

Post-ERCP hepatic subcapsular hematoma.

A case report

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Case Report

General Surgery



Background:

We report a 51-year-old female native to Chihuahua, Mexico, with no significant medical history, initially diagnosed with acute cholecystitis based on clinical and laboratory findings. An laparoscopic cholecystectomy was performed, revealing a cholecystocholedochal fistula and pyocholecyst. Due to the inability to achieve a critical view of safety, a partial reconstructive cholecystectomy was performed. ERCP was subsequently performed to manage residual lithiasis, involving sphincterotomy and biliary stent placement. After ERCP, the patient developed melena and clinical signs of anemic syndrome. Hematologic studies revealed a hemoglobin level of 7.9 mg/dL, prompting an abdominal ultrasound, which indicated perihepatic fluid and right paracolic gutter fluid. A non-contrast abdominal CT scan confirmed the presence of perihepatic fluid and a subcapsular hepatic hematoma. Due to the acute abdomen presentation, surgical intervention was performed, resulting in complete drainage of the hematoma and a favorable clinical outcome.

Keywords: Hepatic hematoma, ERCP.

Endoscopic Retrograde Cholangiopancreatography (ERCP) is widely recognized as the preferred procedure for managing biliary obstruction due to conditions such as choledocholithiasis, cholangiocarcinoma, and pancreatic head cancer, as well as associated infections like cholangitis. Although ERCP is generally safe, complications including pancreatitis (8%), bleeding (3%), biliary perforation (0.3%), and cholangitis (0.5%) are documented. Subcapsular hepatic hematoma is a rare complication, warranting further attention for early diagnosis and management.

Case report

A 51-year-old female presented with epigastric pain radiating to the right hypochondrium and ipsilateral interscapular space, positive Murphy's sign, oral intolerance, jaundice, and fever. Laboratory tests: hemoglobin: 13.3 g/dL, hematocrit: 40%, leukocytes: $15.9 \times 10^3/\mu\text{L}$, neutrophils: $14.4 \times 10^3/\mu\text{L}$, platelets: $197 \times 10^3/\mu\text{L}$, creatinine: 1.58 mg/dL, urea: 47 mg/dL, glucose: 126 mg/dL, AST: 127 U/L, ALT: 236 U/L, total bilirubin: 5.85 mg/dL, indirect bilirubin: 1.68 mg/dL, direct bilirubin: 4.17 mg/dL, amylase: 29 U/L. Ultrasound of the liver and biliary tract showed a gallbladder measuring $9 \times 2.7 \times 3.4$ cm, with a wall thickness of 4 mm, and a 10 mm hyperechoic image suggestive of a gallstone. Due to the clinical and laboratory findings indicative of cholangitis, urgent exploratory laparotomy was performed, revealing

Mirizzi syndrome Csendes II, pyocholecyst, and limited visualization of critical structures, leading to a partial reconstructive cholecystectomy. Subsequent ERCP identified a residual 5 mm choledocholithiasis and a biliary fistula, managed with sphincterotomy and placement of a biliary stent.

48 hours post-ERCP, the patient developed mane and tachycardia. Control labs revealed hemoglobin 7.7 g/dL, hematocrit 23%, leukocytes $11.7 \times 10^3/\mu\text{L}$, platelets $162 \times 10^3/\mu\text{L}$, sodium 137 mmol/L, chloride 101 mmol/L, potassium 3.0 mmol/L, calcium 7.2 mg/dL, phosphorus 2.5 mg/dL, magnesium 1.7 mg/dL, creatinine 0.45 mg/dL, urea 39.3 mg/dL, glucose 106 mg/dL, total bilirubin 0.9 mg/dL, direct bilirubin 0.63 mg/dL, indirect bilirubin 0.27 mg/dL, AST 29 U/L, ALT 16 U/L, gamma-glutamyl transferase 92 U/L. An abdominal ultrasound identified perihepatic fluid without an apparent source, prompting a non-contrast abdominal CT scan, which confirmed perihepatic subcapsular fluid (Fig. 1). Urgent surgical intervention was performed, draining a 400 cc subcapsular hepatic hematoma and placing a Penrose drain. A control CT 24 hours post-drainage confirmed adequate evacuation (Fig. 2). The patient demonstrated significant improvement, resuming oral intake without nausea or vomiting, and received a transfusion of 3 erythrocyte concentrates, resulting in a hemoglobin level of 10.2 g/dL. Peristaltic sounds and stools without mane were present. After 72 hours of post-surgical follow-up, it was decided to discharge

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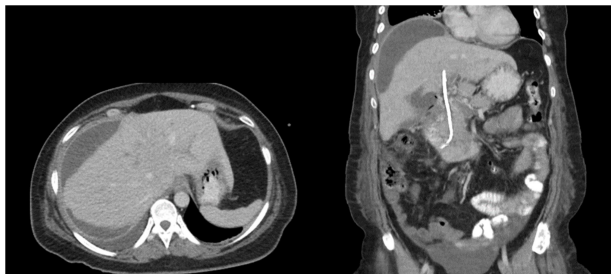


Figure 1. CT scan axial and coronal slice showing hepatic subcapsular hematoma.

him with follow-up through the General Surgery and Endoscopy consultation for endoprosthesis removal.

Discussion

ERCP remains the principal procedure for managing biliary obstruction, first developed in 1968 with therapeutic interventions like sphincterotomy becoming feasible by 1974. [1,2]

While complications such as pancreatitis (8%), bleeding (3%), biliary perforation (0.3%) and cholangitis (0.5%) are well-known, subcapsular hepatic hematoma is rare. Risk factors include multiple cannulations, portal hypertension, coagulopathies, anatomical abnormalities and malignancy. [3-6]

Clinical presentation often includes abdominal pain (91%), anemia (43%), hypotension (29%), and fever (20%), with some patients remaining asymptomatic. Most symptoms (77.8%) manifest within the first 48 hours. [7,8]

Theories for hematoma formation include trauma from biliary guidewires and traction-induced damage to Glissonian pedicle vessels. Most cases resolve with conservative management, though some require vascular embolization or surgical intervention. Secondary infections emphasize the importance of prophylactic antibiotics due to the high risk of biliary contamination. [9-10]

Superinfection has been described in some cases of hematomas by *C. freundii*, in addition to *Escherichia coli*. The use of prophylactic antibiotics is imperative, there is a high risk of presenting infection secondary to contamination of germs in the bile duct. [11,12]

Diagnosis relies on imaging modalities, particularly contrast-enhanced CT for detecting active bleeding. Conservative management is preferred, with surgical intervention reserved for hemodynamic instability or peritoneal irritation. This management necessitates a multidisciplinary approach. [13-16]

Conclusion

Endoscopic Retrograde Cholangiopancreatography (ERCP) is the gold



Figure 2. Post surgical CT scan axial and coronal slice.

standard for managing biliary obstruction and related infections such as cholangitis. While complications like pancreatitis, bleeding, and biliary perforation are well-documented, Subcapsular hepatic hematomas are uncommon and seldom reported complications. It should be considered in patients with hemodynamic instability, pain, melena, or fever post-ERCP. The true global incidence is unclear, but it should be a differential diagnosis in patients with poor post-ERCP clinical evolution. Serial imaging and clinical monitoring are crucial. This case underscores the need for awareness of this condition, as it is often underdiagnosed and can lead to severe consequences.

Conflicts of interests

No conflicts of interest relevant to this article.

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