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Giant Hepatic Subcapsular Hematoma after Endoscopic Retrograde Cholangiopancreatography (ERCP): A Case Report

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ABSTRACT

Introduction: Endoscopic retrograde cholangiopancreatography (ERCP) is one of the most commonly performed minimally invasive procedures for the diagnosis and treatment of biliary and pancreatic diseases. Hepatic hematoma secondary to ERCP is a rare and potentially serious complication with few cases described in the literature.

Objective: The objective is to present a case of a giant hepatic subcapsular hematoma (HSH) secondary to ERCP, surgically resolved by laparotomy due to its recurrence and significant growth.

Case report: We present the case of a 55-year-old female patient with a history of laparoscopic cholecystectomy and subsequent ERCP due to residual choledocholithiasis. The patient presented intense abdominal pain and fever after being discharged home, so she was admitted to the general surgery service where a HSH was diagnosed. Initially, conservative treatment with imaging follow-up is indicated, however, due to growth of the hematoma and recurrence, surgical treatment is indicated.

Conclusion: Most patients respond to conservative treatment, however there will be patients who require surgical treatment, so suspecting this pathology will help provide timely treatment.

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INTRODUCTION

Endoscopic retrograde cholangiopancreatography (ERCP) is today one of the most commonly performed minimally invasive procedures for the diagnosis and treatment of biliary and pancreatic diseases.

The overall mortality rate of this procedure after diagnostic intervention is 0.2% and 0.4–0.5% after therapeutic procedure (1). In general, it´s rate of complications varies from 2.5 to 8%, including pancreatitis, cholangitis, hemorrhage and perforation (2). Hepatic hematoma is a rare but highly fatal complication after ERCP, with a global rate of <0.5% (3).

There are 61 cases described in the literature, 14 of them with rupture. In 2001, Ortega et al published the first case report. Given the low number of cases worldwide, its true incidence is unknown (4). Although bleeding is a known side effect of ERCP, it is usually related to the sphincterotomy. Bleeding from other areas such as the spleen, liver, and intestine is exceptionally rare (5).

The clinical manifestations are variable, such as abdominal pain, anemia, fever or hemodynamic shock (1). It is a complication that must be present during the differential diagnosis of those patients whose post-ERCP evolution is torpid (4). The therapeutic approach according to the literature states that it can be expectant with antibiotic therapy and intravenous fluids due to the hemodynamic stability of the patients, therefore, a surgical management is rarely necessary (3).

CASE REPORT

This is a 22-year-old female patient with no significant medical history. The condition began with the presence of crampy abdominal pain after fat intake, for which she came to emergency department. Studies were performed describing compatible images with cholecystitis, so an emergency laparoscopic cholecystectomy was performed with findings of gallbladder under tension, thickened walls, multiple stones, 5 mm cystic duct, 2 mm cystic artery and macroscopically normal liver.

At 24 hours of surgical procedure, she is discharged without complications, but after two weeks she began with jaundice of the conjunctivae and integuments, so she came back to our unit. Residual choledocholithiasis was diagnosed and ERCP was performed, reporting a 5 mm intrahepatic bile duct and a 10 mm extrahepatic bile duct, as well as a 5 mm filling defect in the distal third. Managed with sphincterotomy and balloon sweep on two occasions, with a 5 mm stone and abundant bile drainage.

Afterwards, the patient presented with pancreatitis secondary to ERCP, for which medical management was indicated. However, after one week she persists with severe abdominal pain and fever so an ultrasound was performed, finding a small collection in the right hepatic lobe. Despite the management with antibiotics, the collection evolves requiring a percutaneous drainage in which were obtained 800 ml of hematic fluid.

A simple and contrasted tomography control was performed after two weeks reporting a subcapsular hematic collection in the right lobe with measurements of 45x13x10 mm, however, as patient remains asymptomatic an expectant treatment is decided. Subsequently, several follow-up scans were performed, reporting an enlarged liver, persistence of the subcapsular hematoma in the right hepatic lobe with anechoic characteristics, initial measures of 200x160x200 mm and 1500 ml of volume, reaching 3300 ml *(Figure 1, 2)*

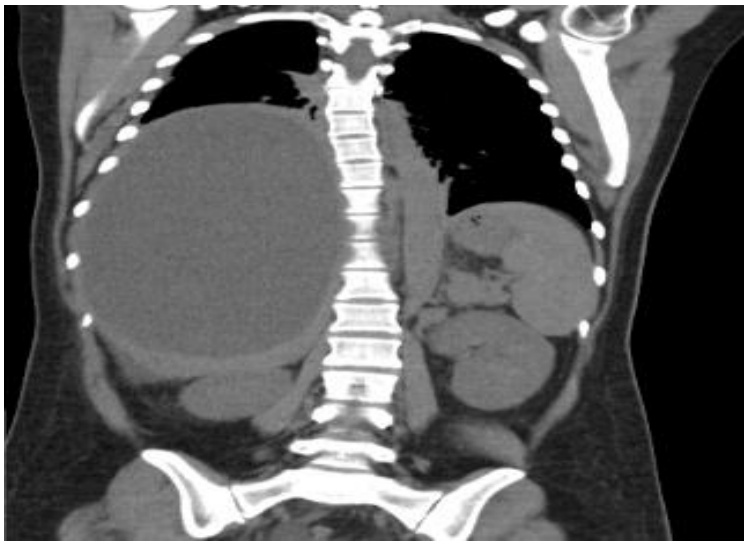

Figure 1. Computerized axial tomography in a coronal section showing hepatic collection that displaces abdominal structures.

