CASE REPORT

Endoscopic extraction of proximally migrated biliary stent by intrastent balloon inflation

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SUMMARY

Endoscopically placed bile duct stents are commonly used to relieve obstruction in patients with benign or malignant biliary disease. These stents may become dislodged and migrate in about 5–10% of patients. Distally migrated stents can be managed expectantly, allowing the foreign body to pass through the rectum. However, proximal migration of biliary stents usually necessitates endoscopic stent removal. We present a case of a proximally migrated stent that was extracted successfully with intrastent balloon inflation during endoscopic retrograde cholangiopancreatography (ERCP).

BACKGROUND

Endoscopically placed bile duct stents are commonly used to relieve obstruction in patients with benign or malignant biliary disease. These stents may become dislodged and migrate in about 5–10% of patients.^{1–3} Distally migrated stents can be managed expectantly, allowing the foreign body to

pass through the rectum. However, proximal migration of biliary stents usually necessitates endoscopic stent removal. We present a case of a proximally migrated stent that was extracted successfully with intrastent balloon inflation during endoscopic retrograde cholangiopancreatography (ERCP).

CASE PRESENTATION

During ERCP of a 49-year-old man on a periodic stent exchange programme due to benign extrahepatic biliary stricture related to chronic pancreatitis, a proximally migrated 10F, 15 cm plastic biliary stent was observed at the right hepatic duct ([figure 1A](#)). Despite multiple attempts with rat-tooth forceps and basket to pull out the entrapped stent from the biliary system, we were unable to extract it. Finally, we decided to pull out the entrapped stent with an 11.5 mm stone extraction balloon (Conmed, Utica, New York, USA). Surprisingly, we found that the guidewire had passed proximally through the stent ([figure 1B](#)), so we decided to also advance the stone

Figure 1 (A) Proximally migrated biliary stent at the right hepatic duct, (B) guidewire passing through the stent and (C) balloon inflated after exiting through the hole at the proximal tip of the stent.

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extraction balloon through the stent before inflating it. We noticed that the balloon inflated after exiting through the hole at the proximal tip of the stent (figure 1C). The inflated stone extraction balloon was successfully pulled out along with the migrated stent. After the extraction of the migrated stent, a replacement 10F 15 cm plastic stent was inserted in the common hepatic duct.

OUTCOME AND FOLLOW-UP

Within few hours the patient's symptoms were relieved. To date, follow-up of the patient has displayed no complications or recurrence of symptoms.

DISCUSSION

Although proximal migration of a biliary stent is a rare event, its therapeutic management can also be challenging in some conditions. Retrieval of these stents requires experience with different endoscopic instruments.² They can be retrieved endoscopically by indirect traction using a stone extraction balloon catheter, or directly by employing various grasping devices.^{3 4} In the present case, since we were unable to retrieve the stent with rat-tooth forceps and basket, we decided to use a stone extraction balloon. Although our primary aim was to use the balloon alongside the stent to provide indirect traction, the balloon inflated after exiting through the hole at the proximal tip of the stent and provided a successful outcome by pulling the migrated stent out.

Learning points

- ▶ Endoscopically placed bile duct stents are commonly used to relieve obstruction in patients with benign or malignant biliary disease.
- ▶ Bile duct stents may become dislodged and migrate in about 5–10% of patients. Distally migrated stents may be managed expectantly.
- ▶ Proximal migration of biliary stents usually necessitates endoscopic stent removal.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Diller R, Senninger N, Kautz G, *et al.* Stent migration necessitating surgical intervention. *Surg Endosc* 2003;17:1803–7.
- 2 Katsinelos P, Kountouras J, Paroutoglou G, *et al.* Migration of plastic biliary stents and endoscopic retrieval: an experience of three referral centers. *Surg Laparosc Endosc Percutan Tech* 2009;19:217–21.
- 3 Arhan M, Odemiş B, Parlak E, *et al.* Migration of biliary plastic stents: experience of a tertiary center. *Surg Endosc* 2009;23:769–75.
- 4 Namdar T, Raffel AM, Topp SA, *et al.* Complications and treatment of migrated biliary endoprotheses: a review of the literature. *World J Gastroenterol* 2007;13:5397–9.

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