Successful endoscopic treatment using biological fibrin glue (Tissucol) for an enterocutaneous fistula occurring after cephalic duodenopancreatectomy

Fig. 1 Endoscopic images showing: **a** the guidewire passing through the internal orifice of the fistula into the transverse colon; **b** the internal orifice after it had been sealed with Tissucol.

Fig. 2 Photographs showing: **a** the external orifice of the fistula sealed with Tissucol immediately after the procedure; **b** complete closure of the colocolic fistula a year after the procedure.

An enterocutaneous fistula is an abnormal communication between the small or large bowel and the skin, which leads to external drainage of intestinal contents. It is an important issue in surgical practice, as most cases occur secondary to surgical complications and cause significant mortality and morbidity owing to septic complications [1,2]. Postoperative fistulas account for 75%–85% of all enterocutaneous fistulas. One-third of fistulas close spontaneously; the remainder require surgical intervention, with variable levels of success [1,2]. Recently a few cases of endoscopic treatment with biological fibrin glue resulting in a good outcome have been reported [3–5].

We present the case of a 61-year-old man with an ampulloma of the papilla of Vater who had undergone cephalic duodenopancreatectomy and postoperatively developed an enterocutaneous fistula, which was confirmed by a barium enema. Conservative treatment was started with

parenteral nutrition and somatostatin analogues, which led to reduction in the leakage but not to complete resolution.

The patient would not accept more surgical intervention, and we therefore opted to treat him endoscopically with biological fibrin glue (Tissucol Duo; Baxter).

A colonoscopy was performed, during which a guidewire was introduced through the fistula and visualized in the transverse colon (► Fig. 1 a). Initially we attempted to close the defect with the over-the-scope clip (OTSC) system (Ovesco, Tübingen, Germany); however, because of the existence of fibrosis around the orifice, this was not successful. We therefore proceeded to debride the orifice and to seal the fistula with Tissucol (► Fig. 1 b), passing through the fistulous tract from the internal lumen to the skin (► Fig. 2 a).

The patient's progress following this procedure was satisfactory. The fistula closed completely over the following 2 weeks,

and there was no further leakage from the fistula. A year later there had been no recurrence (► Fig. 2 b).

Complete closure was achieved following one treatment session, hence we believe that this procedure could be useful in patients who are considered high risk for surgery and who have an enterocutaneous fistula that is accessible on endoscopy.

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References

- 1 Karvonen JA, Grönroos JM, Nikulainen V et al. Endoscopic treatment of internal gastrointestinal fistulas with fibrin glue. *Surg Laparosc Endosc Percutan Tech* 2013; 23: 37–40
- 2 Avalos-González J, Portilla-de Buen E, Leal-Cortés CA et al. Reduction of the closure time of postoperative enterocutaneous fistulas with fibrin sealant. *World J Gastroenterol* 2010; 16: 2793–2800
- 3 Bhat YM, Banerjee S. ASGE Technology Committee et al. Tissue adhesives: cyanoacrylate glue and fibrin sealant. *Gastrointest Endosc* 2013; 78: 209–215
- 4 Murakami M, Tono T, Okada K et al. Fibrin glue injection method with diluted thrombin for refractory postoperative digestive fistula. *Am J Surg* 2009; 198: 715–719
- 5 Rábago LR, Ventosa N, Castro JL et al. Endoscopic treatment of postoperative fistulas resistant to conservative management using biological fibrin glue. *Endoscopy* 2002; 34: 632–638

Bibliography

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