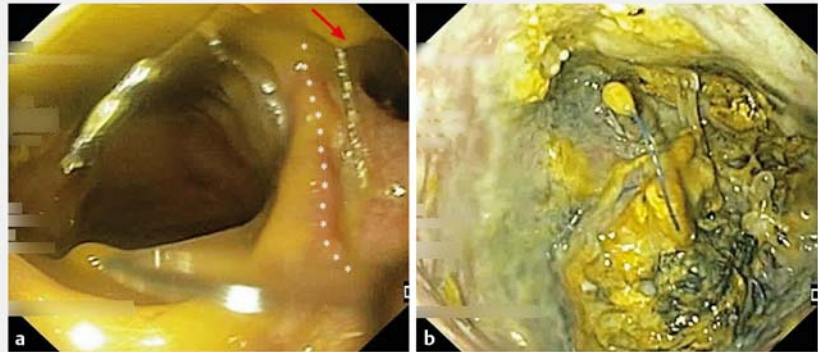


Endoscopic internal drainage using double-pigtail stent placement to manage a case of proximal colo-colonic anastomotic leakage



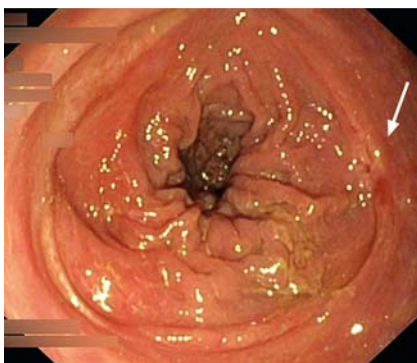
► **Fig. 1** Computed tomography scan showing an extra-luminal contrast-medium passage (red arrow) from the left colonic anastomotic region to the intra-abdominal collection located in the splenic loggia.



► **Fig. 2** Endoscopic views. **a** Leak (asterisks) of the colo-colonic anastomosis with an orifice (red arrow). **b** Wide peri-anastomotic cavity accessed through the orifice.



► **Fig. 3** Computed tomography scan showing a complete collapse of the peri-anastomotic collection after stent removal.



► **Fig. 4** Endoscopic view of regular colo-colonic anastomosis with a complete closure of the leak orifice (arrow) at 6-month follow-up.



► **Video 1** Endoscopic internal drainage using double-pigtail stent placement to manage proximal colo-colonic anastomotic leakage. This approach works by promoting collapse of the collection, granulation-tissue formation and re-epithelization of the leak orifice

A 39-year-old man underwent a distal spleno-pancreatectomy and colonic resection for a tail pancreatic cancer infiltrating the colonic splenic flexure. Five days after surgery, the patient experienced fever and abdominal pain. A computed tomography (CT) scan showed a 10-cm intra-abdominal collection with free air bubbles inside; oral contrast-medium intake revealed a passage from the colon to the abdominal collection,

highly suspicious of an anastomotic leak (► **Fig. 1**).

Endoscopy confirmed a wide anastomotic leakage with access to a peri-anastomotic cavity (► **Fig. 2 a, b**) and we decided to attempt endoscopic internal drainage in order to avoid a new surgical procedure.

Under endoscopic view and fluoroscopic guidance, two double-pigtail plastic stents (10-Fr/10-cm and 7-Fr/7-cm, Bos-

ton Scientific, Massachusetts, USA) were placed across the leak orifice (► **Video 1**) with one pigtail tip of each stent located inside the cavity. A CT scan 24 hours later confirmed the correct placement of the two stents.

Follow-up CT scans showed a progressive reduction in the collection's size up to 2 cm at 5 weeks, so stent removal was planned. Endoscopy showed a closure of the anastomotic leak and a single stent "in situ" that was removed with a forceps. The next CT scan confirmed the complete collapse of peri-anastomotic collection (► **Fig. 3**). After 6 months, the colo-colonic anastomosis appeared endoscopically regular with a complete closure of the leakage (► **Fig. 4**).

Endoscopy is emerging as a first-line approach over surgery for management of post-operative gastrointestinal leaks and fistulae [1]. While endoluminal vacuum therapy is reported as an effective method for management of colo-rectal anastomotic leakages [2], endoscopic internal drainage by double-pigtail stent placement is described as a conservative treatment of leaks and fistulas after upper gastrointestinal surgery, especially in the bariatric setting [3–5]. The application of endoscopic internal drainage technique in this case allowed us to successfully and conservatively manage a proximal colo-colonic anastomotic leakage without needing a protective ileostomy or an additional surgical procedure.

Endoscopy_UCTN_Code_TTT_1AQ_2AG

Competing interests

Dr. Roberto Di Mitri is consultant of Boston Scientific; the other authors have no conflicts of interest.

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Endoscopy 2022; 54: E454–E455

DOI 10.1055/a-1625-4106

ISSN 0013-726X

published online 27.9.2021

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Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

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