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. The patient underwent laparoscopic partial gastrectomy for an ulcerated gastrointestinal stromal tumor.

Fig. 1 Percutaneous cholangiography showing a duodenal stump fistula (black arrow) in a 68-year-old woman who underwent laparoscopic partial gastrectomy with Roux-en-Y reconstruction for an ulcerated gastrointestinal stromal tumor.

Fig. 2 Endoscopic view of the orifice of the fistula.

Fig. 3 a–c. 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 (Fig. 3 d–f). Definitive fistula closure was clinically and radiologically observed at the 2 months’ follow-up (Fig. 4).

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) [3]. Treatment with PTBD and an occlusion balloon in the biliary tree has been described [4, 5]. 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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Curcio G et al. Duodenal stump fistula... Endoscopy 2012; 44: E364–E365
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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