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Case report

Tuberculous common bile duct stricture mimicking a cholangiocarcinoma: A case report ☆,☆☆,★

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ABSTRACT

Biliary involvement during abdominal tuberculosis is extremely uncommon and represents a challenging diagnosis that can easily be mistaken for a malignant etiology. We report the case of a 40 years old male who presented with anorexia, chronic abdominal pain, and progressive obstructive jaundice. Abdominal computed tomography demonstrated distal narrowing with wall thickening of the main biliary duct, along with enlarged lymph nodes and signs of portal hypertension. Abdominal magnetic resonance imaging showed a long distal biliary stricture, suggestive of malignancy, with dilated intrahepatic radicles. The diagnosis of cholangiocarcinoma was initially suggested. However, given his young age and other imaging findings, the patient underwent laparoscopic biopsy which revealed epithelioid cell granuloma with caseating necrosis consistent with tuberculous origin.

Introduction

Tuberculosis (TB) is a potentially fatal disease that is endemic in developing countries. Abdominal TB is frequently seen, however, hepatobiliary involvement is rare, as it represents 1% of extra-pulmonary locations [1]. On the other hand, isolated biliary involvement especially common bile duct stricture remains extremely uncommon. TB is known as a great mimicker that has variable clinical and radiological presentations, hence it is difficult to diagnose and requires clinical, radiological, and often pathological arguments.

Case presentation

We report the case of a 40 years old male who presented with anorexia, chronic abdominal pain, and progressive obstructive jaundice evolving for 15 days. The patient had no significant

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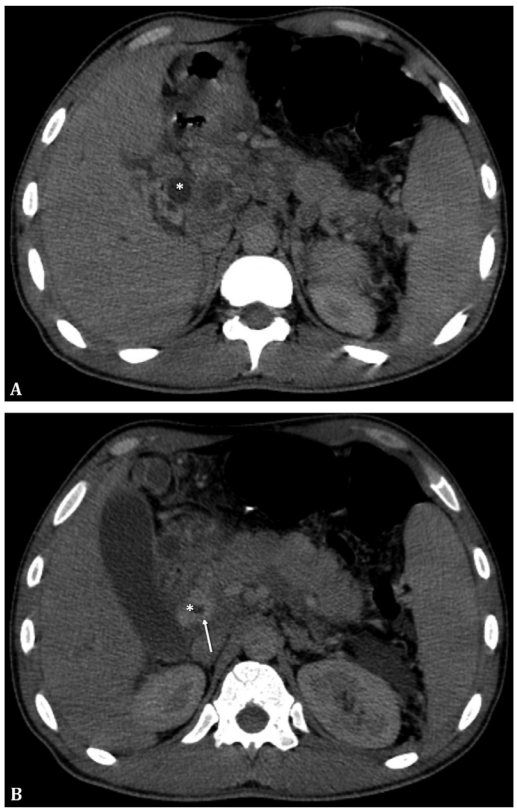


Fig. 1 – Axial abdominal CT scan images showing distal narrowing of the common biliary duct (asterix) with a thick, hyper-enhancing wall (arrow).

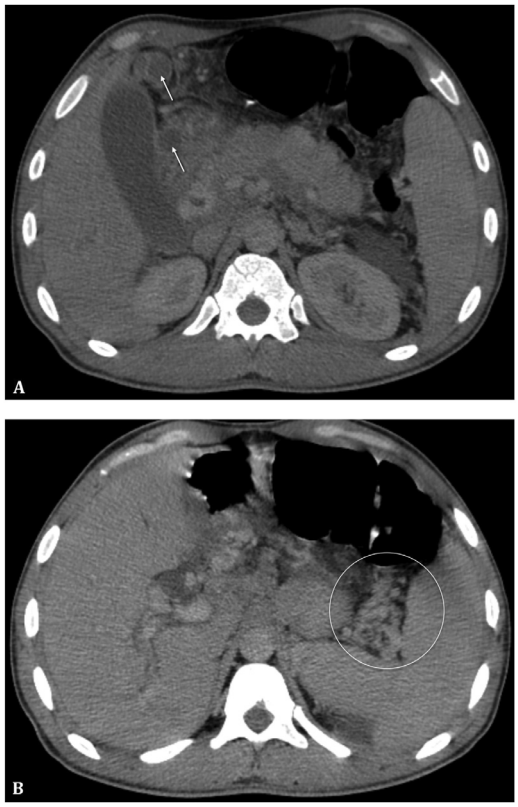


Fig. 2 – Axial abdominal CT scan images demonstrating enlarged lymph nodes with central necrosis (arrows) with collateral venous circulation (circle).

medical history. Physical examination revealed jaundice and scleral icterus without stigmata of chronic liver disease. Liver function tests were consistent with cholestatic jaundice.

Abdominal ultrasonography performed initially, revealed homogeneous hepatomegaly with dilatation of extrahepatic bile duct (15 mm) together with dilated intrahepatic radicles without evident obstruction. Besides, it showed mild ascites.

