Single-step retrieval of a proximally migrated biliary stent

Endoscopic biliary stent placement is a well-established procedure for biliary drainage. However, it has been shown that approximately 5% of plastic stents placed in the biliary tract migrate proximally [1]. The endoscopic retrieval of a proximally migrated biliary stent is technically challenging and occasionally unsuccessful. Several techniques for retrieving proximally migrated plastic stents have been reported [2]. We report here a novel retrieval technique, in which a biliary dilation balloon was used to pull out in one step a trapped plastic stent, previously placed to treat an anastomotic biliary stricture in a patient with a liver transplant.

A 0.035-inch guidewire (Acrobat; Cook Ireland Ltd., Limerick, Ireland) was passed through the 10-Fr, 9-cm proximally migrated stent (Cotton-Leung; Cook Ireland Ltd.) (Fig. 1a, b). A dilation balloon with a diameter of 4 mm and a length of 4 cm (Hurricane RX Biliary Balloon Dilatation Catheter; Boston Scientific, Marlborough, Massachusetts, USA) was coaxially inserted over the guidewire and advanced to the distal portion of the stent (Fig. 1c). It was then inflated to nominal pressure. The inflated balloon was anchored inside the stent, resulting in a firm, retrievable coaxial system. With the elevator of the scope (TJF-Q180V; Olympus Europa, Hamburg, Germany) completely opened, the balloon–stent system was withdrawn through the operative channel (diameter of 4.2 mm) (Fig. 1d, e), with the guidewire left in situ for any further applications that might be needed (Fig. 1f).

Inspired by the timeless suggestions advanced by Chaurasia et al. in 1999 [2], we report an improved technique of retrieval with the use of a biliary dilation balloon instead of an extraction balloon. The technique results in the safe, single-step retrieval of a migrated stent from the bile duct directly into the endoscopist’s hand (Fig. 2), avoiding potential damage to the bile duct and the need for withdrawal of the duodenoscope.

Fig. 1 X-ray views of the process of retrieving a proximally migrated stent: a, b 0.035-inch guidewire passed through the proximally migrated stent; c dilation balloon inserted over the guidewire and advanced to the distal portion of the stent; d, e balloon–stent system withdrawn through the operative channel; f guidewire left in situ for any further applications needed.

Fig. 2 The retrieved stent in the endoscopist’s hand.

Competing interests: None

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