

Guidewire stent cannulation and sphincterotome-assisted extraction of proximally migrated biliary plastic stent

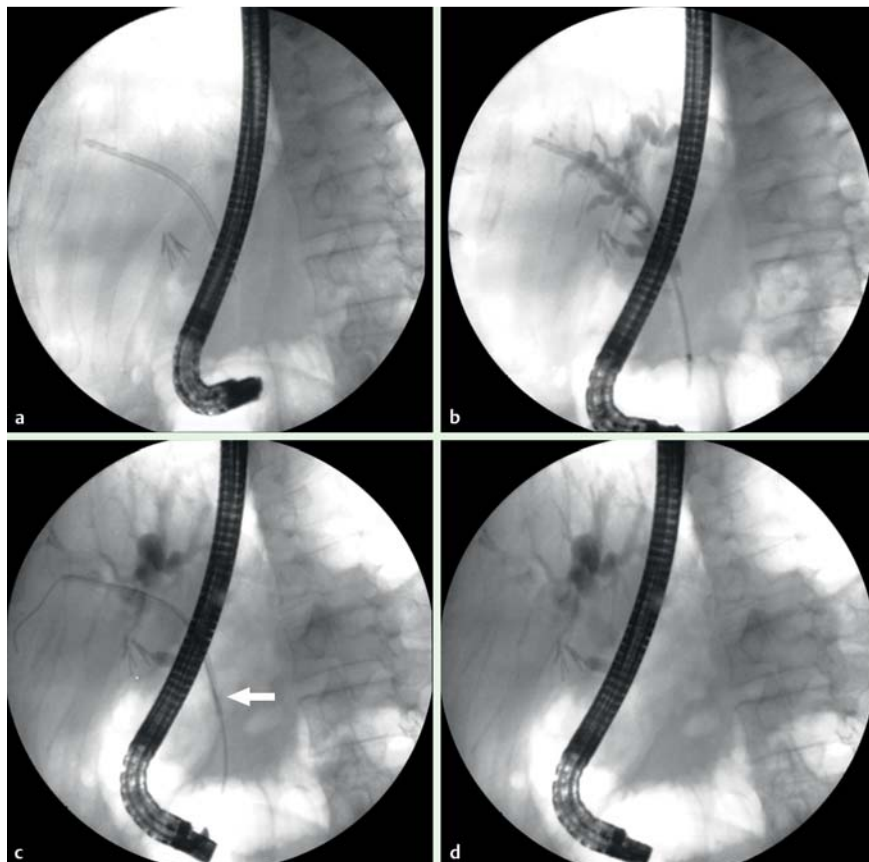


Fig. 1 Radiographic images. **a** Plastic stent with proximal end within the right intrahepatic bile duct. **b** Attempt at balloon-assisted stent removal. **c** Guidewire stent cannulation and insertion of sphincterotome; the white arrow shows the tip of the sphincterotome at the distal end of the stent. **d** Successful stent removal and biliary drainage into the duodenum.

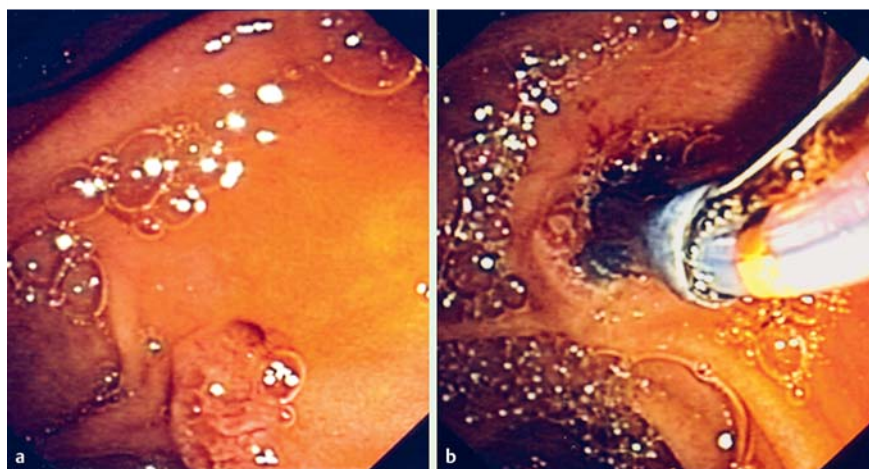


Fig. 2 Endoscopic images. **a** Ampulla with signs of previous biliary sphincterotomy but no distal protrusion of the stent. **b** Sphincterotome-assisted stent removal after guidewire stent cannulation.

Stent placement is widely indicated as treatment for biliary obstruction or compression [1]. However, migration is frequently observed, particularly when plastic stents are used for benign strictures. Distally migrated stents are usually spontaneously eliminated and do not require any intervention. Proximal migration often requires stent retrieval using an endoscopic (e.g. Dormia baskets, forceps, small-snare, balloon, or Soehendra stent retrievers), percutaneous, or surgical approach [2–5].

In September 2013, a 58-year-old man developed acute biliary cholecystitis and jaundice. Endoscopic retrograde cholangiopancreatography confirmed common bile duct (CBD) dilation with a distal benign stricture. The patient was treated by endoscopic sphincterotomy with stent placement (CLBS-10-9; Cook Medical, Winston-Salem, North Carolina, USA), and underwent laparoscopic cholecystectomy within 1 week. Clinical follow-up was unremarkable.

The patient was admitted in December 2013 to remove the biliary plastic stent placed previously. Preliminary radiography (▶ Fig. 1a) showed migration of the stent, with the proximal end of the stent within the right intrahepatic bile duct; the ampulla showed signs of the previous sphincterotomy but no stent protrusion (▶ Fig. 2a). An attempt was made to remove the stent using a balloon catheter (▶ Fig. 1b). However, during traction, significant resistance was encountered, probably due to the distal CBD angle. Thus, conventional techniques requiring a traction force (i.e. Dormia basket, snare or rat-tooth forceps) were avoided.

Guidewire stent cannulation (HydroSteer Guidewires, diameter 0.89 mm, length 260 cm, straight regular-tapered tip; St. Jude Medical Inc., St. Paul, Minnesota, USA) was performed, and then the tip of a sphincterotome (triple-lumen sphincterotome Ultratome XL short nose, length 5 mm, cut wire 20 mm; Boston Scientific, Natick, Massachusetts, USA) was inserted into the stent (▶ Fig. 1c). The stent could be extracted easily through the partial opening of the sphincterotome arch (▶ Fig. 1d, ▶ Fig. 2b).

Guidewire stent cannulation and sphincterotome-assisted extraction is relatively simple and allows the retrieval of migrated stents without the use of excessive traction force. In cases of failure, the sphincterotome arch can be closed and the device

withdrawn, and if excessive traction force is applied, the sphincterotome will slide out without the risk of biliary damage.

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