

CASE REPORT

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Subcapsular Hepatic Hematoma Following Endoscopic Retrograde Cholangiopancreatography

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ABSTRACT Endoscopic retrograde cholangiopancreatography (ERCP) is an endoscopic procedure for indications of pancreatobiliary diseases. Hepatic hematoma is a very rare complication of this procedure. In this case report, we aimed to present subcapsular hepatic hematoma complication and review current literature. A 72-year-old woman was admitted with jaundice to our outpatient clinic. Her lab results were as follows: ALT 700 U/L (15-35), AST: 472 U/L (15-35), ALP: 355 U/L (40-120), T. Bilirubin: 5.5 mg/dl (0.3-1.2), D. Bil: 3.15 mg/dl (0-0.2), GGT: 212 U/L (0-38). Magnetic resonance cholangiopancreatography (MRCP) and contrast-enhanced magnetic resonance imaging (MRI) revealed a lesion involving the proximal common bile duct (CBD), possibly extending into both major hepatic bile ducts and causing narrowing of the lumen and contrast enhancement (Klatskin tumor?). Intrahepatic biliary tracts were dilated in both lobes, especially on the left. Due to the involvement of CBD, biliary plastic stenting was performed for malignant biliary obstruction (bismuth type 2) with ERCP. On the second day after ERCP, the patient complained of abdominal pain radiating to the back with no defence and rebound tenderness. Lab results were as follows; ALT: 342 U/L (15-35), AST: 329 U/L (15-35), ALP: 306 U/L (40-120), T. Bilirubin:10.2 mg/dl (0.3-1.2), D. Bil:6, 16 mg/dl (0-0,2), GGT:165 U/L (0-38). Computed tomography showed 45 mm of subcapsular hepatic hematoma with air and liquid on the surface of the right lobe of the liver. The patient was conservatively treated and followed up with antibiotherapy in surgery intensive care unit. She was not suitable for surgery and percutaneous drainage or vascular embolization. In conclusion, subcapsular hepatic hematoma is a rare complication of ERCP. Moreover, its mortality rate is low and it may occur in certain conditions. If abdominal pain, fever, anemia and hypotension develop in the patient, this complication should be considered after ERCP. It should be included in informed consent for the ones who will perform ERCP in endoscopy units.

Keywords: Abdominal pain ERCP; endoscopic procedure; complication, hepatic hematoma

Endoscopic retrograde cholangiopancreatography (ERCP) is an endoscopic procedure for indications of pancreatobiliary diseases. The risks such as post ERCP pancreatitis, perforation, cholangitis and bleeding were observed as complications in ERCP.^{1,2} Hepatic hematoma is a very rare complication of this procedure. In this case report, we aimed to present subcapsular hepatic hematoma complication and review current literature.

CASE REPORT

A 72-year-old woman was admitted with jaundice to our outpatient clinic. She previously underwent cholecystectomy. Her lab results were as follows: ALT 700

U/L (15-35), AST:472 U/L (15-35), ALP:355 U/L (40-120), T. Bilirubin:5,5 mg/dl (0,3-1,2), D. Bil:3.15 mg/dl (0-0.2), GGT:212 U/L (0-38). Abdominal ultrasonography revealed dilated intrahepatic bile ducts and common bile duct (CBD) and other findings were normal. Magnetic resonance cholangiopancreatography (MRCP) and contrast-enhanced magnetic resonance imaging (MRI) revealed a lesion involving the proximal CBD, possibly extending into both major hepatic bile ducts, and causing narrowing of the lumen and contrast enhancement (Klatskin tumor?). Intrahepatic biliary tracts were dilated in both lobes, especially on the left. The head, body and tail of the pancreas were normal. Peripancreatic fatty tissue was homogeneous. The main pancreatic duct was normal.

