Duodenal stump fistula following Roux-en-Y gastrectomy, treated with single-balloon enteroscopy using the tulip bundle technique and fibrin glue injection

In January 2012, a 68-year-old woman underwent laparoscopic partial gastrectomy at our institute, with Roux-en-Y reconstruction for an ulcerated gastrointestinal stromal tumor. The postoperative course was complicated by development of a duodenal stump fistula and submucosal tumor.

To access the afferent loop and reach the duodenal stump, informed consent was obtained from the patient. Single-balloon enteroscopy was carried out with a high resolution enteroscope (SIF-Q180; Olympus America, Center Valley, Pennsylvania, USA) and a disposable sliding overtube (ST-SB1; Olympus America) and a disposable sliding overtube (ST-SB1; Olympus America) were placed over the endoclips, near the base, to fully close the fistula. We then injected 4 mL of fibrin glue (Beriplast-P Combi-Set; CSL Behring, Marburg, Germany) into the submucosa to ensure complete sealing of the fistula. Definitive fistula closure was clinically and radiologically observed at the 2 months’ follow-up. Duodenal stump fistula after gastrectomy is a potentially devastating complication, with high morbidity, long period of hospitalization, and an overall mortality rate of about 20% (due to sepsis and multiple organ failure). Treatment with PTBD and an occlusion balloon in the biliary tree has been described. This report describes a new endoscopic treatment for a refractory duodenal stump fistula and illustrates the feasibility and usefulness of interventional single-balloon enteroscopy. In conclusion, we believe that in the case of a life-threatening complication in the small intestine which is difficult to access, single-balloon enteroscopy may be a viable alternative to surgical intervention.

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Fig. 3 Endoscopic views: a–c Application of the tulip bundle technique and d after fibrin glue injection. e, f Radiological views at the end of the procedure, before and after contrast dye injection.

Fig. 4 Percutaneous cholangiography showing complete closure of the fistula.

Bibliography
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