



Pyogenic hepatic abscess mimicking mass-forming cholangiocarcinoma



Neil Mehta MD¹, Jay Kanaparthy MD¹, Nicholas Talabiska¹, Hany Eskarous MD², Carolyn Hogan MD²

¹Temple University Hospital, Department of Medicine, Lewis Katz School of Medicine at Temple University, Philadelphia, PA

²Temple University Hospital, Department of Medicine, Section of Gastroenterology/Hepatology, Lewis Katz School of Medicine at Temple University, Philadelphia, PA

INTRODUCTION

Mass-forming cholangiocarcinoma (CC) appears as a mass with peripheral enhancement and intrahepatic duct dilatation; recognizing characteristics of CC is important for differentiation from non-tumorous lesions.

IMAGING

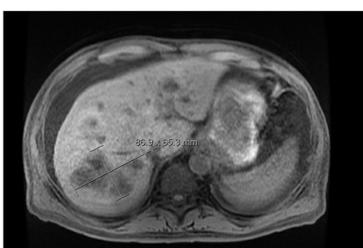


Image 1: Multilobulated T1 hypointense mass in the right hepatic lobe segment



Image 2: Features of chronic thrombosis of the portal vein and its proximal intrahepatic branches seen, with collateralization around the porta hepatis. Suspected tumor thrombus as underlying cause of thrombosis, given evidence of enhancement within the thrombosed main portal vein

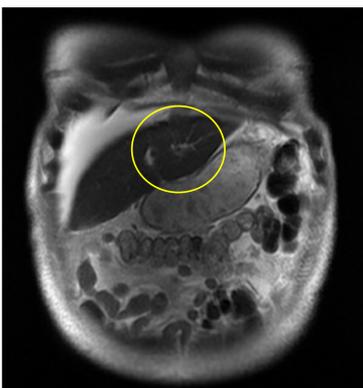


Image 3: Coronal T2 weighted image of the abdomen demonstrating increased linear intrahepatic signal within the left hepatic lobe, compatible with ductal dilatation

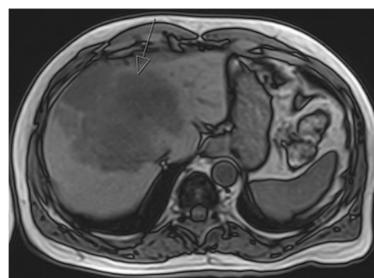


Image 4: Previously noted discrete lesions not identified, however is large area of steatosis centrally and extending into the right hepatic lobe with non-masslike areas of surrounding normal enhancing



Image 5: MRI of the abdomen with and without contrast demonstrating numerous hypoattenuating mass lesions likely necrotic, with marked parenchymal heterogeneity, with features highly suspicious of a neoplastic, most likely metastatic etiology

CASE

A 58-year-old male with a PMH of diabetes mellitus presented to a local ED with a one-month history of fatigue, malaise, chills and abdominal pain. At our institution, laboratory studies showed WBC count 58 K/ μ L with 57% neutrophils, total bilirubin 2.1 mg/dL, direct bilirubin 1.8 mg/dL, AST 270 IU/L, ALT 47 IU/L, ALP 529 IU/L. CA 19-9 was significantly elevated at 1,586 U/mL; CEA and AFP were within normal limits. Hepatitis panel was negative. His alcohol intake was social. He had no recent travel history. Broad-spectrum antibiotics were started.

CT abdomen/pelvis (CTAP) with and without contrast showed necrotic features of the liver with concern for malignancy. MRI revealed multiple T2 hyperintense masses throughout the liver with lesions in the perihilar region and right hepatic lobe with distribution along the biliary tree, with focal areas of intrahepatic biliary ductal dilation, as well as features of chronic thrombosis of the portal vein, concerning for CC versus metastasis (Images 1-3, Image 5). CT chest and CT head were negative for metastasis. TTE was negative for valvular vegetations. An IR-guided liver biopsy revealed granulomatous inflammation with multinucleated giant cells and no evidence of malignancy. AFB stain was negative. IR-guided aspiration of abscesses did not yield growth and blood cultures were also negative. ID favored treating for *Strep* species as it is commonly associated with this presentation and is readily sterilized with ABX. Following stabilization, he was discharged on a 6-week course of amoxicillin/clavulanic acid.

Concern for malignancy was high and the patient had repeat CTAP which showed significant decrease in the liver lesions. PET CT did not show increased metabolic activity in the liver. The patient had an ERCP with further tissue sampling and no malignancy was identified. Comprehensive chronic liver disease work-up was unrevealing. CA 19-9 and LFTs had also normalized. A repeat CTAP 6 months later revealed disappeared hepatic masses (Image 4) and resolution of bile duct obstruction, and resolution of symptoms.

DISCUSSION

Pyogenic hepatic abscesses typically result from an infectious process of bacterial origin associated with destruction of the hepatic parenchyma and stroma. *E. coli*, *Klebsiella*, *Enterobacter*, and *Strep* spp. are the most commonly isolated microorganism. In our case, the patient received antibiotics prior to blood culture collection, explaining the negative cultures.

Our case presents as multiple hepatic masses with proximal ductal dilatation with progressive enhancement on CT and MR imaging. These features represent typical mass-forming cholangiocarcinoma. The biliary dilatation may be a secondary finding of the underlying fibrotic stricture or may itself signify an unseen small tumor. However, in this patient, the biliary dilatation had completely disappeared at follow up CT following treatment with antibiotics, suggesting that biliary dilatation had occurred due to the abscess itself.

KEY POINTS

- Mass-forming CC appears as a mass with peripheral enhancement and intrahepatic duct dilatation; oftentimes, invasive tissue sampling is necessary for differentiation from non-tumorous lesions
- Hepatic abscesses are frequently caused by intrabdominal pathogens, such as *E. coli*, *Klebsiella*, and *Strep* spp.

REFERENCES

