

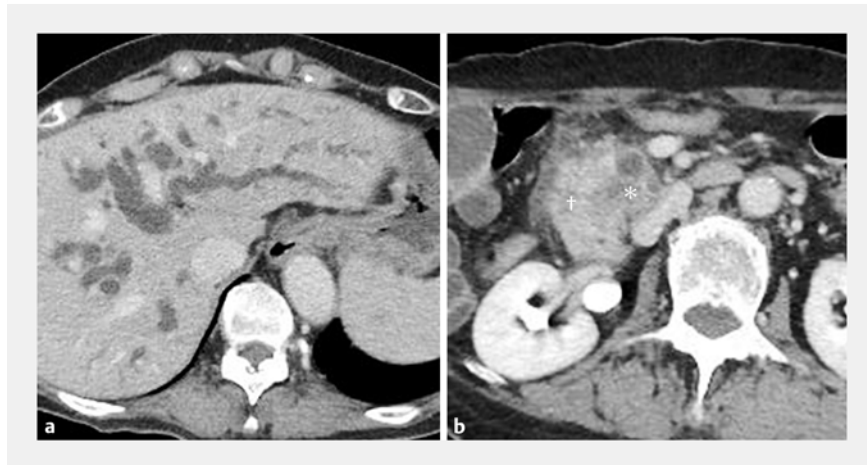
A novel tapered plastic stent with an ultrafine delivery system for one-step endoscopic ultrasound-guided hepaticogastrostomy



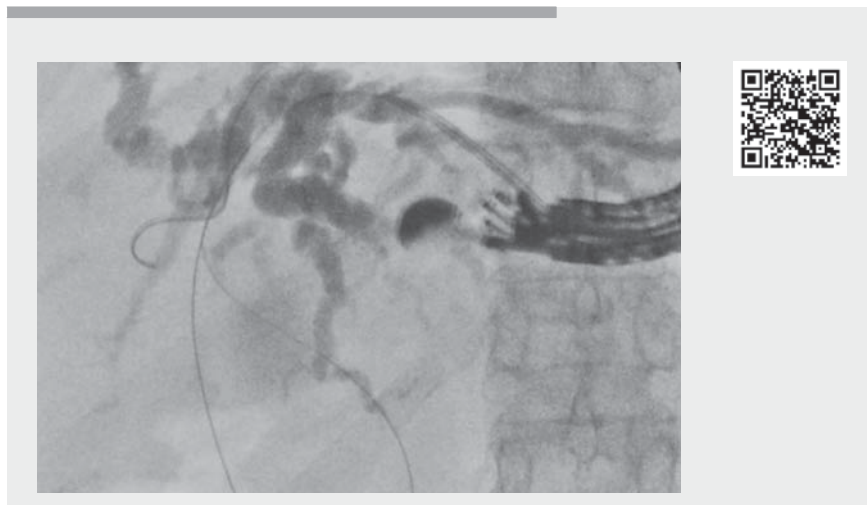
A 76-year-old woman was admitted to our hospital with obstructive jaundice due to pancreas head cancer (► **Fig. 1**). Endoscopic transpapillary biliary drainage was attempted but was unsuccessful owing to duodenal invasion. We therefore tried one-step endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) using a novel stent system (Crane stent; SB-Kawasumi, Kanagawa, Japan). The stent system comprises a straight-type, 7-Fr, plastic stent with a tapered tip of 4.7 Fr, an inner catheter with an extremely fine 2.5-Fr tip designed for use with a 0.025-inch guidewire, and a pusher connected to the stent allowing it to be pulled back (► **Fig. 2**). A stent with a length of 15 cm between the flaps was selected.

After puncturing B2 with a 19-gauge needle through the stomach, bile was aspirated as much as possible to reduce bile leakage. Following injection of a small amount of contrast, a 0.025-inch guidewire was inserted into the bile duct and the stent system was inserted over the guidewire without fistula dilation (► **Video 1**). Finally, the stent was released in the stomach. The time from puncture to stent placement was 5 minutes. The post-procedure course was uneventful.

One-step EUS-HGS with a covered metal stent stowed in a thin delivery system has recently been reported to shorten procedure time and reduce bile leakage [1,2]. Although the Crane stent is a plastic stent that cannot be stowed thinly, one-step stenting was possible by minimizing the gap between the guidewire and inner catheter, and between the inner catheter and stent (► **Fig. 3**). The advantage of plastic stents is easy implantation [3], but bile leakage is more likely to occur than with covered metal stents [4]. However, as previously reported [5], bile leakage could be prevented even with plastic stents by aspirating bile sufficiently before stent insertion.



► **Fig. 1** Contrast-enhanced computed tomography showing: **a** dilated intrahepatic bile ducts; **b** pancreas head cancer (·) invading the second part of the duodenum (†).



► **Video 1** One-step endoscopic ultrasound-guided hepaticogastrostomy with a novel, tapered, plastic stent with an ultrafine delivery system.

