

Case Report

Case Report: Perforated Gallbladder Diagnosed on Ultrasound

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Clinical Presentation

A 65-year-old female presented to the emergency department with a sudden onset of severe right upper quadrant pain, nausea, and vomiting. The patient reported a history of intermittent right upper quadrant discomfort over the past few months. On examination, she was febrile (38.5°C) with marked tenderness and guarding in the right upper

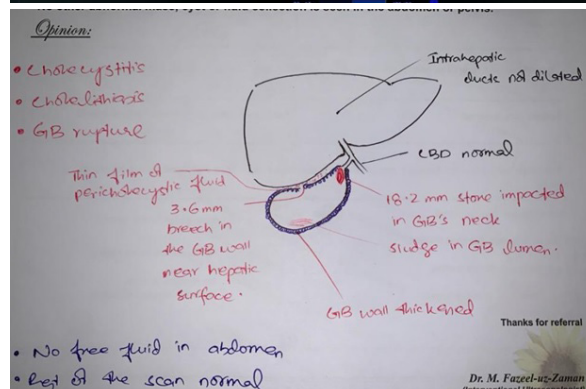
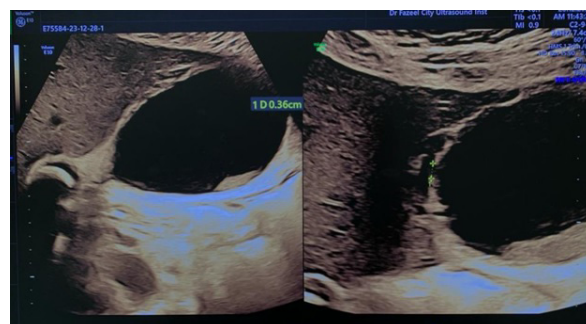
quadrant. Laboratory tests revealed leukocytosis and elevated liver enzymes.

Imaging Findings

Given the clinical presentation, an urgent abdominal ultrasound was performed. Ultrasound Findings:

1. The gallbladder was distended and showed a thickened, irregular wall.
2. A thin rim of pericholecystic fluid was noted
3. An 18.2mm stone impacted in the neck of gallbladder with sludge in the lumen of gallbladder.
4. A defect in the gallbladder wall was identified adjacent to the hepatic surface, measuring approximately 3.6mm. This finding is known as the "hole sign" and is highly specific for gallbladder perforation.
5. No free fluid was noted within the abdomen and there was no intrahepatic duct dilation.

6.
7.



Discussion

The ultrasound findings in this case are characteristic of a ruptured gallbladder.

The "hole sign," representing direct visualization of the gallbladder wall defect, is the most specific sonographic sign of perforation.

The presence of pericholecystic fluid collection, thickened gallbladder wall, and gallstones are consistent with acute cholecystitis, which likely preceded the perforation.

Gallbladder perforation is a serious complication of acute cholecystitis, occurring in 5-10% of cases. Early diagnosis is crucial, as it carries significant morbidity and mortality. Ultrasound plays a vital role in prompt diagnosis, allowing for timely surgical intervention.

Management and Outcome

Based on the ultrasound findings, the patient was immediately prepared for emergency laparoscopic cholecystectomy. Intraoperative findings confirmed a perforated gallbladder with localized peritonitis. The patient received broad-spectrum antibiotics and underwent successful cholecystectomy with drainage of the pericholecystic abscess.

Conclusion

This case highlights the importance of ultrasound in the rapid diagnosis of gallbladder perforation. The direct visualization of the wall defect (hole sign), along with other sonographic features of acute cholecystitis and pericholecystic fluid collections, allowed for prompt surgical intervention, potentially reducing the risk of further complications.