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 choledolithiasis. 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.
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.

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 intra-ductal 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


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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.

E300

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