

## Rupture of a pseudoaneurysm caused by endoscopic papillary large-balloon dilation

Endoscopic papillary large-balloon dilation (EPLBD) is a relatively new technology for removing large bile duct stones [1]. The efficacy and safety of EPLBD have been reported; however, severe complications occur in approximately 10% of patients [2]. Hemorrhage is one of the most common complications, and endoscopic hemostasis is effective [3]. Herein, we present a case of rupture of a pseudoaneurysm following EPLBD.

A 71-year-old woman with recurrent bile duct stones was admitted to our institution. She had a previous history of recurrent episodes of acute pancreatitis. A large stone, 28×10mm in size, was seen on computed tomography (▶ Fig. 1). Contrast-enhanced computed tomography was not performed because of the pa-

tient's renal dysfunction. Endoscopic retrograde cholangiography revealed an oblong-shaped filling defect in the common bile duct (▶ Fig. 2a). EPLBD with a balloon catheter (CRE Wireguided Balloon Dilator, 15–18 mm; Boston Scientific, Natick, Massachusetts, USA) was performed to remove the bile duct stone (▶ Fig. 2b). Spurting bleeding was observed immediately after the balloon had been deflated (▶ Fig. 3a). Neither balloon oppression nor placement of a fully covered self-expandable metallic stent with a diameter of 10mm was effective for hemostasis (▶ Fig. 3b). Emergency abdominal angiography was performed, and angiography of the gastroduodenal artery revealed a pseudoaneurysm of the gastroduodenal artery with extravasation into the duode-

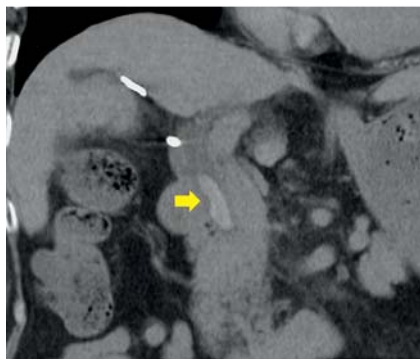
num (▶ Fig. 4a, ▶ Fig. 4b). The placement of five coils achieved complete hemostasis (▶ Fig. 5). The patient was discharged on postoperative day 9 without further complications.

To our knowledge, this is the first report of pseudoaneurysm rupture as a complication of EPLBD. Because this patient had a history of recurrent episodes of acute pancreatitis, a pseudoaneurysm was possible. However, we had no chance to notice the pseudoaneurysm because contrast-enhanced computed tomography was contraindicated owing to her renal dysfunction.

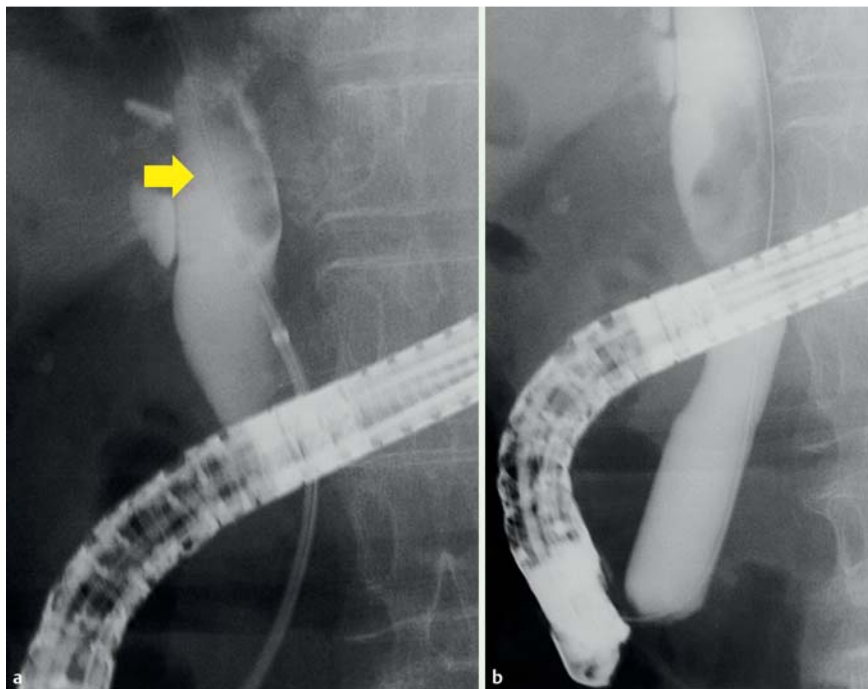
Care should be taken to evaluate patients undergoing EPLBD with contrast-enhanced computed tomography to detect any arterial abnormality.

