

Case Report

Gallbladder carcinoma presenting as hemorrhagic cholecystitis in a patient living with HIV: a diagnostic challenge

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Received: 08 July 2026

Accepted: 13 August 2026

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ABSTRACT

Hemorrhagic cholecystitis is an uncommon but potentially life-threatening surgical emergency characterized by hemorrhage into the gallbladder lumen. Although it is usually associated with severe inflammation, trauma, anticoagulant therapy, or vascular disorders, its occurrence secondary to gallbladder carcinoma is exceedingly rare. Intraluminal hemorrhage may obscure an underlying malignancy, posing a diagnostic challenge. A 39-year-old woman living with HIV on antiretroviral therapy presented with severe right upper quadrant pain and fever of one day's duration. Ultrasonography and contrast-enhanced computed tomography demonstrated a markedly distended gallbladder with heterogeneous hyperdense intraluminal contents, suggestive of hemorrhagic acalculous cholecystitis. In view of the acute abdomen, an emergency open cholecystectomy was performed. The gallbladder was grossly distended and contained approximately 100 ml of organized blood clot. Gross examination of the resected specimen revealed an irregular intraluminal mass. Histopathological examination demonstrated a poorly differentiated gallbladder carcinoma invading the muscular layer (pT1b). Retrospective review of the preoperative CT images revealed an enhancing intraluminal lesion that had been masked by hemorrhagic contents. Gallbladder carcinoma should be considered in patients presenting with hemorrhagic cholecystitis, particularly when imaging demonstrates focal intraluminal abnormalities. This case highlights the diagnostic challenge posed by intraluminal hemorrhage and underscores the importance of meticulous gross examination and routine histopathological evaluation of all cholecystectomy specimens to identify occult malignancy.

Keywords: Hemorrhagic cholecystitis, Gallbladder carcinoma, HIV, Acute abdomen, Emergency cholecystectomy

INTRODUCTION

Gallbladder carcinoma (GBC) is the most common malignancy of the biliary tract and is characterized by aggressive biological behavior and poor prognosis. Because early disease is frequently asymptomatic or mimics benign gallbladder pathology, many patients present with advanced stage disease or are diagnosed incidentally following cholecystectomy.¹⁻³

Hemorrhagic cholecystitis is an uncommon variant of acute cholecystitis resulting from hemorrhage into the gallbladder lumen. Proposed mechanisms include mucosal ischemia, transmural inflammation, vascular erosion, trauma, anticoagulant therapy, and neoplastic ulceration. Patients typically present with acute right upper quadrant pain, fever, and occasionally gastrointestinal bleeding or hemoperitoneum.⁴

Gallbladder carcinoma presenting as hemorrhagic cholecystitis is exceedingly rare. Extensive intraluminal

hemorrhage may conceal the underlying neoplasm on preoperative imaging, delaying diagnosis until surgery or histopathological examination.⁵ We report a rare case of poorly differentiated gallbladder carcinoma presenting as hemorrhagic acalculous cholecystitis in a young woman living with HIV.

CASE REPORT

A 39-year-old woman with HIV infection for the past 10 years on regular antiretroviral therapy presented with severe right upper quadrant abdominal pain and fever for one day. There was no history of abdominal trauma, anticoagulant therapy, or bleeding disorders.

Clinical findings

Physical Examination: The patient was febrile (100°F) and tachycardic. Abdominal examination revealed severe right upper quadrant tenderness with localized guarding.

Laboratory investigations showed anemia (hemoglobin 8.5 g/dl), markedly elevated transaminases (AST 786 U/l, ALT 480 U/l), mildly hyperbilirubinemia, normal leukocyte count, and preserved immune status (CD4 count 460 cells/mm³).

Radiological evaluation

Ultrasonography demonstrated an overdistended gallbladder measuring 8.3 × 4.2 cm, containing heterogeneous hypoechoic intraluminal contents. The gallbladder wall could not be clearly distinguished from the luminal contents, and no internal vascularity was identified. No gallstones were visualized.

Contrast-enhanced CT (CECT) of the abdomen demonstrated a distended gallbladder with hyperdense intraluminal contents, initially interpreted as hemorrhagic acalculous cholecystitis (Figure 1).



Figure 1: Contrast-Enhanced CT showing an enhancing intraluminal lesion within the gallbladder body with adjacent hemorrhagic content.

Given the acute presentation and imaging findings, emergency surgery was undertaken.

Operative findings

Emergency open cholecystectomy was performed. The gallbladder was markedly distended without evidence of perforation. Approximately 100 mL of organized intraluminal blood clot was evacuated after opening the specimen (Figure 2).



Figure 2: Intraoperative photograph showing the grossly distended gallbladder.



Figure 3: Cut-open specimen demonstrating an irregular grey-white friable lesion arising from the body of the gallbladder.

