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

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 and cause significant morbidity [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 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. 1a). 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 immediately after the procedure (Fig. 1b). 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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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 colocutaneous fistula a year after the procedure.

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