

Fifteen-Year Evolution of a Rare Hepatic Cystic Lesion: A Case Report

Anni Chowdhury DO; William Tung, MD; Margaret Skaug, MD; Sreeram Parupudi MD, FACP, FACG,
University of Texas Medical Branch

INTRODUCTION

Hepatic Cysts (HC) are often common incidental findings on Computed Tomography (CT) scans which enlarge silently for years before identification. Here we describe a rare etiology in a patient with hypercoagulable status.

CASE DESCRIPTION

54 year old female with recurrent deep vein thrombosis due to elevated Factor VIII levels, on oral anticoagulation, presents in 2019 for evaluation of incidentally found abdominal cystic lesion. She was asymptomatic. Detailed review of the previous imaging was performed. Initial CT in 2006 showed a 1.1cm hypodense lesion in an enlarged left lobe that extended far to left of midline to anterior to the spleen. (Fig 1). A 2014 MRI showed evidence of a diminutive left portal vein with associated atrophy of the hepatic parenchyma (Fig 2.). This was followed with serial imaging and by 2021, the lesion measured 7.7 x 8.5cm (Fig 3). Due to gradual increase in size and mass effect on the stomach (Fig 4) endoscopic ultrasound (EUS) was performed for further evaluation, which showed a well-defined, lobulated, anechoic and cystic lesion with no associated solid mass (Fig 5). Fine needle aspiration (FNA) yielded a clear, colorless fluid devoid of malignant cells. Fluid Carcinoembryonic antigen (CEA) level was 15.2ng/mL. Immunohistology positive for Epithelial Antigen.

IMAGES

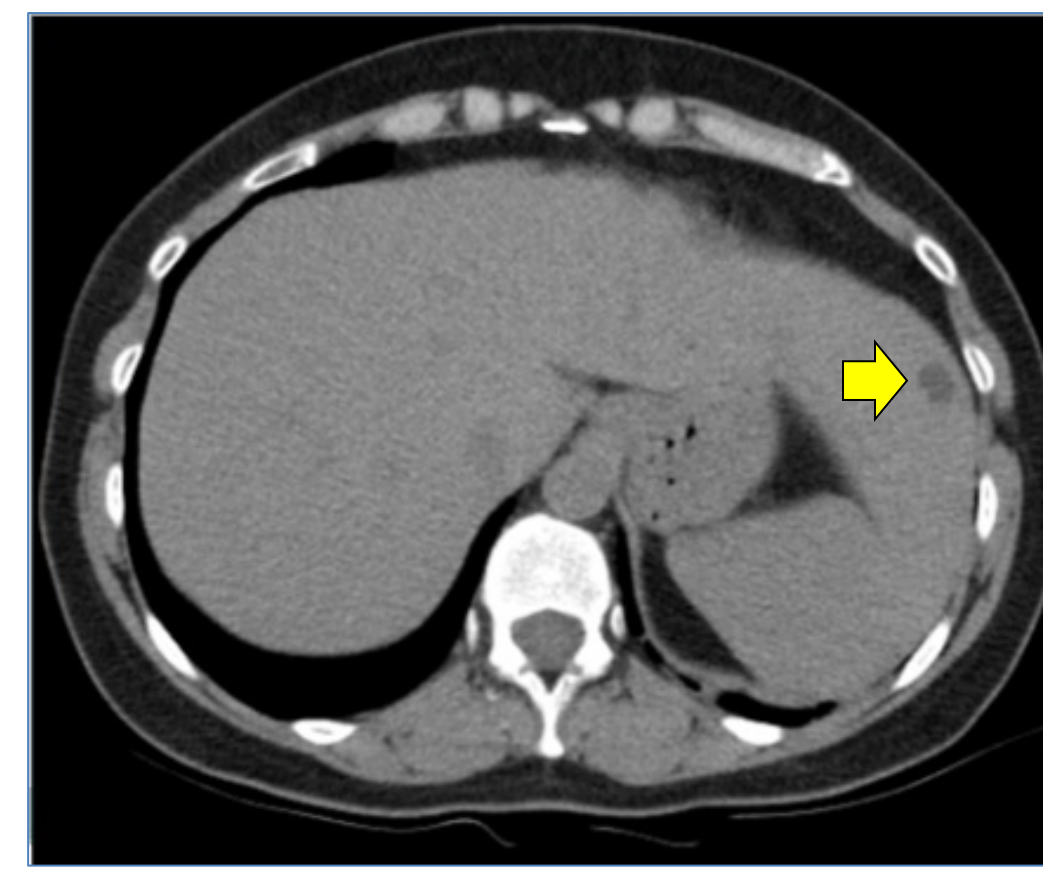


Image 1. Figure 1: CT A/P without contrast (Mar 2006): The left hepatic lobe is large and extends anterior to the spleen in the left upper quadrant. A 1.1cm well-circumscribed hypodensity in hepatic segment II is present and likely represents a small hepatic cyst (yellow arrow).