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Due to the involvement of CBD, biliary plastic stenting was performed for malignant biliary obstruction (bismuth type 2) with ERCP (Figure 1, Figure 2). On the second day after ERCP, the patient complained of abdominal pain radiating to the back with no defence and rebound tenderness. Lab results were as follows: ALT 342 U/L (15-35), AST: 329 U/L (15-35), ALP:306 U/L (40-120), T. Bilirubin: 10.2 mg/dl (0.3-1.2), D. Bil: 6.16 mg/dl (0-0.2), GGT: 165 U/L (0-38). According to the patient's symptom, the plain abdominal graph was performed and the free air in the right subdiaphragmatic area (secondary to procedure) was detected so contrast-enhanced computed tomography (CT) was planned. CT showed 45 mm subcapsular hepatic hematoma with air and liquid on the surface of the right lobe of the liver (Figure 3). Unfortunately, the patient was not suitable for surgery and percutaneous drainage or vascular embolization. Because she was increasingly getting worse, she was conservatively treated and followed up with broad-spectrum antibiotherapy in surgery intensive care unit. But she deteriorated rapidly and she died due to metastatic co-morbid conditions.

DISCUSSION

Subcapsular hepatic hematoma after ERCP is a very rare complication in literature. This complication was



FIGURE 1: ERCP cholangiogram shows malignant biliary obstruction (bismuth type 2).



FIGURE 2: ERCP cholangiogram after biliary plastic stenting.



FIGURE 3: Computed tomography scan shows subcapsular hepatic hematoma on the surface of the right lobe of liver.

first described in 2000.³ Hypothesis of hepatic hematoma was defined as hepatic damage which is secondary to the traction performed by the balloon to remove the stones inside the main bile duct and accidental rupture or laceration of small intrahepatic vessel by the tip of the guidewire.⁴⁻⁷ In our case, we think that the damage occurred due to the tip of the guidewire.

The most frequent symptom of this hepatic hematoma is persistent and severe abdominal pain after ERCP. The other symptoms and signs are fever, hypotension, and anemia.⁸ Symptoms usually start in a few hours after ERCP. However, developing symptoms up to 15 days after ERCP were also shown in

literature.⁹ Presence of peritoneal irritation could be seen in some cases. Laboratory tests are not diagnostic except decreasing level of hemoglobin. In case of a significant decrease in hemoglobin levels after ERCP, subcapsular hepatic hematoma should be considered. Imaging methods such as ultrasound and CT are gold standard for the diagnosis of this complication.

In our case, abdominal pain started 2 days after the procedure. Changes in lab results did not specifically suggest this complication. Then, contrast-enhanced CT revealed subcapsular hepatic hematoma with air and liquid on the parenchyma of the right lobe of the liver.

Most cases are stable and managed conservatively with broad-spectrum prophylactic antibiotic treatment in literature. Our patient was managed conservatively, too. Antibiotic prophylaxis is recommended because of the risk for infected hematoma.¹⁰ Surgical management should be considered when the general condition of the patient deteriorates and in case of the presence of hemodynamic instability, free fluid in the abdomen and peritoneal irritation. Percutaneous drainage should be considered as alternative to surgery. Radiological vascular embolization can also be a treatment option for the cases with hemodynamic instability and active bleeding. Mortality from this complication is very rare. However, our patient died due to her comorbidities.

In conclusion, subcapsular hepatic hematoma is a rare complication of ERCP. Moreover, its mortality rate is low and it may occur in certain conditions. If abdominal pain, fever, anemia and hypotension develop in the patient, this complication should be considered after ERCP. Informed consent should be obtained from the patients who will be performed ERCP in endoscopy units.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Yusuf Serdar Sakin, Harun Erdal; **Design:** Yusuf Serdar Sakin, Harun Erdal; **Control/Supervision:** Yusuf Serdar Sakin; **Data Collection and/or Processing:** Harun Erdal; **Analysis and/or Interpretation:** Yusuf Serdar Sakin; **Literature Review:** Harun Erdal; **Writing the Article:** Yusuf Serdar Sakin, Harun Erdal; **Critical Review:** Harun Erdal.

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