During gross examination of the cut-open specimen, an irregular grey-white friable lesion arising from the body of the gallbladder was identified, raising suspicion for malignancy (Figure 3).

Histopathological examination

The final pathological diagnosis was a poorly differentiated (Grade 3) adenocarcinoma invading the muscular layer (pT1b). (Figure 4A, 4B).

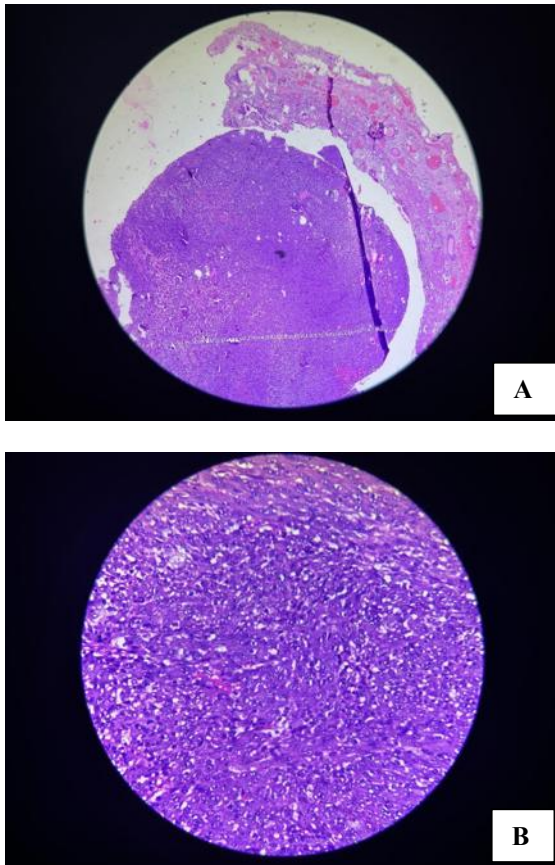


Figure 4: (A) Low-power photomicrograph (H&E, ×40/×100) demonstrating a poorly differentiated carcinoma replacing the gallbladder wall with diffuse infiltration into the muscular layer; (B) Hematoxylin and eosin (H&E) showing diffuse sheets of poorly differentiated malignant epithelial cells with marked nuclear pleomorphism and hyperchromasia.

Radiological correlation

Following histopathological confirmation of gallbladder carcinoma, retrospective review of the preoperative CT images revealed an enhancing intraluminal lesion that had been obscured by intraluminal hemorrhage, consistent with an underlying gallbladder neoplasm.

DISCUSSION

Hemorrhagic cholecystitis is a rare complication of acute cholecystitis resulting from hemorrhage into the gallbladder lumen. It has been reported in association with anticoagulant therapy, trauma, vasculitis, chronic kidney disease, and severe inflammation. Gallbladder carcinoma as the underlying cause of hemorrhagic cholecystitis is exceedingly uncommon and may present a significant diagnostic challenge, as intraluminal hemorrhage can obscure the underlying tumour on preoperative imaging.^{4,5} A review of the published literature identified only a handful of cases of gallbladder carcinoma presenting as hemorrhagic cholecystitis. In most reports, patients presented with acute abdomen and

underwent emergency cholecystectomy for presumed acute cholecystitis.

The diagnosis of gallbladder carcinoma was established only after gross examination of the specimen or subsequent histopathological evaluation. Consistent with previous reports, our patient presented with hemorrhagic acalculous cholecystitis, and the underlying poorly differentiated pT1b gallbladder carcinoma was diagnosed only after emergency surgery.⁵⁻⁸

The coexistence of gallbladder carcinoma in a young woman living with HIV further adds to the uniqueness of our case. Although people living with HIV have an increased risk of several malignancies, gallbladder carcinoma is not considered an HIV-associated malignancy, and only isolated reports have described this association.⁹

This case highlights the importance of maintaining a high index of suspicion for underlying malignancy in patients presenting with hemorrhagic cholecystitis, particularly when imaging demonstrates focal intraluminal abnormalities. Careful gross examination and routine histopathological evaluation of all cholecystectomy specimens remain essential for the diagnosis of occult gallbladder carcinoma.^{2,5}

CONCLUSION

Gallbladder carcinoma should be considered in patients presenting with hemorrhagic cholecystitis, particularly when imaging demonstrates focal intraluminal abnormalities. This case highlights the diagnostic challenge posed by intraluminal hemorrhage and underscores the importance of meticulous gross examination and routine histopathological evaluation of all cholecystectomy specimens to identify occult malignancy.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to the departments of Surgical Gastroenterology, Radiology, Pathology, and Medical Oncology for their invaluable collaboration in the multidisciplinary management of this patient.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Seetharaman G, Lakshmanan A, Chandrasekaran S, Ambedkar C. Gallbladder carcinoma presenting as hemorrhagic cholecystitis in a patient living with HIV: a diagnostic challenge. *Int Surg J* 2026;13:1795-8.