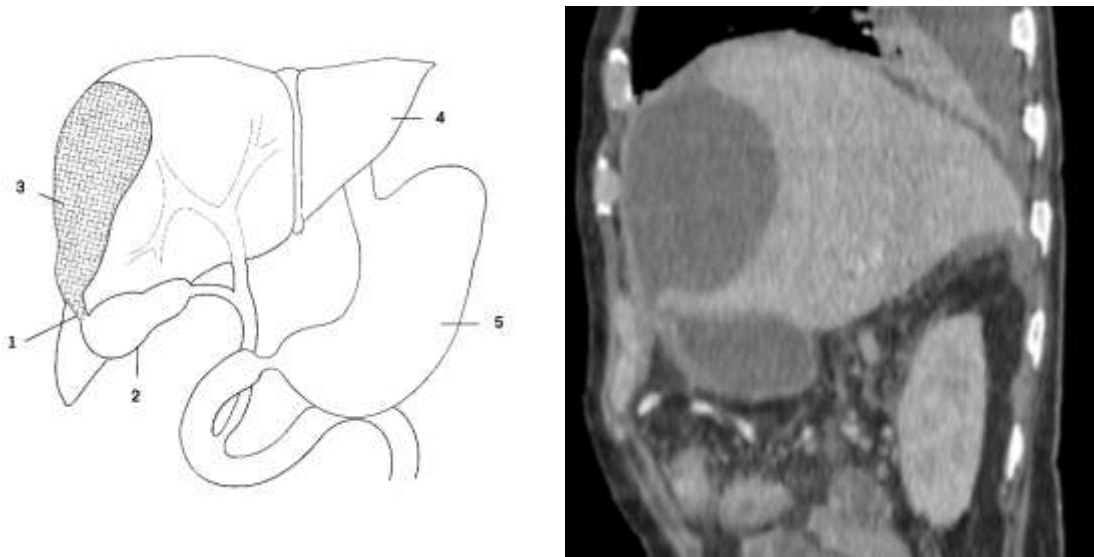


Figure 2:- Reconstructed Computed tomography scan with intravenous showing (C) the trajectory of the fistula (yellow arrow) starting from the gallbladder wall to the biloma. (D) An illustrative representation of the case: 1: gallbladder-Biloma fistula, 2: inflamed gallbladder, 3: subcapsular biloma, 4: liver, 5: stomach.

Discussion:-

Bilomas are fairly rare accounting up to 2% of biliary tract pathologies and are associated with high mortality if the diagnosis was late [1,2]. There is no sexual predilection and are found in patients in their sixth and seventh decades of life [3]. The most frequent etiology is iatrogenic with cases raging from patient with history of cholecystectomy, liver biopsy, radiofrequency ablation, and transcatheter arterial chemoembolization.[1] Rarely, bilomas are caused by acute cholecystitis or hepatic abscess, or biliary tract tumors [4].

In the case we hereinreport, the biloma was spontaneous and developed in the course of a couple weeks as a result of a fistula forged between the inflamed gallbladder and the subcapsular hepatic space. It is estimated that 2 to 10% of bilomas are associated with acute cholecystitis [5]. We theorize two reason for the genesis of the fistula in our case: The first proposed mechanism is intracholecystic hypertension resulting in calculi impacting the gallbladder wall responsible of the fistula .Second theory is raised intraductal pressure caused by obstruction from recurrent gallstone stone leading to bile leakage via weak spots in the gallbladder wall due to ischemia and necrosis triggered by the intense inflammatory reaction.

Biloma is frequently suggested thanks to ultrasound's findings, because of its simplicity, availability and quickness. But US's findings are not specific. Findings suggesting biloma include anechoic fluid collection with low-level internal echoes, well-defined margins, and absence of vascularization in Doppler ultrasound. The presence of internal septa suggests an infected biloma.[1] These findings are nonspecific and the spectrum of its mimickers may include abscess, hematoma, hepatic cysts, cystic seromas, and cystic peritoneal metastases, which explains the necessity of employing CT and MRI as second level imaging methods. Contrast-enhanced CT gives a more accurate

view of the location of the biloma; a hypodense collection (5 to 25 Hounsfield units), the underlying cause, and the detection of small bilomas. [7] On the MRI, a biloma may present a heterogeneous signal intensity in a T1-weighted image and a homogeneous hyperintensity in a T2-weighted image. [6] In some cases, an MR cholangiopancreatography can locate the exact area of a biliary leakage. [1]

The treatment of spontaneous bilomas essentially based on a percutaneous drainage usually with a pigtail catheter. Drainage via endoscopic ultrasonography is a new option, which provides an attractive alternative to percutaneous or surgical drainage [8,9]. In our case, along the drainage the patient received rounds of broad-spectrum antibiotic to cool off the cholecystitis and help reduce the shunt of bile going through the fistula. It has shown excellent outcomes. Endoscopic intervention or surgery was the second resort in case of a remaining active fistula leakage. In conclusion, a spontaneous biloma secondary to a gallbladder is an unusual disease. An early diagnosis is essential to prevent potentially life-threatening complications. Treatment is essentially conservative in most cases.

Teaching points

1. Spontaneous biloma is a very rare entity and might be caused by a leakage of bile directly from the gallbladder via a fistula.
2. CT and ultrasound facilitate early diagnosis, and prompt treatment.
3. Interventional ultrasound-guided drainage is the go-to method that helps prevent serious complications.

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