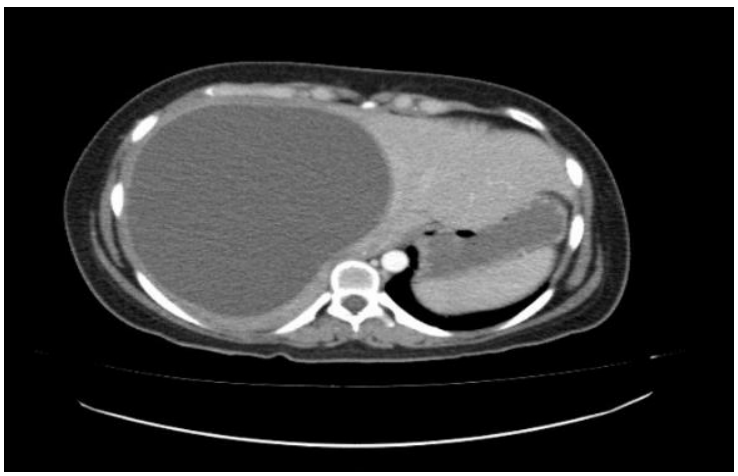

Figure 2. Computerized axial tomography in an axial section showing hepatic collection with predominance of the right lobe.

Because its persistence, it was decided to perform a laparotomy with findings of hepatomegaly and a 6000 ml liver abscess in the right lobe, being managed with drainage of the hematoma and marsupialization. Also a culture was taken during the surgical event and a drain was placed.

After five days with adequate evolution it was decided to discharge home with the drainage and oral ciprofloxacin for 10 days due to culture report of pseudomonas aeruginosa. Finally, after one week the drainage was removed without complications and a definitive discharge is decided.

DISCUSSION

Hepatic Subcapsular Hematoma (HSH) is an extraluminal hemorrhagic complication secondary to ERCP, whose pathology is poorly understood and potentially life-threatening, requiring early identification and treatment.

The etiology is still unclear and two hypotheses have been proposed: the first one suggests that liver damage is secondary to the traction force exerted by the bile duct extractor balloon when trying to remove a retained calculus. This would cause the rupture of biliary vessels and branches, with subsequent bleeding. The second hypothesis, more commonly reported in the literature, suggests that the guidewire would perforate it, thus damaging the juxtaposed hepatic parenchyma and causing rupture of small intrahepatic vessels (1).

It may be suspected when patients develop severe abdominal pain associated with tachycardia and hypotension being able to show up to 10 after ERCP (6). The peak incidence is at 48 hours and the right lobe is reported in 87.3% (1). The clinical picture is variable, but most frequent symptoms are abdominal pain, present (87% of cases) drop in hemoglobin and hematocrit (54%), fever (18%), and the presence of leukocytosis (9% of cases) (7). In our case, the main manifestation was persistence of abdominal pain and later fever. It was diagnosed 2 weeks after the ERCP and its location was in the right hypochondrium.

Laboratory tests did not provide important indicators of the development of a HSH, so imaging modalities such as ultrasound and computerized axial tomography (CAT) are the gold standard for the diagnosis and surveillance of this emerging complication (8).

The literature is in favor of conservative treatment (43.5%), percutaneous embolization (26%), drainage (17.4%) and surgical management (13%) as first-line treatment (8). Surgical management is performed only when there is deterioration of general condition, hemodynamic instability, signs of peritoneal irritation, high risk of hematoma rupture, free fluid in the abdominal cavity, extravasation of the contrast medium, failure of the conservative management and if there is extrinsic compression of the hepatic vein (4). Surgical therapy includes drainage of the hematoma followed by hemostasis (9).

In our case the initial treatment was conservative, however, due to the persistence of pain and the volume of the hematoma, percutaneous drainage was decided, later she presented recurrence of the hematoma 3 weeks after drainage, with a significant increase in its volume compared to the initial one, so that it was decided a definitive treatment whit surgical treatment.

CONCLUSION

Hepatic subcapsular hematoma secondary to ERCP is a rare complication, rarely reported and potentially fatal, so it should be considered among the differential diagnoses after the procedure. Most patients respond to conservative treatment, however there will be patients who require surgical treatment, so suspecting this pathology will help provide timely treatment and prevent major complications that may compromise the patient's quality of life.

Conflicts of interests:

The autor declare no conflict of interest.

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