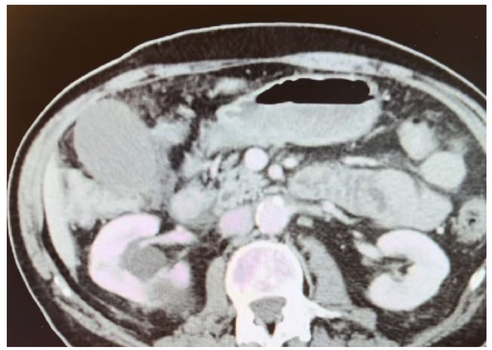
Metastatic Journey: Squamous Cell Carcinoma's Rare Spread to the Gallbladder

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BACKGROUND

- Hepatobiliary surgery occasionally presents rare cases that challenge diagnostic and surgical capabilities.
- Metastatic spread to the gallbladder is uncommon, particularly from squamous cell carcinoma.
- Early recognition and proper surgical management are crucial for optimal outcomes.

DIAGNOSTIC'S



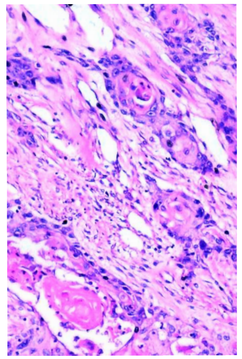


Figure 1: Coronal slices of CT Thoracic Abdomen and Pelvis without contrast: Gallbladder Distention
Figure 2: Histology of Squamous Cell's in the Gallbladder

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CASE DESCRIPTION

A 68-year-old male presented to the hospital with right upper quadrant abdominal pain, accompanied by nausea and vomiting that had been worsening over two days, particularly after meals. His medical history was significant, including recurrent metastatic squamous cell carcinoma of the head and neck for which he had undergone multiple rounds of neck radiation, surgical resection, chemotherapy, and immunotherapy. Additionally, he had a history of atrial fibrillation, follicular lymphoma, and COPD requiring 3L NC O2 at home.

Initial workup revealed anemia, with a total bilirubin of 0.4 and AST/ALT within normal limits. A right upper quadrant ultrasound showed gallbladder thickening without evidence of cholecystitis or cholelithiasis. CT A/P with contrast demonstrated increased gallbladder distention and wall thickening with mild intrahepatic biliary ductal dilation. A subsequent HIDA scan showed non-visualization of the gallbladder despite morphine challenge, consistent with acute cholecystitis and cystic duct obstruction. MRCP findings included acute cholecystitis, mild intrahepatic ductal dilation with peribiliary edema suggestive of cholangitis, and no discrete stones or choledocholithiasis, raising concern for possible cystic duct stenosis.

Based on these findings, the patient was scheduled for robotic cholecystectomy. The intraoperative scenario proved to be exceptionally challenging. Upon exploration, we found the gallbladder and cystic duct to be grossly gangrenous. We utilized ICG cholangiography to identify the biliary anatomy intraoperatively, which proved invaluable given the distorted tissue planes. Interestingly, the distal cystic duct, once dissected free, was noted to be non-necrotic.

The pathology report following cholecystectomy revealed a surprising finding: the gallbladder contained a malignant epithelioid/squamoid tumor measuring 1.5cm, accompanied by gangrenous cholecystitis. Moreover, the cystic margins were positive for malignancy. Despite the complexity of the case, the patient's postoperative course was uncomplicated.

DISCUSSION

This case presents several remarkable aspects that warrant thorough discussion. The initial presentation as acute cholecystitis, which effectively masked the underlying malignant pathology, demonstrates the complex nature of diagnosis in patients with prior malignancy. Despite employing multiple imaging modalities including ultrasound, CT, HIDA scan, and MRCP, the metastatic disease remained undetected until pathological examination. This underscores a significant limitation in our current imaging capabilities for detecting gallbladder metastases. The absence of cholelithiasis or choledocholithiasis, while not initially raising alarm, retrospectively serves as a reminder to maintain higher suspicion in high-risk patients with atypical presentations.

From a surgical perspective, the case presented unique technical challenges. The robotic approach, enhanced by ICG cholangiography, proved invaluable in navigating the distorted and inflamed anatomy safely. The presence of gangrenous changes added significant complexity to an already challenging dissection, requiring meticulous surgical technique and careful tissue handling. The discovery of positive cystic duct margins on final pathology further emphasizes the importance of thorough surgical dissection and careful specimen examination.

This case makes a significant contribution to the limited literature on gallbladder metastases from head and neck squamous cell carcinoma. It demonstrates the critical importance of considering malignancy in patients with a prior cancer history, even when presenting with seemingly benign conditions. Furthermore, it highlights the value of advanced surgical techniques in complex hepatobiliary cases, particularly when dealing with unexpected findings and challenging anatomy.

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