

Percutaneously Deployed Endoscopic Stents for the Management of Gastrointestinal Wound Complications

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Background

- Management of gastrointestinal (GI) contents communicating through the abdominal wall poses challenges for management both for both planned stomas and unplanned fistulae.
- Stoma and fistula defects in the abdominal wall differing sets of complications.
  - Stoma: stenosis, mucocutaneous disruption (MC), infection
  - Fistula: high output, chemical dermatitis, infection
- Operative management is often complicated by nutritional state and concurrent soft tissue defects, requiring a significant optimization
- We present our initial experience with use of percutaneously deployed endoscopic stents for first stage management of GI fistulae and stoma complications

Methods

- IRB-approved single-center retrospective medical record review of cases performed from 12/2012 to 07/2020
- Inclusion: all patients who underwent percutaneous deployment of an endoscopic stent to manage a GI fistula or stoma complication
- Preoperative, operative, and postoperative data collected and analyzed using descriptive statistics

Results

- 10 patients included:
  - Mean age 60.9 ± 9
  - 60% female
  - Mean ASA Class 3.2 (range 3-4)
- Stent deployment:
  - 7 (70%) placed across ostomy
  - 3 (30%) placed across fistula
- Stent Type:
  - Fully-covered esophageal stent: 8 (80%)
  - Fully-covered biliary stent: 1 (10%)
  - Lumen-opposing metal stent: 1 (10%)

Results



Image 1: *Stent deployed across disrupted gastrocutaneous tract during remnant transgastric access for ERCP*

Location of stent deployment	
Stomach	1 (10%)
Proximal jejunum	2 (20%)
Mid-jejunum	1 (10%)
Colon	6 (60%)

Indication for stent placement	
High-output fistula	2
MC disruption with intraperitoneal sepsis	2
Skin level stricture with obstruction	3
Gastrostomy erosion	1
Ostomy retraction with wound infection	1
Persistent fistulae with distal stricture	1

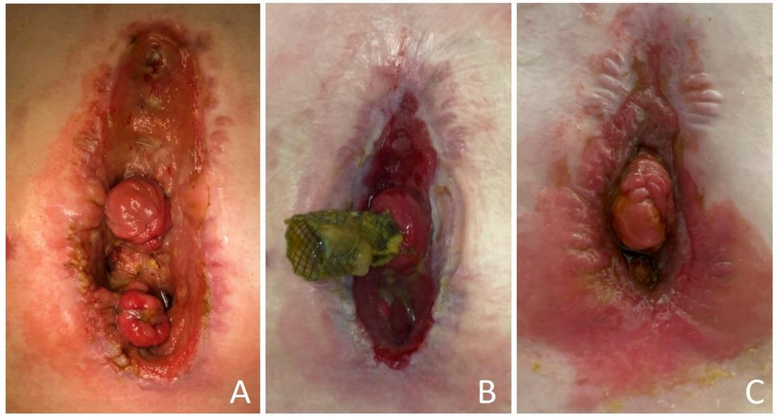


Image 2: *Patient with end colostomy contaminating midline wound (A). Stent deployed across colostomy to divert stool (B). Significant improvement in wound healing was noted with stent in place. Stent removed at bedside (C).*

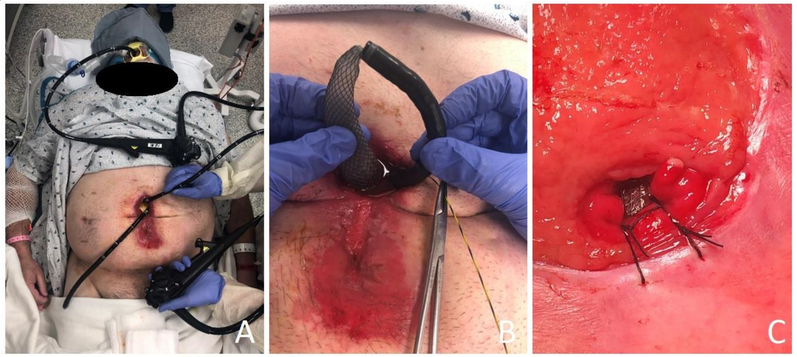


Image 3: *Patient with proximal jejunal enterocutaneous fistula. Upper endoscopy and percutaneous endoscopy utilized to place wire across fistula (A). Stent deployed across fistula (B). Stent is sutured into place (C).*

Outcomes:

Length of stent therapy: Mean of 28 days (range 1-112)
Repeat endoscopic intervention in 5 patients (50%)
- New stent placement (3)
- Stent repositioning (2)

Clinical improvement after stent placement in 7 (70%) patients
Later state definitive operation in 7 (70%) patients
- Mean of 208 ± 203 days from initial stent placement to operation

No stent induced complications (excluding stent migration, n=3)

Conclusion

- Percutaneous deployment of endoscopic stents across fistulae and stomas provides
  - Safe, minimally-invasive early stage adjunctive therapy
  - Potential for definitive therapy
- High rate of reintervention requiring close clinical follow-up
- Further study to determine best practices for patient selection

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