

Xanthogranulomatous Cholecystitis: Diagnostic and Surgical Challenges

A Case Report

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Acute xanthogranulomatous cholecystitis (XGC) is a rare inflammatory condition of the gallbladder characterized by marked xanthomatous and granulomatous changes within the gallbladder wall(1).

The pathophysiology of XGC involves severe inflammation, fibrosis, and lipid-laden macrophage infiltration, often mimicking the presentation of gallbladder carcinoma. Clinically, XGC manifests with right upper quadrant pain, fever, and signs of systemic inflammation, such as elevated C-reactive protein (CRP) and leukocytosis.

This overlap in clinical features with acute and chronic cholecystitis complicates preoperative differentiation from malignant gallbladder lesions.

Radiologically, imaging findings such as gallbladder wall thickening, intramural nodules, fluid collections, and calcifications can further mimic carcinoma, especially in its pseudotumoral form. Definitive diagnosis relies on histopathological evaluation, which reveals granulomatous inflammation, multinucleated giant cells, and foam cells without evidence of malignancy(2). Intraoperative frozen section analysis is critical in excluding malignancy when imaging and clinical findings are equivocal.

Surgical management of XGC poses significant challenges. While laparoscopic cholecystectomy remains the standard treatment, conversion to open surgery is often required due to dense adhesions, distorted anatomy, and risk of bile duct injury.

This underscores the necessity for an experienced surgical team and careful intraoperative assessment.

The described case of a 43-year-old diabetic male with XGC highlights these diagnostic and therapeutic complexities. Despite severe inflammation and elevated tumor markers (ACE: $8\mu\text{g/l}$, CA 19-9: 56 U/mL), histopathology confirmed a benign diagnosis. Radiologically, CT imaging revealed features suggestive of XGC, including asymmetric or nodular gallbladder wall thickening, hypodense intramural areas corresponding to xanthogranulomas and microabscesses, and pericholecystic fat stranding indicating inflammation extension. This case emphasizes the importance of considering XGC in atypical gallbladder presentations and integrating

radiological (Figure 1 et 2), intraoperative, and histopathological findings to prevent unnecessary extensive surgeries while ensuring optimal patient outcomes.



Figure 1



Figure 2

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Consent

Written informed consent was obtained from the patient for the publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Conflict of interest

No conflict of interest to disclose.

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