Image 2,3. Axial image (Image 2) from a CT with contrast from June 2014 demonstrates interval left hepatic lobar atrophy; atrophic parenchyma is observed bridging to a now larger cystic structure (red arrow). Coronal image (Image 3) from the same examination shows a diminutive vs absent left portal vein (blue arrow)

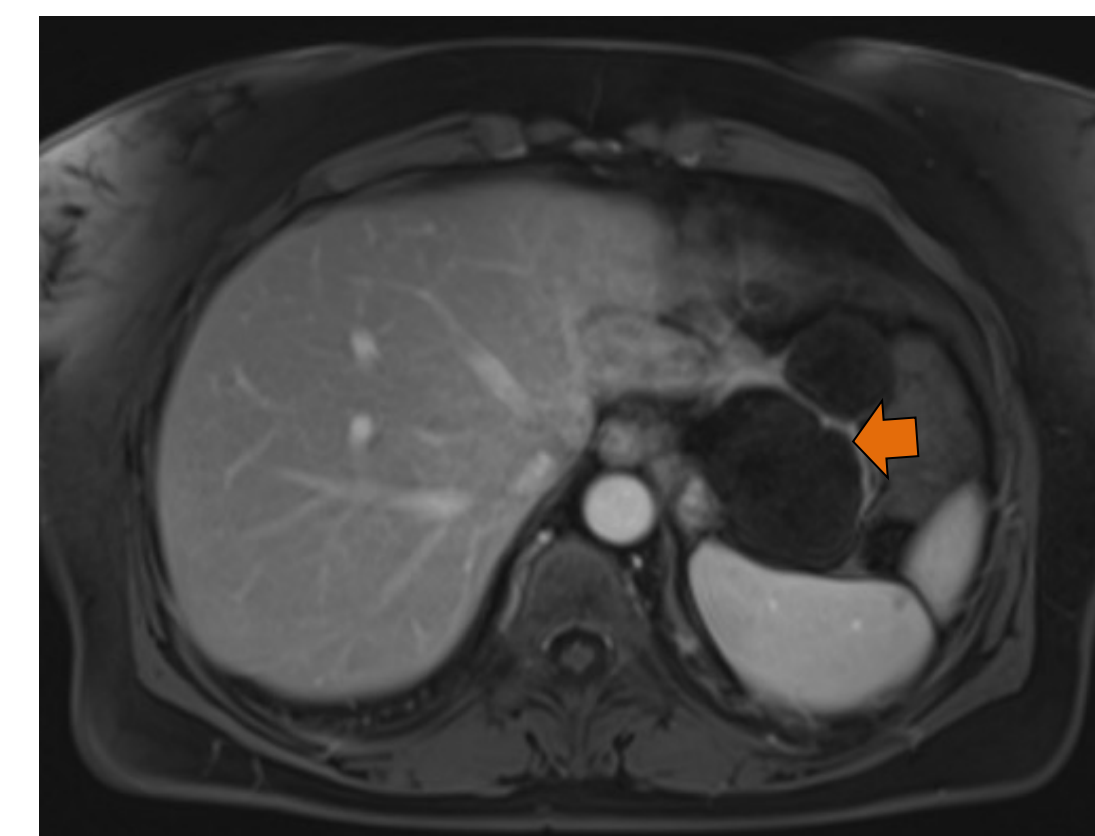


Image 4. 2021 MRI Abdomen: Notable for a 7.7 x 8.5 x 4.0cm multiloculated, encapsulated T2 hyperintense and T2 hypointense cystic structure (orange arrow) present along the greater curvature of the stomach and splenic hilum in the left subphrenic space