Abdominal computed tomography (CT) performed afterward, revealed distal narrowing of the common biliary duct (CBD), with a thick, hyper-enhancing wall in the portal phase, together with upstream dilatation of the gall bladder, extra and intrahepatic biliary tree (Fig. 1). It also showed enlarged perisplenic, mesenteric, and porta hepatis lymph nodes with central necrosis, compressing the portal vein associated with collateral venous circulation (Figs. 2, 3), hepatomegaly, and splenomegaly. Mild peritoneal effusion was also noted (Fig. 4). Thoracic CT showed no abnormalities.

Abdominal magnetic resonance imaging (MRI) was performed to assess the CBD narrowing; as a malignant lesion was suspected. It revealed an 18mm long, asymmetric stricture of the distal BCD, with luminal irregularity and 4mm wall thickening that showed hyperenhancement relative to liver parenchyma during portal phase (Fig. 5), resulting in upstream dilatation of the gall bladder and biliary ducts. It also revealed signs of proximal biliary tree cholangitis and signs of portal hypertension.

MRI findings were consistent with malignant biliary stricture and the diagnosis of cholangiocarcinoma was initially suggested. However, CT findings such as multiples lymphadenopathy with central necrosis, peritoneal effusion along the young age of our patient were suggestive of a less aggressive etiology; hence biliary TB was suggested. The patient then underwent a celioscopic lymph nodes biopsy which revealed epithelioid cell granuloma with caseating necrosis (Fig. 6).

Discussion

Tuberculous extra-hepatic biliary obstruction is often secondary to extrinsic lymph nodal compression [2]. Biliary stricture is an extremely rare condition that was first reported by Fan et al in 1989 [3]. It can involve any segment of the extrahepatic bile duct, but hilar strictures are more frequent [2].

Biliary tree contamination may be caused by 3 different processes; the spread of caseous material from the portal tracts into the bile ducts, dissemination from periportal adenitis, and ascending spread of caseous material through the ampulla of Vater [4]. Clinical symptoms are nonspecific, including anorexia, abdominal pain, jaundice, weight loss [5] …

Imaging modalities do not provide a definitive diagnosis, however, they can assist the diagnosis. Abdominal ultrasonography and CT can demonstrate the biliary tree

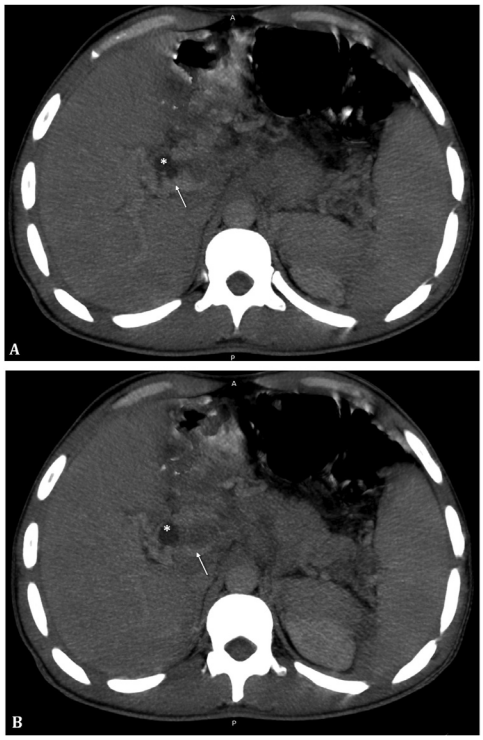


Fig. 3 – Axial abdominal CT scan images demonstrating enlarged lymph node of porta hepatis (asterix) compressing the portal vein (arrow).

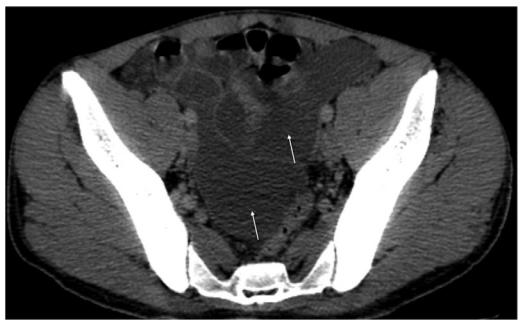


Fig. 4 – Axial abdominal CT scan image demonstrating peritoneal effusion (arrows).

dilatation, the CBD stricture, abdominal lymphadenopathy. They may also detect associated liver abscesses or tuberculomas [6]. CT shows an irregular biliary stricture circumscribed by a thickened, enhancing wall with upstream dilatation of the biliary tree. MRI helps to assess the biliary stricture which often demonstrates features suggesting malignant origin. Tuberculous stricture is usually long, asymmetric, associated with luminal irregularities and wall thickening that shows hyperenhancement relative to liver parenchyma during the portal phase [7].

