

## Proximal Displacement of Biliary Stent with Distal Perforation and Impaction in the Pancreas

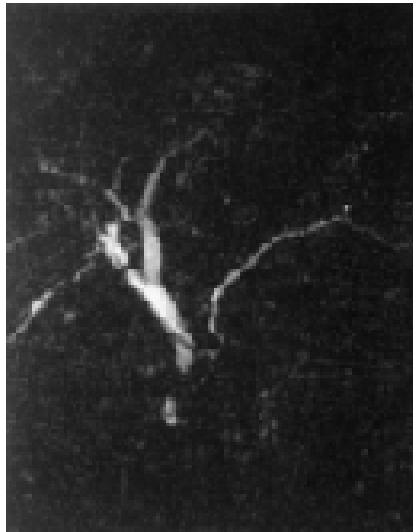
Proximal migration of endoscopically inserted stents has an incidence of approximately 5% [1]. Endoscopic retrieval may be difficult in cases with distal stent impaction or a biliary stricture distal to the migrated stent [2]. We describe an unusual case with both migration and perforation.

A 31-year old woman had a lesion of the right hepatic duct after laparoscopic cholecystectomy. At laparotomy the lesion was sutured over a T tube.

At 3 weeks later, endoscopic retrograde cholangiopancreatography (ERCP) showed a slight stenosis at the site of the lesion in the right hepatic duct. After sphincterotomy and removal of the T tube, an endoprosthesis was placed. At control ERCP 3 months later, the endoprosthesis was found to be proximally displaced. Magnetic resonance cholangiopancreatography (MRCP) showed that the stent had migrated in such a way that its distal end had perforated the wall of the common bile duct and passed through into the pancreatic tissue and the proximal end was in the liver parenchyma (Figure 1).

At the following ERCP the stent was grasped with a forceps and successfully removed (Figure 2).

The migration of biliary stents is a well known phenomenon. The cause may be a combination of a large sphincterotomy and a suboptimal function of the flaps. Most straight plastic stents have one or more short flaps to prevent migration, but sometimes the flaps are not fully expanded or long enough. Making the flaps longer, however, would make the stent weaker with increased risk of breakage at the site of the flaps [3]. In the present case the stent was not only migrated, but it had also made a perforation of the bile-duct wall. The straight plastic stents are rather stiff, and perforation of the gut has been described earlier [4].



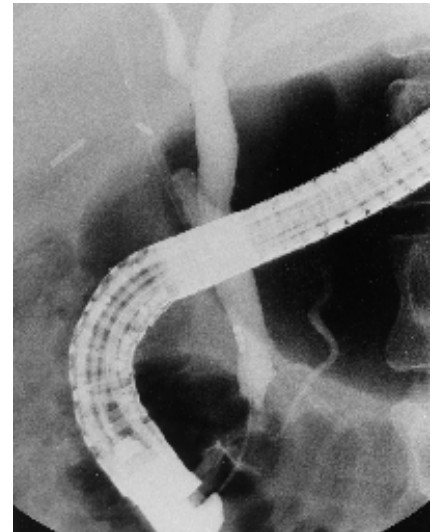
**Figure 1** Magnetic resonance cholangiopancreatography (MRCP) showing a stenosis of the right main duct and a displaced biliary stent

To avoid migration and perforation, the use of pigtail stents of large diameter or stents with long flaps in the distal end and short flaps in the proximal end might be better.

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### References

- <sup>1</sup> Johanson JF, Schmalz MJ, Geenen JE. Incidence and risk factors for biliary and pancreatic stent migration. *Gastrointest Endosc* 1992; 38: 341–346
- <sup>2</sup> Chaurasia OP, Rauws EAJ, Fockens P, Huibregtse K. Endoscopic techniques for retrieval of proximally migrated biliary stents: the Amsterdam experience. *Gastrointest Endosc* 1999; 50: 780–785



**Figure 2** Endoscopic retrograde cholangiopancreatography (ERCP) at removal of displaced biliary stent

- <sup>3</sup> Adamsen S, Jendresen M. Breakage of a biliary plastic stent – a potential risk of sideholes. *Endosc* 1998; 30: 73
- <sup>4</sup> Størkson RH, Edwin B, Reitersen O, et al. Gut perforation caused by biliary endoprosthesis. *Endosc* 2000; 32: 87–89

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