

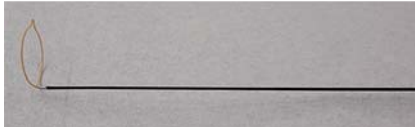
Endoscopic removal of a proximally migrated biliary stent using a novel gooseneck snare: the “EndoCowboy”

Proximal migration often occurs as an adverse event of biliary stent placement, with a reported migration rate of 3.1%–4.9% [1]. Although various techniques have been reported for endoscopic removal of proximally migrated biliary stents, the procedure is still technically demanding and time-consuming, and occasionally unsuccessful [2–4]. We describe a useful technique for endoscopic removal of a proximally migrated biliary stent using a novel gooseneck snare (► Fig. 1).

A man in his 70s who had undergone placement of a 7-Fr straight plastic stent for benign biliary stricture was admitted to retrieve or exchange the stent; however, we noticed during endoscopic retrograde cholangiopancreatography

(ERCP) that the stent had migrated proximally into the common bile duct (► Fig. 2a). To remove the stent, biliary wire-guided cannulation was first performed, with the cannula (MTW Endoskopie, Wesel, Germany) being inserted near the distal end of the stent. After

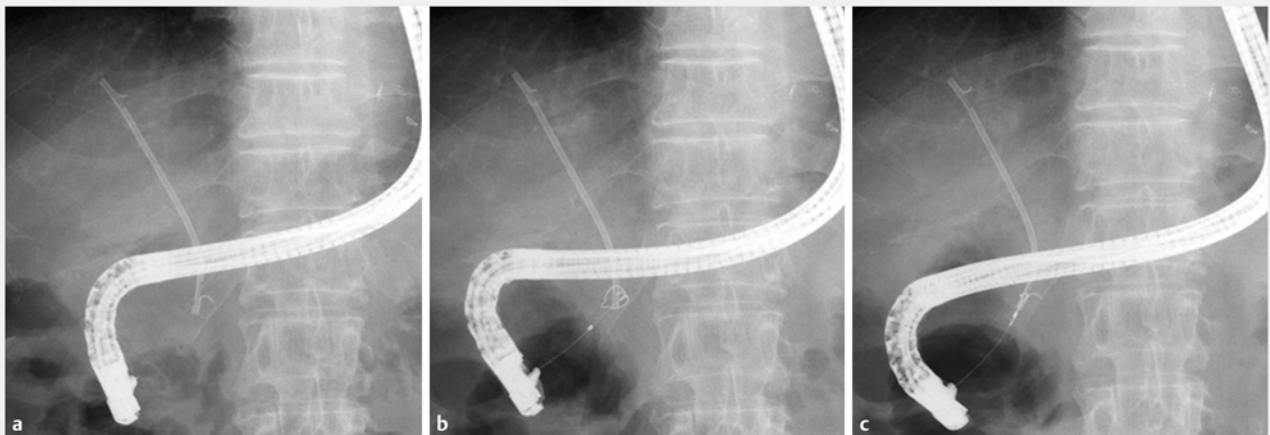
the guidewire had been removed, a gooseneck snare (EndoCowboy; loop width 9 mm; Piolax Medical Devices, Kanagawa, Japan) was inserted through the lumen of the prepositioned cannula (► Fig. 2b). Once the snare loop had been passed over the stent, the snare



► **Fig. 1** The novel snare has a microsnare loop that forms a 90° angle like a gooseneck (EndoCowboy; Piolax Medical Devices, Kanagawa, Japan).



► **Video 1** A gooseneck snare is inserted through the lumen of the prepositioned cannula and the loop is passed over the stent, before the snare is pulled tight, grasping the stent. Finally, the cannula and snare are simultaneously pulled down and the stent is successfully removed.



► **Fig. 2** Radiographic images during endoscopic retrograde cholangiopancreatography showing: **a** the previously placed 7-Fr plastic stent that had migrated proximally into the common bile duct; **b** a gooseneck snare that was inserted through the lumen of a prepositioned cannula; **c** the stent, which had been grasped by the snare loop, being pulled down and removed.

was pulled tight, grasping the stent (► **Fig. 2c**). Finally, the cannula and snare were simultaneously pulled down and the stent was successfully removed through the scope with no adverse events (► **Video 1**).

A gooseneck snare has a microsnare loop forming a 90° angle just after exiting the outer sheath. It is useful for retrieving and manipulating foreign objects in the cardiovascular system [5], but until now there have been no devices for endoscopic use. The EndoCowboy was developed for ERCP. Its 2700-mm length is suitable for an endoscopic device, and various loop sizes are available to suit the diameter of the bile duct. This novel gooseneck snare can therefore be a useful option for the removal of proximally migrated stents and is recommended to have on standby.

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Competing interests

None

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