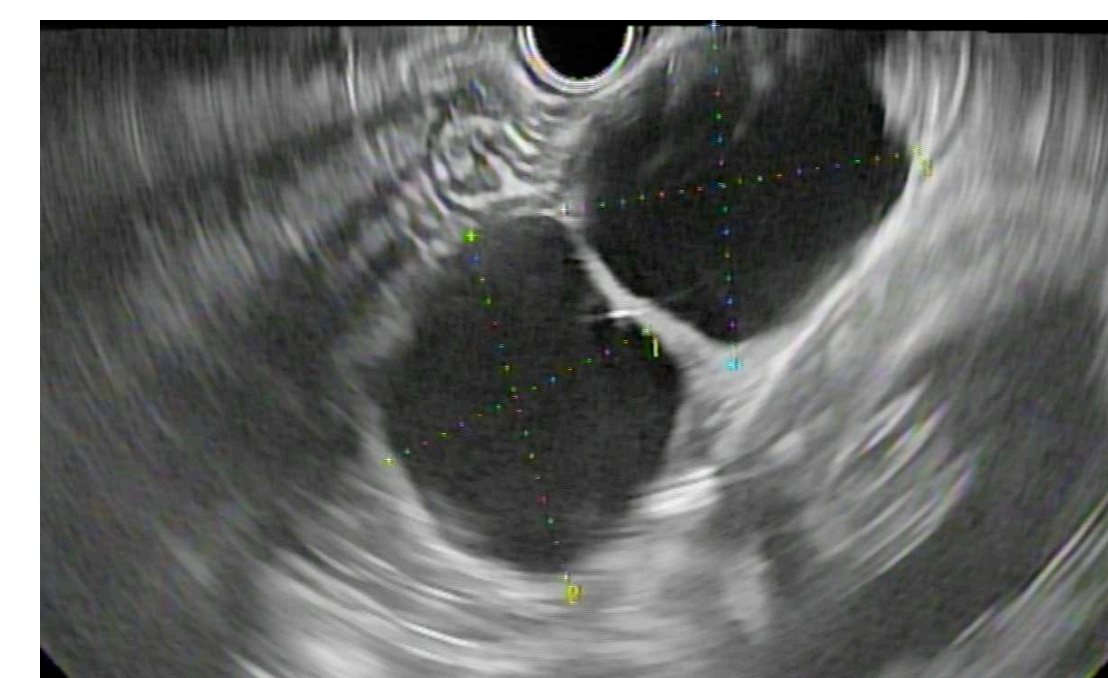


Image 5. EUS 2022. An anechoic and multi-cystic mass measured 48 mm by 45 mm in maximal cross-sectional diameter. The endosonographic borders were well-defined.

DISCUSSION

HCs are found in 5% of the population and remain clinically insignificant. Larger cysts can present with pain, biliary obstruction, hemorrhage or intraperitoneal rupture. On ultrasound, HCs are anechoic fluid-filled lesions with imperceptible walls and posterior acoustic enhancement. FNA can help identify HCs with atypical sonographic appearance as they are lined by cuboidal epithelium similar to bile duct cells, have elevated carbohydrate antigen (CA) 19-9 levels and low CEA levels.

CONCLUSIONS

- Elevated factor VIII levels caused hypercoagulable state in which idiopathic PVT¹ occurred
- Diversion of portal venous flow from hepatocytes caused loss of hepatotrophic substances leading to hepatic atrophy
- Considering the evolution of the cyst morphology on serial imaging, non-bilious fluid on aspiration, and a low fluid CEA, this cyst was considered a benign, non-mucinous simple cyst that enlarged over time in the background of left portal vein thrombosis (PVT) due to her hypercoagulable state and resultant to left lobar atrophy

REFERENCES

1. Mark D. Kovacs, Douglas H. Sheafor, Philip F. Burchett, Melissa M. Picard, Andrew D. Hardie, Differentiating biliary cystadenomas from benign hepatic cysts: Preliminary analysis of new predictive imaging features, *Clinical Imaging*, Volume 49, 2018, Pages 44-47
2. Dalliah M Black, Kevin E Behrns, A scientist revisits the atrophy-hypertrophy complex: Hepatic apoptosis and regeneration, *Surgical Oncology Clinics of North America*, Volume 11, Issue 4, 2002, Pages 849-864
3. Blonski WC, Campbell MS, Faust T, Metz DC. Successful aspiration and ethanol sclerosis of a large, symptomatic, simple liver cyst: Case presentation and review of the literature. *World J Gastroenterol* 2006; 12(18): 2949-2954
4. Seo JK, Kim SH, Lee SH, Park JK, Woo SM, Jeong JB, Hwang JH, Ryu JK, Kim JW, Jeong SH, Kim YT, Yoon YB, Lee KU, Kim SH, Kim MA. Appropriate diagnosis of biliary cystic tumors: comparison with atypical hepatic simple cysts. *Eur J Gastroenterol Hepatol*. 2010 Aug;22(8):989-96

CONTACT

Anni Chowdhury
University of Texas Medical Branch
Internal Medicine
Email: annchowd@utmb.edu