Obstructive jaundice with a biliary clot post-endoscopic sphincterotomy treated with clipping and endoscopic biliary stenting

A 62-year-old man was admitted with epigastralgia. He had a history of laparoscopic cholecystectomy for cholelithiasis. He had no coagulopathy and was not taking anticoagulants. Abdominal computed tomography (CT) showed a common bile duct (CBD) stone (▶ Fig. 1a). Endoscopic retrograde cholangiography (ERC) and intraductal ultrasonography (IDUS) also showed a 2.8-mm CBD stone (▶ Fig. 1b, ▶ Fig. 2a, b). Endoscopic sphincterotomy (EST) was performed (▶ Fig. 2c) and the CBD stone was removed using a wire basket (▶ Fig. 2d).

The patient complained of epigastralgia again after 4 days. Laboratory investigations demonstrated elevated cholestatic parameters: total bilirubin 2.8 mg/dL (normal range 0.4 – 1.5 mg/dL), aspartate aminotransferase 176 U/L (13 – 30 U/L), alanine aminotransferase 146 U/L (10 – 42 U/L), alkaline phosphatase 233 U/L (38 – 113 U/L), and gamma-glutamyl transpeptidase 695 U/L (9 – 32 U/L); hemoglobin was within the normal limit. CT showed a diffuse high-density structure in the CBD, with the bile duct mildly dilated (▶ Fig. 3a). ERC revealed post-EST bleeding and a biliary clot in the CBD (▶ Fig. 3b, ▶ Fig. 4a). The clot was removed using a grasping forceps and wire basket (▶ Fig. 3c, ▶ Fig. 4b), and an endoscopic biliary stent (EBS) was inserted into the CBD for biliary drainage. Clipping was applied to stop the bleeding (▶ Fig. 3d, ▶ Fig. 4c, d, ▶ Video 1). The patient progressed well after the procedures. The EBS was removed 8 days postoperatively and the patient was discharged 10 days postoperatively.

▶ Fig. 1 Common bile duct stone (arrow). a Abdominal computed tomography. b Endoscopic retrograde cholangiography.

▶ Video 1 The biliary clot, caused by delayed bleeding after endoscopic sphincterotomy, was removed using a grasping forceps and wire basket, and clips were applied to stop the bleeding.
The incidence of post-EST delayed hemorrhage is 1.62% [1], and biliary obstruction with a biliary clot caused by post-EST bleeding is extremely rare [2–5]. Endoscopic hemostasis is currently the first treatment choice for post-ERC bleeding, with balloon dilation and biliary stent placement used for treatment [2–5]. To the best of our knowledge, this is the first English case report of obstructive jaundice with a biliary clot caused by post-EST bleeding, treated with clipping and an EBS, which may be an effective endoscopic technique for treating such cases.

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Competing interests

The authors declare that they have no conflict of interest.

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Fig. 2 Removal of the common bile duct (CBD) stone. Endoscopic views (a, c, d) and intraductal ultrasonography (IDUS) view (b). a The ampulla of Vater was intact (arrow). b IDUS showed a CBD stone, approximately 2.8 mm in size (arrow). c Immediately after endoscopic sphincterotomy (arrow). d The CBD stone was removed using a wire basket (arrow).
References


Bibliography

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Fig. 3 Imaging after endoscopic sphincterotomy (EST) and common bile duct (CBD) stone removal. a Reconstructed coronal image of abdominal computed tomography on day 4 after EST showed a diffuse high-density structure in the CBD with the bile duct being mildly dilated (arrows). b Endoscopic retrograde cholangiography revealed a diffuse filling defect in the CBD with the bile duct mildly dilated (arrows). c The CBD was cleaned up by removing the biliary clot using a grasping forceps and wire basket. d An endoscopic biliary stent was inserted into the CBD and clipping was applied for endoscopic hemostasis.
Fig. 4 Treatment of the biliary clot and delayed bleeding after endoscopic sphincterotomy (EST). Endoscopic views. 

a Post-EST delayed bleeding and the clot at the orifice of the common bile duct (CBD).
b The biliary clot was removed using a grasping forceps.
c The bleeding point was revealed (arrow).
d An endoscopic biliary stent was inserted into the CBD and clipping was applied to stop the bleeding.

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