Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Radiology

Adenocarcinoma of the Gallbladder Incidentally Discovered in a Case of Acute Cholangitis: A Case Report

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DOI: https://doi.org/10.36347/sjmcr.2025.v13i02.020 | **Received:** 11.01.2025 | **Accepted:** 17.02.2025 | **Published:** 25.02.2025

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Abstract **Case Report**

The incidental discovery of a gallbladder tumor (GBT) is rare, especially in the context of acute cholangitis. We report the case of an 72-year-old patient admitted to the emergency department with clinical symptoms of cholangitis. Abdominal ultrasound revealed a suspicious tissue mass in the gallbladder associated with a bile duct stone causing biliary dilatation. An emergency abdominal CT scan was performed for further characterization. This case highlights the importance of imaging in the differential diagnosis and assessment of biliary pathologies in elderly patients.

Keywords: Gallbladder tumor (GBT), Acute cholangitis, Incidental discovery, Elderly patient, Imaging diagnosis.

INTRODUCTION

Gallbladder tumors are rare conditions often diagnosed late due to their silent progression and nonspecific clinical presentation. The incidental discovery of a GBT during an acute cholangitis episode poses diagnostic and therapeutic challenges. This case illustrates the value of combined imaging techniques (ultrasound and CT scan) in managing such pathologies.

CASE PRESENTATION

An 82-year-old man, with no notable history of biliary disease, presented to the emergency department with right upper quadrant abdominal pain, fever (38.8°C), and jaundice evolving over the past 48 hours. Clinical examination revealed tenderness in the right upper quadrant without abdominal guarding.

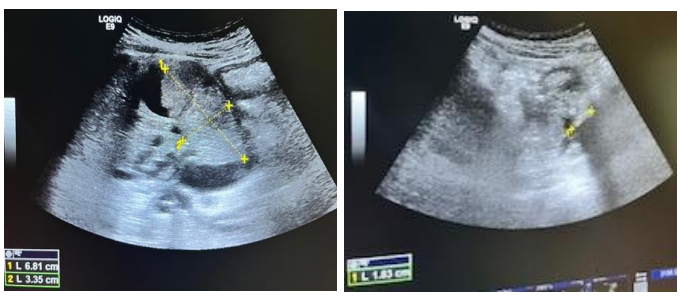
Biological Investigations:

- Blood tests showed:
- Leukocytosis: 15,000/mm³ with neutrophilic predominance.
- CRP: 87 mg/L.
- Liver function tests:
- Total bilirubin: 54 µmol/L (direct: 42 µmol/L).
- Alkaline phosphatase: 380 IU/L.
- Gamma-GT: 180 IU/L.

Radiological Investigations:

1. Abdominal Ultrasound:

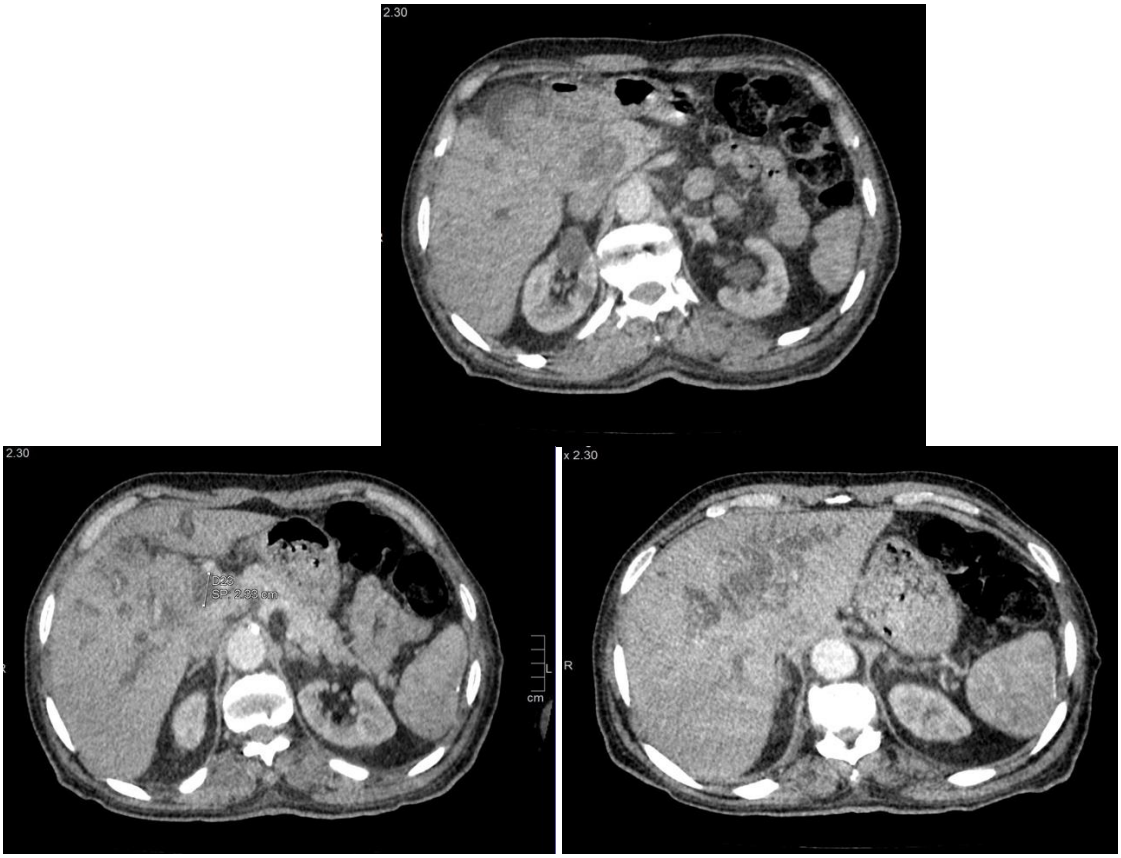
- Presence of a heterogeneous echogenic tissue mass measuring **6.8 × 3.3 cm** in the gallbladder with Doppler-detected vascularization.
- Dilatation of intra- and extra-hepatic bile ducts.
- A visible **10 mm** stone in the distal common bile duct.



