

Endoscopic control of enterocutaneous fistula by dual intussuscepting stent technique

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Abstract

Introduction Large high-output enterocutaneous fistulas pose great difficulties, especially in the setting of recent surgery and compromised skin integrity.

Methods This video demonstrates a new technique of endoscopic control of enterocutaneous fistula by using two covered overlapping stents. In brief, the two stents are each inserted endoscopically, one proximal, and the other distal to the fistula with 2 cm of each stent protruding cutaneously. Following this, the proximal stent is crimped and intussuscepted into the distal stent with an adequate overlap. A prolene suture is passed through the anterior wall of both stents to prevent migration. The two stents used were evolution esophageal stents—10 cm long, fully covered, double-flared with non-flared and flared diameters being 20

and 25 mm, respectively (product number EVO-FC-20-25-10-E, Cook Medical, Bloomington, IN, USA).

Results The patient featured in this video developed a high-output enterocutaneous fistula proximal to a loop ileostomy, which was created following a small bowel leak after a curative surgery for bladder cancer. Using the technique featured in this video (schematic depicted in Fig. 1), the patient was nutritionally optimized with oral feeds from albumin of 0.9–3.4 g/dl within 2 months despite prior failure to achieve nutrition optimization and adequate skin protection with combination of oral and/or parenteral nutrition. Three months after stenting, following nutritional optimization and improvement of skin coverage, definitive procedure consisted of uncomplicated fistula resection with primary stapled side-to-side functional end-to-end anastomosis. The stents were not completely incorporated into the mucosa and were rather easily pulled through the residual fistula opening just prior to the surgery. Only minimal fibrosis was noted and less than 20 cm of involved small bowel needed to be resected. Had the fistula have closed completely, the options would have included (1) proceeding to bowel resection with removal of the stents regardless of closure, or (2) cutting the securing prolene stitch and observation. Considering the placement of the stents in mid-small bowel, their endoscopic retrieval would have been difficult unless they were to migrate into the colon.

Conclusions Although a prior attempt at managing an enterocutaneous fistula with a stent deployed through a colostomy site was previously reported [1], there is no published account of bridging an enterocutaneous fistula with overlapping endoscopic stents through the fistula itself. This video serves as a proof of concept for temporizing enterocutaneous fistulas with endoscopic stenting.

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George Melich and Ajit Pai have contributed equally to this work.

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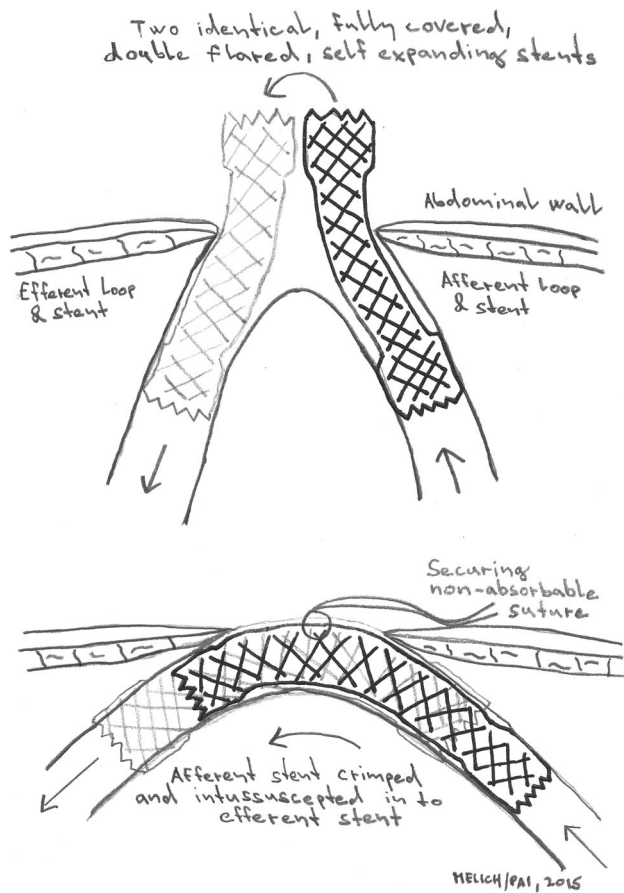


Fig. 1 Dual intussuscepting stent technique schematic

Keywords Enterocutaneous fistula · Endoscopic technique · Endoscopic stent

See Fig. 1.

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Compliance with ethical standards

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