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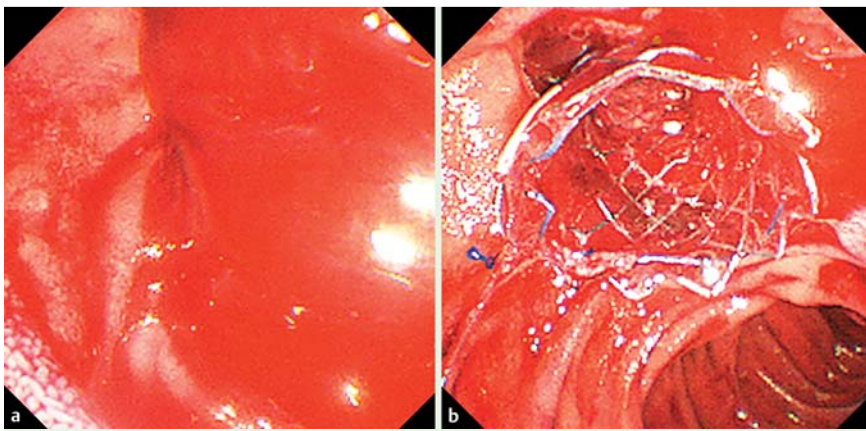
**Competing interests:** None



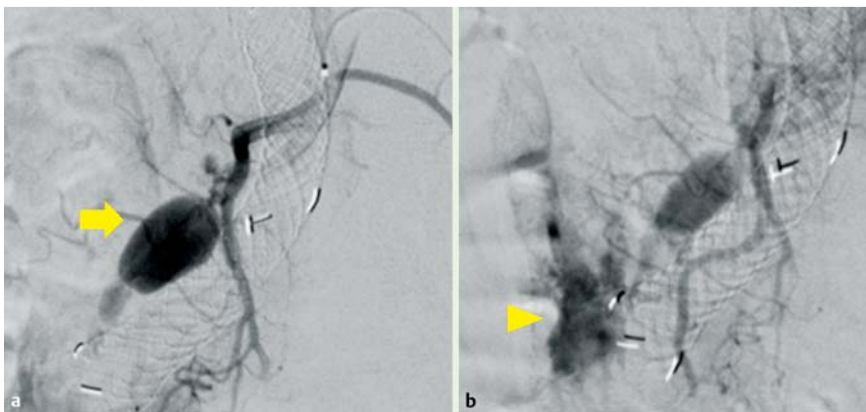
**Fig. 1** Coronal computed tomographic scan shows a large (28×10-mm) stone (arrow) in the common bile duct of a 71-year-old woman with recurrent bile duct stones and a previous history of acute pancreatitis.



**Fig. 2** Images obtained during endoscopic retrograde cholangiography. **a** An oblong-shaped defect is observed in the bile duct (arrow). **b** Endoscopic papillary large-balloon dilation is performed with a balloon that has a diameter of 18 mm.



**Fig. 3** Endoscopic images of the ampulla of Vater. **a** Spurting bleeding is observed after endoscopic papillary large-balloon dilation. **b** Continuous bleeding is observed after the insertion of a metallic stent.



**Fig. 4** Angiographic images. **a** A pseudoaneurysm is observed (arrow). **b** Extravasation into the duodenum (arrowhead).



**Fig. 5** Hemostasis after the placement of five coils is confirmed by celiac angiography.

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**Bibliography**

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