

HEPATIC BILOMA: CLINICAL AND ANATOMICAL CONSIDERATIONS. A CASE REPORT

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ABSTRACT

Introduction: *Hepatic biloma is a rare clinical condition whose main feature is an abnormal intra- or extra-hepatic bile collection. The diagnosis is usually evaluated on the basis of clinical history and is confirmed by mean of imaging.*

Case presentation: *In the paper that follows, a case of 38-old male who reported accidental trauma eight month earlier has been described. An ultrasound scan confirmed the presence of two intrahepatic bilomas. Moreover, the authors offer a full contextualization further detailing this rare condition.*

Conclusion: *Bile leaks is a rare complication usually secondary to abdominal non-invasive or mini-invasive surgery and abdominal trauma. Nevertheless, the widespread of imaging methods led its frequency to increase. Therefore, biloma should be considered in any patient who is admitted for post-traumatic abdominal lesion or has difficulties in the early post-operative period.*

Keywords: *ultrasound; Doppler; sport medicine; bicycling; epididymal cyst; ectasia rete testis.*

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Introduction

Biloma is a localized extra biliary collection of bile (either extrahepatic or intrahepatic). Generally, it is located next to hepatic or biliary structures, mostly within the hepatic parenchyma and rarely in the peritoneum or abdominal wall⁽¹⁾. It is rare clinical condition, ranging its incidence from 0.3%-2%^(2,3) and it may occur spontaneously or secondary to a traumatic or iatrogenic lesion in the biliary tract. The former is described as a duct perforation with no definable cause, and it is extremely rare in adults⁽⁴⁻⁶⁾. Conversely, iatrogenic biloma is a relatively more common condition and its causes are mainly surgery related including cholecystectomy, percutaneous transhepatic cholangiography, liver biopsy, biliary drainage, endoscopic retrograde cholangiopancreatography (ERCP), radiofrequency

ablation, liver donor transplantation and abdominal trauma⁽³⁾. It is likely associated to choledocholithiasis or bile duct tumors, hepatic infarction, and abscess⁽⁷⁾.

Patients suffering from this condition usually refer highly non-specific symptoms like fever, leukocytosis, abdominal pain in the upper right or left quadrant and abdominal distension. Asymptomatic bilomas are less frequent^(4, 7-9). Furthermore, according to Shankar and coworkers⁽⁷⁾ bilomas frequently occur in the right upper quadrant of abdomen and can vary in size and volume ranging up to 40cm and maximum collection of half a liter. Frequently, it might occur in in athletes^(10, 11). On ultrasound, they are usually well-defined, anechoic collections showing posterior acoustic enhancement. Signs of ultrasound complexity including internal echoes, septations, and thick or irregular walls are also described.

The first case of biloma dates back to the end of the XIX, when it was firstly described by Whipple in 1898⁽¹²⁾ but it was named in 1979 after Gould and coworkers. They described the case of a patient reporting an abdominal trauma, resulting in extrahepatic bile leakage, and subsequently encapsulated biloma without any signs of peritonitis. Therefore, the authors defined biloma as an extrahepatic post-traumatic bile collection⁽¹³⁾.

Generally, the diagnosis of this condition requires precise clinical history and imaging techniques. Here-in, the authors offer a full contextualization of this rare clinical complication, report the case of a post-traumatic liver biloma in a physically active 38-old male and briefly discuss how to diagnose and manage such lesions.

Case presentation

A 38-year-old man reporting a tumefaction in the upper quadrant of the abdomen was admitted for a routine ultrasound examination of the abdominal region. Recently, he had retired from sport activity. His clinical history did not include any recent surgical procedure. Nevertheless, he reported abdominal a contact trauma occurred about 8 months before.

Ultrasound examination of the abdomen revealed the presence of two centimetric, contiguous, well-defined, rounded, anechoic lesions with thin walls (Figure 1A). Color Doppler sonograms showed complete absence of vascularity inside these lesions (Figure 1B). Therefore, based on the imaging findings, ultrasound scans suggested the presence of two intrahepatic bilomas.

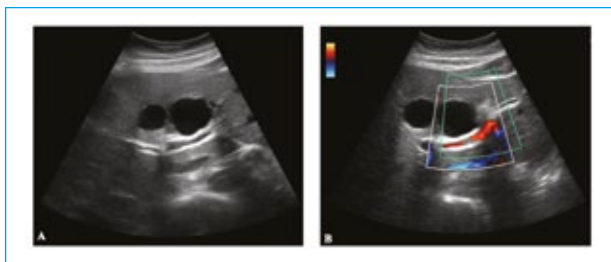


Figure 1: B-Mode ultrasound (A) and Color-Doppler images (B) obtained using a multi-frequency (2.5–5 MHz) convex probe shows two the presence of two centimetric, contiguous, intrahepatic bilomas.

Discussion

Nowadays, radiological techniques are easy to perform and widely available⁽¹⁴⁾. Also, the recent outbreak of imaging techniques has allowed these diagnostic methods to become a life-saving tool.

Moreover, ultrasound examination is a non-invasive procedure, and is less costly compared to computed tomography or magnetic resonance. Therefore, it is often the preferred imaging modality in evaluation of abdominal pain. Furthermore, bile duct injuries represent one of the most serious complications following hepatobiliary surgical procedures and abdominal trauma and might have great impact on the quality of life of the patients. The alkaline characteristic of bile triggers inflammation in the surrounding parenchyma leading to adhesion and demarcation of the biliary collection. Moreover, Würstle and coworkers have recently demonstrated that in case of infection the predominant pathogens isolated from bilomas were multiresistant strains of *Enterococcus* spp. and *Enterobacteriaceae*. Therefore, if not treated, they might evolve in life-threatening complications like peritonitis, sepsis, cholangitis or external biliary fistulae^(15,16). Therefore, early diagnosis and appropriate management is essential. Biloma management may vary according to its dimension. Generally, if the leak is small and biloma is asymptomatic, it might resolve spontaneously within a few weeks or remain stable. Nevertheless, if the bilomas is larger in size and whenever the patient reports a related symptomatology (fever, severe right upper quadrant tenderness, elevated white blood cell count, elevated bilirubin level and altered pattern of liver enzymes), treatments may require either endoscopic management, percutaneous intervention or surgical drainage^(17,18).

Although biloma remains a rare clinical complication, its frequency is increasing. Moreover, bile leak might represent a real challenge for sonographer as well as clinicians^(19,20). Therefore, biloma should be pondered in the differential diagnosis of any patient who is admitted for post-traumatic abdominal mass as well as is in the early stage of the post-surgical period.

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