Ileocutaneous fistula with distal ileal narrowing treated with an esophageal stent

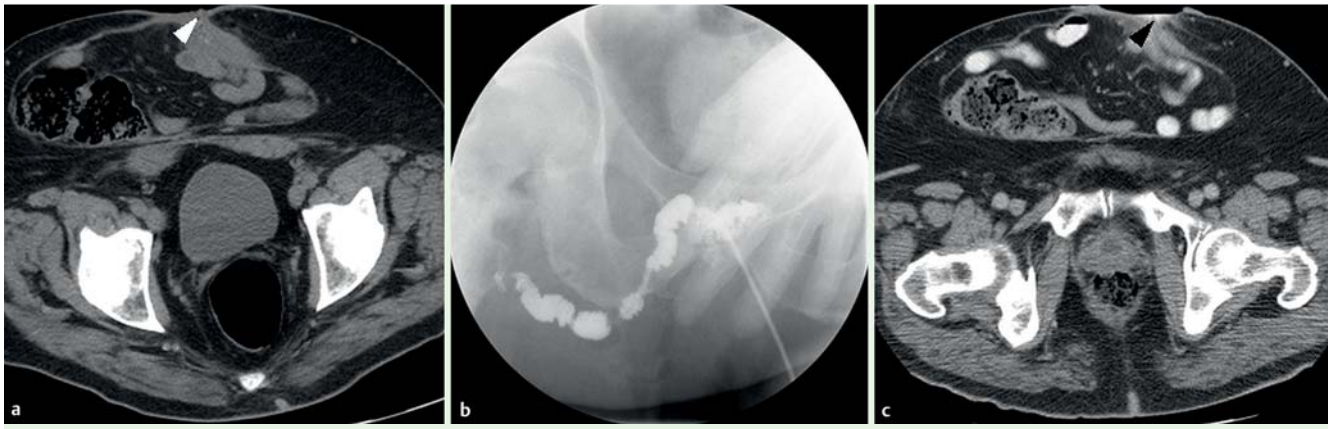

Fig. 1 Images in a 70-year-old man with an enterocutaneous fistula after surgical repair of a ventral hernia showing: **a** an enterocutaneous fistula tract (white arrowhead) communicating with the distal ileum on an abdominopelvic computed tomography (CT) scan without intravenous contrast performed before surgical repair; **b** a fistulogram before surgical repair; **c** the fistula still present (black arrowhead) on an abdominopelvic CT scan with intravenous contrast after the attempted surgical repair.

A 70-year-old man was referred to our institute for endoscopic management of an enterocutaneous fistula that had developed following surgical repair of a ventral hernia. A previous surgical approach had failed, as shown by imaging before and after surgery (**Fig. 1**).

First, a retrograde double-balloon endoscopy (RDBE) was performed, with argon plasma coagulation (APC) and the deployment of four endoclips at the fistula orifice (**Fig. 2**). This produced a decline in the output through the fistula from 100 mL/day to 20 mL every 3 days.

While performing a repeat RDBE 1 year later, we noted a fixed loop of ileum with an acute angulation about 20 cm distal to the site of the fistula (**Fig. 3a**), and we were only able to advance the endoscope to approximately 10 cm distal to the fistula. A Hydra Jagwire (Boston Scientific Inc., Marlborough, Massachusetts, USA) was threaded downstream through the fistula and was grasped using a snare. The double-balloon endoscope was then withdrawn, leaving the overtube in place. An 18-mm × 15-cm, fully-covered self-expanding esophageal stent (Taewoong Medical Co., Seoul, South Korea) was advanced over the wire and deployed approximately 2 cm distal to the fistula site, which successfully straightened the angulated loop (**Fig. 3b, c**).

Following this procedure, output from the fistula eventually ceased. A further RDBE 3 months later showed that the fistula had healed and the stent had migrated spontaneously. On this occasion, the endoscope was advanced more easily through the angulated area to the fistula site and beyond. The patient remains asymptomatic 1 year later.

Distal strictures are a cause of non-healing enterocutaneous fistulas [1]. In this case, it is likely that the adhesions caused a fixed loop that acted like a stricture, causing stagnation and increased backflow through the fistula, and this presumably was the cause of the fistula failing to heal. The fixed loop was modified in some way by placement of the stent, which ultimately allowed the fistula to heal.

The placement of a stent is an explicitly challenging approach for small-intestinal fistulas because of the limited maneuverability and accessibility in this area [2]. The use of RDBE to access the ileum, as in present case, is even more challenging; however, it is possible and an option when surgical approaches fail.

Fig. 2 Endoscopic view showing the application of argon plasma coagulation (APC) and placement of endoclips at the fistula orifice.

Endoscopy_UCTN_Code_TTT_1AP_2AD

Competing interests: None

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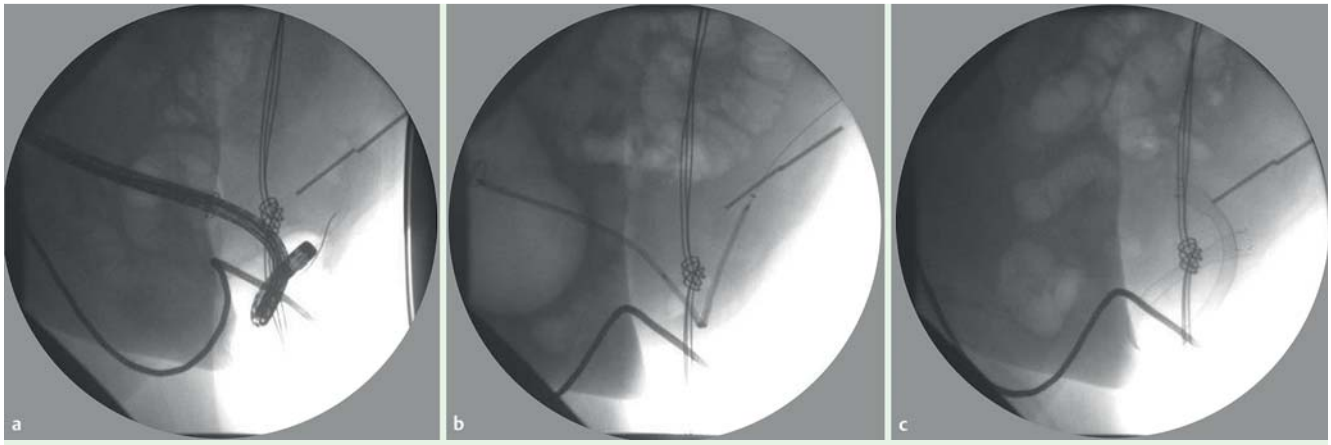

Fig. 3 Views during retrograde double balloon endoscopy (RDBE) showing: **a** a fixed loop of small intestine with acute angulation; **b, c** a Hydra Jagwire being grasped using a snare and a fully-covered self-expanding esophageal stent being advanced over the wire and deployed to straighten the angulated loop.

References

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Bibliography
DOI http://dx.doi.org/10.1055/s-0034-1391241
Endoscopy 2015; 47: E89–E90

ISSN 0013-726X

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