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LETTER TO THE EDITOR

Response letter to "Acute cholangitis: Does malignant biliary obstruction *vs* choledocholithiasis etiology change the outcomes?" with imaging aspects

Sonay Aydin, Baris Irgul

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Abstract

Radiological imaging findings may contribute to the differentiation of malignant biliary obstruction from choledocholithiasis in the etiology of acute cholangitis.

Key Words: Malignant biliary obstruction; Choledocholithiasis; Acute cholangitis; Dilated bile ducts; Magnetic resonance cholangiopancreatography; Endoscopic retrograde cholangiopancreatography

Core Tip: In malignant biliary obstructions, irregular walls, increased wall thickness, and blunt termination are seen in the choledochal duct. In choledocholithiasis, stones are seen in the lumen and the choledochal walls are regular.

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TO THE EDITOR

We were intrigued by the paper "Acute cholangitis: Does malignant biliary obstruction *vs* choledocholithiasis etiology change the clinical presentation and outcomes?" by Tsou *et al*[1]. This study primarily examined laboratory data to dis-tinguish

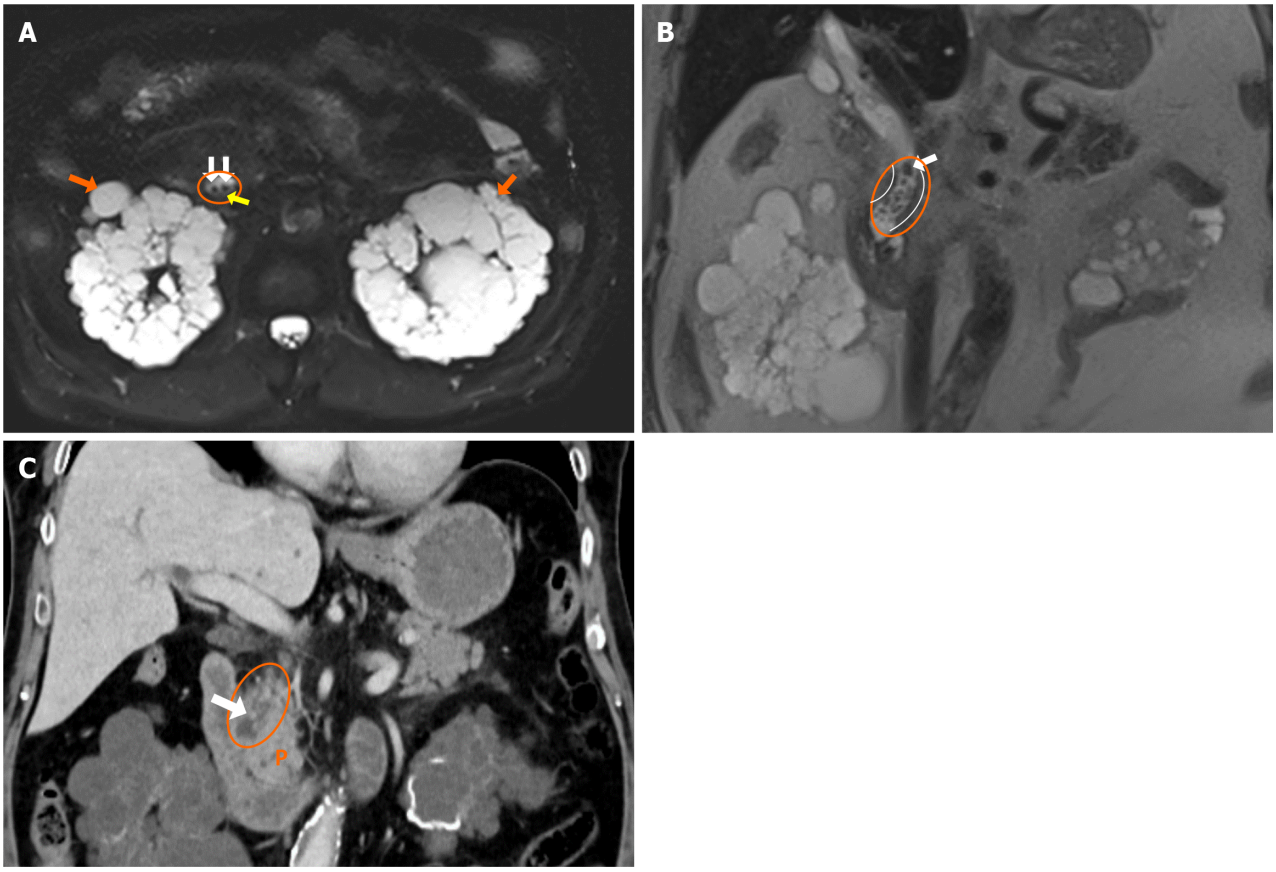

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Figure 1 Choledochal obstruction caused by calculus. A: Fat-suppressed T2 WI shows calculus (white arrows) in the dilated choledochal duct (circle) and bile sludge (orange arrow). The patient also has autosomal dominant polycystic kidney disease (orange arrows); B: HASTE coronal image shows calculus (white arrow) in the dilated choledochal duct (circle) with smooth borders (curved lines); C: Coronal computed tomography image shows a dilated choledochal duct (circle) with calculus (white arrow) P: Pancreas.

between malignant biliary obstruction and obstruction caused by stones and underscored it's significance. However, the study did not investigate the role and significance of imaging in this differentiation. In this letter to the editor, we aim to highlight the crucial imaging indicators for the aforementioned differentiation.