The key role of the radiologist is to look for features that can help assess the tuberculous origin of biliary strictures, such as enlarged lymph nodes with central necrosis, liver

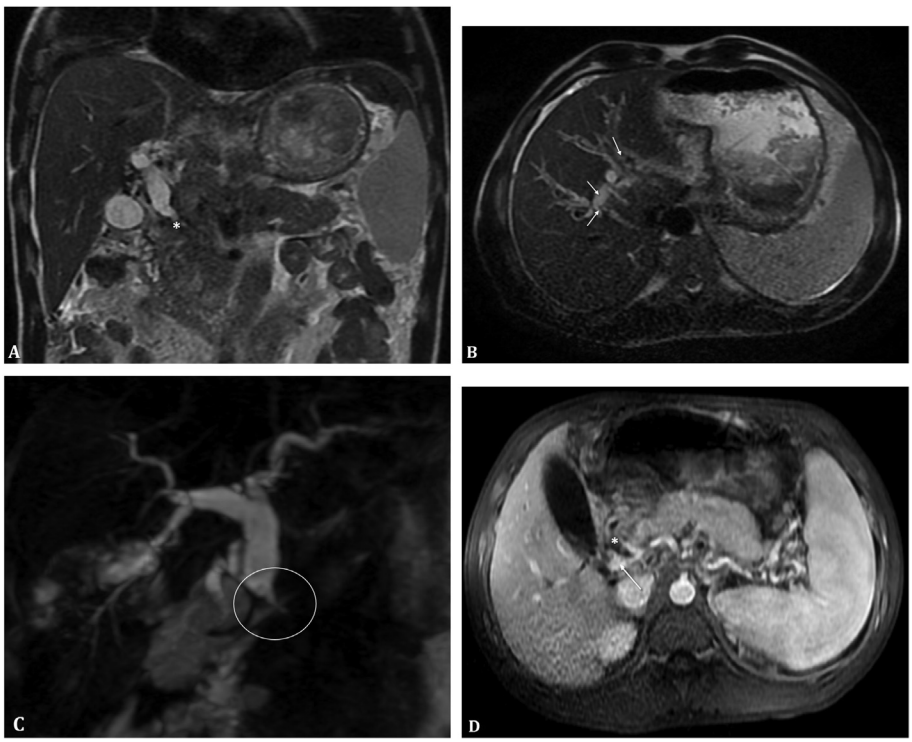
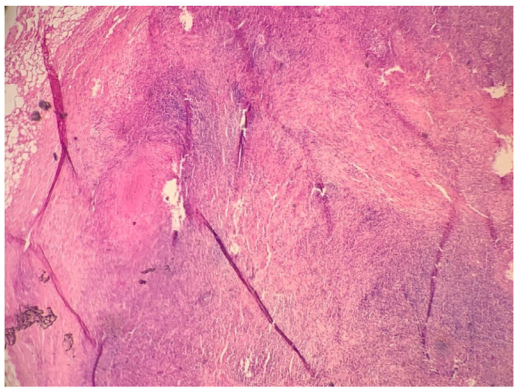
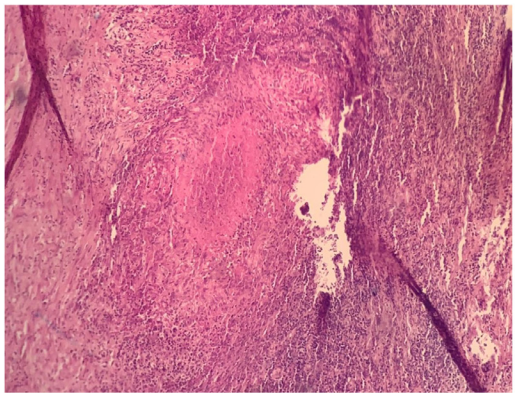


Fig. 5 – Coronal (A) and axial (B) T2-W abdominal MRI images demonstrating long stricture of the distal BCD (asterix), with upstream dilatation of biliary ducts (arrows). - (C) 3D MRCP image demonstrating stricture of the distal BCD (circle) along with upstream dilatation of biliary tree. - (D) Axial T1-W FAT SAT abdominal MRI image showing thick wall hyperenhancement (arrow) of the distal BCD (asterix).



(a)



(b)

Fig. 6 – Microphotograph of lymph node showing granuloma with caseating necrosis.

abscess or tuberculomas, peritoneal effusion, mesenteric infiltration and hyperemia, the involvement of spleen, pancreas, and gastrointestinal tract. Also, concomitant findings of pulmonary or nodal TB can help to guide the diagnosis. In our case, the patient had no extra-abdominal lesion, which made it difficult to rule out cholangiocarcinoma.

Histopathologic evidence of caseous granuloma and/or demonstration of TB bacilli is the only method that provides a definite diagnosis. A specimen can be obtained by laparoscopic biopsy, ultrasound-guided needle aspiration, or even by bile aspiration or brush cytology during Endoscopic retrograde cholangiopancreatography [8-9].

Biliary TB is a curable disease that requires early diagnosis and prompt treatment to prevent biliary stenosis, cirrhosis, and portal hypertension complications, and on the other hand, to avoid unnecessary surgical intervention in case it is mistaken for a malignant lesion. Treatment includes medical antituberculous therapy and endoscopic intervention to divert bile flow to the duodenum [10].

Conclusion

TB is an uncommon cause of biliary stricture that can mimic cholangiocarcinoma. Hence, it should be considered within the differential diagnosis in young patients presenting with cholestatic jaundice and suggestive imaging findings.

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