THUMBNAIL GALLBLADDER:
A RARE CASE REPORT FOR A COMMON PATHOLOGY

Dr. Gaby Cordero M.D.[a], Dr. Hanna Lateef M.D.[a], Dr. Daehan Justin Yi M.D.[a],
Dr. Eric Chuang M.D.[a], Dr. Ricky Patil M.D.[a], Dr. Alexander Hien Vu M.D.[a], Dr. George Ferzli M.D., F.A.C.S.[a]
[a] Department of General Surgery, New York University Langone Health

Background

- Thumbnail gallbladder, also known as a severely contracted gallbladder, presents a surgical challenge in the context of chronic cholecystitis.
- Patients with this condition are at higher risk for open conversion and bile duct injury during cholecystectomy.
- **Pathophysiology**: Chronic inflammation of the organ and its anatomical surroundings. This causes thickening of the organ walls and contraction of the gallbladder.
- **Epidemiology**: Chronic cholecystitis is similar to that of chollithiasis where 10-20% of the world population will develop the disease. The prevalence of having a contracted gallbladder is thought to be 13 to 65 people per 100,000.
- **Diagnosis**: Ultrasound imaging, lab values, physical exam and review of symptoms.
- **Management**: May include non-operative approach with antibiotics vs. cholecystectomy.
- We report a case of thumbnail gallbladder and outline an ideal surgical approach.

Case Description

A 74-year-old female experienced recurrent right upper quadrant pain radiating to her back over the course of a year. She had a history of gastroesophageal reflux disease, confirmed by endoscopy. Her comprehensive metabolic and hepatic panels were unremarkable. An abdominal ultrasound performed months prior to surgery demonstrated a suboptimally distended, low-lying gallbladder, without evidence of calculi or biliary duct dilation. A follow-up abdominal magnetic resonance imaging (MRI) cholangiogram with 3D reconstruction failed to visualize the gallbladder, neither hypoplastic nor surgically absent. However, mild extrahepatic and central intrahepatic biliary dilation was noted, with diffuse hyperintensity on T1-weighted images, possibly due to concentrated bile or hemobilia. No choledocholithiasis or obstructing lesions were identified.



Figure 1. Contracted gallbladder specimen



Figure 2. Contracted gallbladder specimen, coronal cut

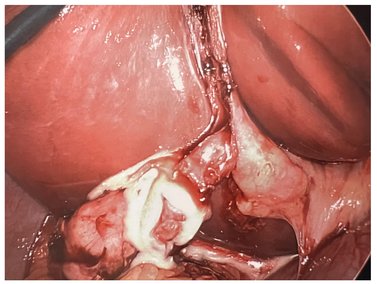


Figure 3. Laparoscopic view of gallbladder with liver exposure

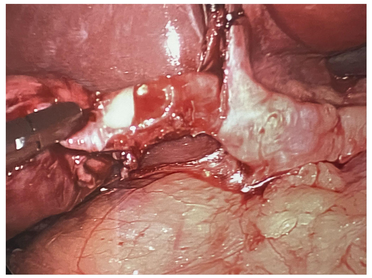


Figure 4. Laparoscopic view of gallbladder

Case Description (continued)

Due to persistent pain, a laparoscopic cholecystectomy was performed. Intraoperatively, a severely contracted, thumbnail-sized gallbladder was encountered. A posterior infundibular approach was used, preserving the Shield of McElmoyle. The resected specimen measured 3.8 x 1.6 x 1.1 cm, consisting of fibromembranous tissue with adherent yellow adipose tissue, without identifiable stones or masses. These findings were confirmed by final pathology. The patient's postoperative course was uneventful, and she was discharged the same day.

Discussion

We present a rare case of thumbnail gallbladder with acute on chronic cholecystitis revealed by cholecystectomy. The continuous inflammation forms adhesions, pericholecystic fibrosis, which may in turn distort the anatomy of Calot's triangle.

1. We propose surgical intervention when there is a high index of suspicion for cholecystitis despite confounding imaging.
2. We propose a posterior infundibular dissection to ensure the safety of critical structures during surgery.

References

1. O'Leary, D.P., et al.Beware the contracted gallbladder – ultrasonic predictors of conversion. The Surgeon, vol. 11, no. 4, Aug. 2013, pp. 187–190.
2. Yeo DM, Jung SE. Differentiation of acute cholecystitis from chronic cholecystitis: Determination of useful multidetector computed tomography findings. Medicine (Baltimore). 2018 Aug;97(33):e11851.
3. Iskandar M, Fingerhut A, Ferzli G. Posterior infundibular dissection: safety first in laparoscopic cholecystectomy. Surg Endosc. 2021 Jun;35(6):3175-3183. doi: 10.1007/s00464-020-08281-1. Epub 2021 Feb 8.

Disclosures

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