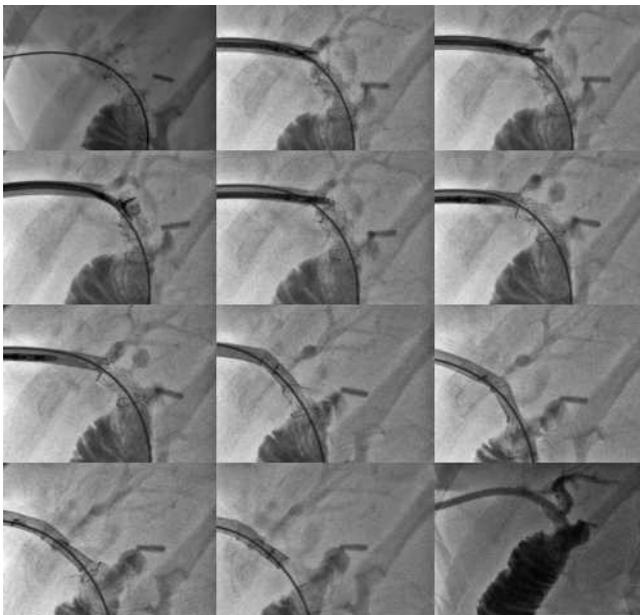


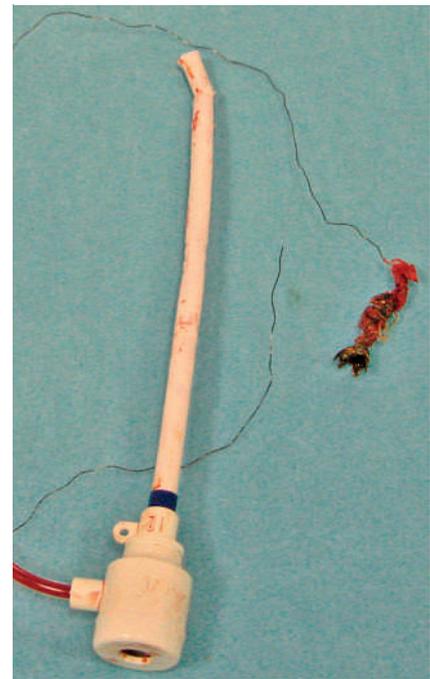
## Biliary stenting and successful intentional stent retrieval after 6 months in a benign stricture following hepaticojejunostomy



**Fig. 1** Magnetic resonance cholangiopancreatography T<sub>2</sub>-sequence showing stenosis of the anastomosis after hepaticojejunostomy.



**Fig. 2** Sequence of stent extraction through a 12 F introduction sheath using an endoscopic grasping forceps.



**Fig. 3** Stent and introduction sheath after removal.

### Video 1

Extraction of the stent through a 12 F introduction sheath using an endoscopic grasping forceps.

The management of benign biliary strictures remains a challenge for interventional endoscopists. Surgery, still the mainstay of treatment, is associated with nonnegligible morbidity and mortality. Recently, new techniques and devices for endoscopic therapy have become available [1,2].

A 45-year-old woman was referred to our clinic because of recurrent fever of un-

known origin. She had a history of hepaticojejunostomy due to bile duct injury following laparoscopic cholecystectomy. Ultrasound, laboratory, and MRI studies led to the discovery of a circular stenosis of the anastomosis (▶ Fig. 1). Biopsies ruled out a malignant stenosis. Percutaneous transhepatic cholangiography (PTC) showed a filiform and complex stenosis. Multiple unsuccessful balloon dila-

tations were carried out and a temporary Yamakawa drain was placed. PTC after removal of the drain showed a residual stenosis of more than 50%. Hence percutaneous transhepatic cholangiographic drainage with stenting was considered. In order to allow the stent to be withdrawn 6 months later, a polytetrafluoroethylene (ePTFE)-covered stent (Viabil; Gore, Flagstaff, AZ, USA) was chosen. The patient was asymptomatic during the following 6 months. The stent was removed percutaneously through a 12 F introduction sheath with an endoscopic grasping forceps (▶ Fig. 2, 3, ▶ Video 1). The patient was discharged 3 days after stent removal.

Percutaneous treatment of benign biliary stenosis is still a challenging issue for endoscopists. Poor long-term patency of metallic stents in the biliary system and the near-impossibility of removing them limits their range of use in benign stenoses [1,3]. Because of its exoskeleton structure (▶ Fig. 4), the Viabil stent is able to collapse during withdrawal and seems a feasible option when balloon dilatation of a benign stricture is not sufficient [1]. Coated stents have proven good long-



**Fig. 4** Viabil stent and its exoskeleton structure.

term patency in malignant stenoses and carry a low risk of tissue ingrowth and sludge accumulation [1,4,5]. This supports the feasibility of intentional retrieval and allows the endoscopist greater latitude when extended time periods of stent placement are necessary [1].

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