In the current era of medical imaging, which offers a wide range of imaging techniques from basic radiographs to advanced magnetic resonance imaging (MRI) scans, the role of the radiologist is to assist the physician in choosing the appropriate imaging method and addressing important patient care issues. Ultrasound (US) is used as a preliminary method to screen for biliary obstruction, but it cannot accurately establish the severity and cause of obstructive jaundice. Therefore, further imaging with techniques like contrast enhanced computerized tomography and magnetic resonance cholangiopancreatography (MRCP) are necessary as they are more effective in providing accurate diagnostic information. MRCP has become the preferred method for examining biliary obstruction, with endoscopic retrograde cholangiopancreatography being reserved for patients who are more likely to require therapeutic intervention[2].

The Tokyo Guidelines are employed for the diagnosis of acute cholangitis. According to these criteria, acute cholangitis can be diagnosed based on signs of systemic inflammation, cholestasis, and imaging results[3]. Calculi and dilatation can be observed in the bile ducts on US and computed tomography (CT) scans due to the presence of stones in acute cholangitis caused by choledocholithiasis. MRCP scans reveal signal attenuation caused by the presence of calculi. The bile duct walls exhibit a rather slender and sleek shape[4] (Figure 1).

Acute cholangitis caused by malignant biliary obstructions is characterized by the enlargement of the biliary tract, which can be detected using US, CT, and MRCP, similar to the presentation in cases of choledocholithiasis. Furthermore, intraductal mass lesions are present, with extensive segments of contrasting bile duct walls that are uneven and thicker (> 1.5 mm). Additionally, blunt terminations in the bile ducts caused by distal tumoral lesions are visible[4] (Figure 2).

In conclusion, while certain imaging findings have been identified to distinguish between cancer and stone-induced blockages, there is currently no universally accepted approach or finding to definitively differentiate between the two. If a routinely used imaging modality like MRCP reveals any secondary finding that indicates malignant blockage, multiphase-dynamic CT/MRI is recommended for optimal evaluation of nearby organs such as the biliary system and pancreas. In addition, US is sufficient to explain the etiology of biliary obstructions such as stones. When the cause of obstruction cannot be found with US, second- and third-level imaging techniques such as CT, MRI, or endoscopic ultrasonography are needed; however, their unnecessary overuse should be avoided.