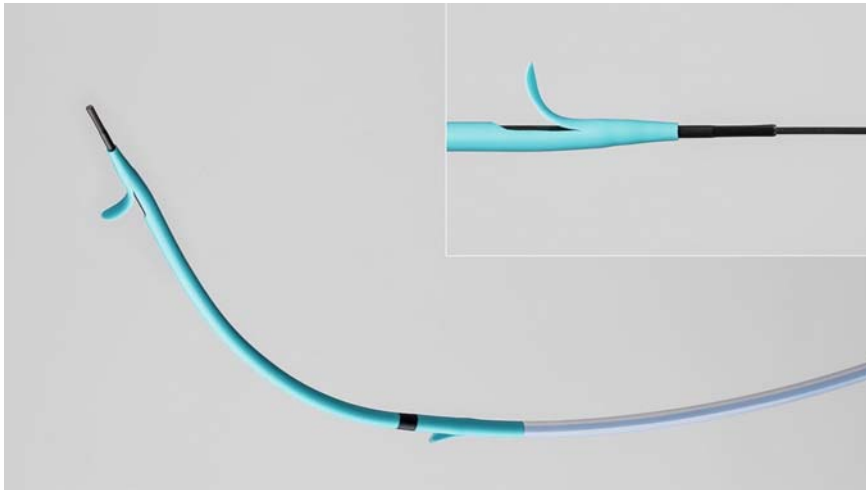


This novel plastic stent system has the potential to make EUS-HGS easier, faster, and safer. Further investigations in a large cohort are warranted.

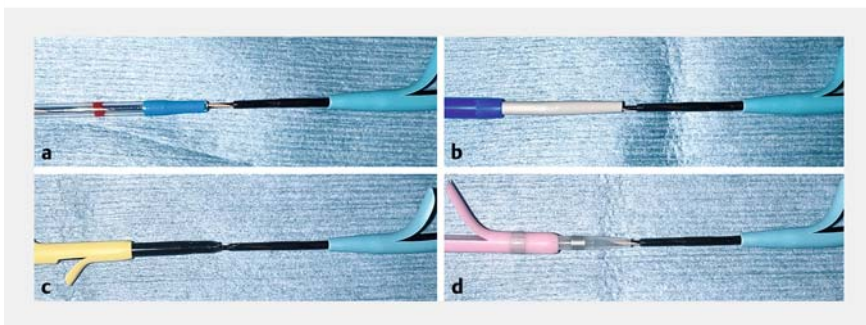
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Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 2** A novel stent system (Crane stent; SB-Kawasumi, Kanagawa, Japan), which comprises a straight-type, 7-Fr, plastic stent with a 4.7-Fr tip, an inner catheter with a 2.5-Fr tip designed for use with a 0.025-inch guidewire, and a pusher connected to the stent. Inset: Image showing a 0.025-inch guidewire threaded through the delivery system. Source: SB-Kawasumi.



► **Fig. 3** The novel stent system (Crane stent; SB-Kawasumi, Kanagawa, Japan) compared with other devices with a 0.025-inch guidewire threaded. **a** A conventional endoscopic retrograde cholangiopancreatography catheter (01 20 21 1; MTW Endoskopie, Düsseldorf, Germany). **b** A 7-Fr plastic stent (Flexima Plus; Boston Scientific Japan, Tokyo, Japan). **c** A 7-Fr plastic stent (Through & Pass TYPE IT; Gadelius Medical, Tokyo, Japan). **d** A 7-Fr plastic stent (SUZAKU; Kaneka Medix, Osaka, Japan). With the exception of the SUZAKU stent, which was also designed for a 0.025-inch guidewire, the gap between the tip of the devices and guidewire is larger than for the Crane stent. Additionally, the Crane stent is tapered more than the other stents and has the smallest gap with the inner catheter.

References

- [1] Park DH, Lee TH, Paik WH et al. Feasibility and safety of a novel dedicated device for one-step EUS-guided biliary drainage: a randomized trial. *J Gastroenterol Hepatol* 2015; 30: 1461–1466
- [2] Ogura T, Yamada M, Nishioka N et al. One-step stent deployment of EUS-guided hepaticogastrostomy using a novel covered metal stent with a fine-gauge stent delivery system (with video). *Endosc Ultrasound* 2020; 9: 267–269
- [3] Umeda J, Itoi T, Tsuchiya T et al. A newly designed plastic stent for EUS-guided hepaticogastrostomy: a prospective preliminary feasibility study (with videos). *Gastrointest Endosc* 2015; 82: 390–396
- [4] Khashab MA, Messallam AA, Penas I et al. International multicenter comparative trial of transluminal EUS-guided biliary drainage via hepaticogastrostomy vs. choledochoduodenostomy approaches. *Endosc Int Open* 2016; 4: E175–E181
- [5] Kobori I, Hashimoto Y, Shibuki T et al. Safe performance of track dilation and bile aspiration with ERCP catheter in EUS-guided hepaticogastrostomy with plastic stents: a retrospective multicenter study. *J Clin Med* 2022; 11: 4986

Bibliography

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