Ultrasound: Heterogeneous echogenic tissue mass measuring 6.8 × 3.3 cm in the gallbladder with A visible 10 mm stone in the distal common bile duct

2. Abdominopelvic CT Scan with Contrast (MRI contraindicated due to bilateral knee prostheses):

- Confirmation of a heterogeneous tissue mass in the gallbladder enhanced by contrast, infiltrating the gallbladder wall, and strongly suggestive of malignancy.
- Dilatation of intrahepatic bile ducts and the distal common bile duct (diameter > 20 mm).
- No infiltration of adjacent structures, but inter hepato-gastric and para-aortic lymphadenopathy were observed.
- A biliary cyst in segment VI.



Abdominopelvic CT Scan: **Heterogeneous tissue mass in the gallbladder and Dilatation of intrahepatic bile ducts and the distal common bile duct**

DISCUSSION

Epidemiology and Risk Factors:

Gallbladder cancer is the fifth most common digestive tumor, with a higher incidence in women and elderly patients. Major risk factors include gallstones, porcelain gallbladder, biliary cysts, and certain chronic infections (e.g., Helicobacter spp.).

Diagnosis and Role of Imaging:

The initial diagnosis often relies on imaging:

- Abdominal ultrasound is the first-line investigation for evaluating cholangitis and detecting suspicious abnormalities such as masses or gallbladder wall thickening.
- Abdominal CT provides better precision in assessing locoregional extension, identifying metastases, and differentiating benign (e.g., polyps, adenomyomas) from malignant lesions.
- MRI plays a crucial role in the diagnosis of gallbladder tumors, particularly in cases where other imaging modalities are inconclusive. With its superior soft-tissue contrast and ability to provide detailed anatomical and functional information, MRI is highly effective in characterizing gallbladder masses, differentiating benign from malignant lesions, and assessing locoregional invasion. The addition of MR cholangiopancreatography (MRCP) enhances the evaluation of the biliary tree, identifying bile duct obstruction or stones.

The patient underwent a cholecystectomy with histopathological examination of the surgical specimen, which confirmed the diagnosis.

Management:

The initial management of cholangitis includes:

- Empirical antibiotic therapy covering Gram-negative and anaerobic bacteria.
- Biliary drainage (via endoscopic or percutaneous approaches) in cases of persistent obstruction.

For the gallbladder mass, cholecystectomy with lymph node exploration is indicated if the patient is operable. An intraoperative frozen section biopsy is required to confirm malignancy.

CONCLUSION

This case underscores the importance of thorough evaluation of anomalies detected during investigations for cholangitis in elderly patients. Combining ultrasound and CT imaging enables precise diagnosis, essential for guiding management. A multidisciplinary approach is required to optimize outcomes, especially in suspected biliary tumors.

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