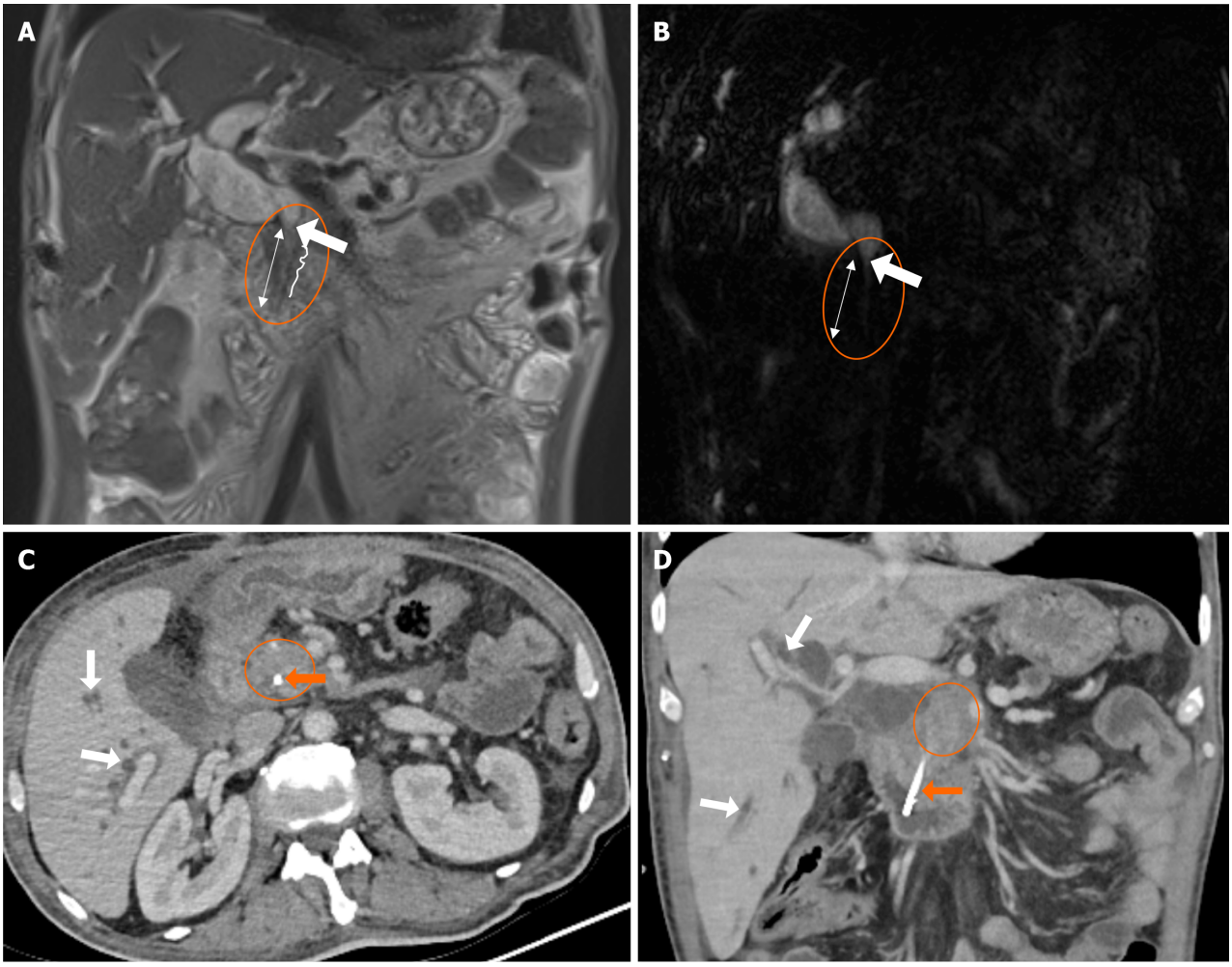

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Figure 2 Choledochal involvement of a pancreatic mass. A and B: Coronal T2 WI and coronal magnetic resonance cholangiopancreatography images. The dilated choledochal duct (circle) abruptly narrows bluntly (white arrow) and continues narrowly in a long segment more distally (two-headed arrow). Contour irregularities (serrated lines) are seen on the distal walls of the choledochal duct; C and D: Post-treatment axial and coronal computed tomography images of the same patient show an irregularly bordered, hypodense, heterogeneous, solid mass lesion (circle) in the head of the pancreas, stent material extending from the duodenum to the pancreas (orange arrow), and dilated intrahepatic bile ducts (white arrow).

FOOTNOTES

Author contributions: Aydin S and Irgul B conceived and designed the analysis, collected the data, wrote the paper and performed the analysis.

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