Novel Use of a Covered Metal Stent: A Case of Supra-facial Diverticular End-Colostomy Perforation Causing NSTI

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Introduction

- Large complex wounds that involve fistulization to the enteric tract are difficult to manage.
- Traditional management involves surgical fecal diversion, requiring intra-abdominal surgery.
- Endoscopic stents have been used in an increasing variety. This case report highlights a novel use of a covered metal stent for non-surgical fecal diversion in a medically complex patient

Patient Presentation

- 76 year-old female with history of rectal cancer status post abdominal perineal resection with end colostomy 10 year ago.
- Patient presented in septic shock with abdominal wall fluid collection and subcutaneous gas concerning for necrotizing soft tissue infection.

Past Medical History:

- Colo-rectal cancer s/p resection. CAD s/p CABG, atrial fibrillation, ischemic cardiomyopathy with 40% ejection fraction, obese and sacral decubitus ulcer.

Physical Exam:

- Abdomen: Functional Ostomy in left-mid abdomen, adjacent wound. 2 x 3 cm with feculent and purulent output. Area around ostomy is tender and erythematous with fluctuance.

Laboratory Data:

23	9 / 28	567

131	99	23
5	18	1.2

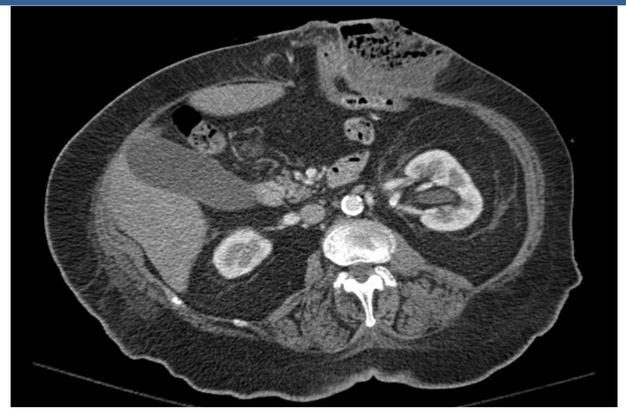
370

Lactic acid 7.0

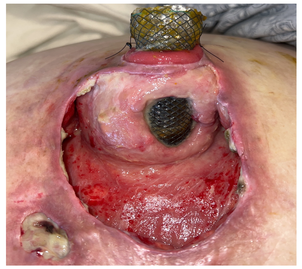
Imaging:

Large peristomal gas/fluid collection measuring 8 x 5.4 cm, consistent with abscess or severe soft tissue infection.

Images









Intra-op Findings and Post-Op Course

- Supra-facial perforation in the lateral wall of end-colostomy with adjacent large feculent and purulent collection.
- Area was debrided, thoroughly irrigated, and the wound bed was packed with wet to dry dressing.
- POD1-5: Persistent feculent output into wound bed. Managed with frequent dressing changes and IV antibiotics.
- POD5-12: Attempted isolation of wound using wound vac with a veraflo system. This was unsuccessful at promoting tissue granulation or wound healing.
- POD13: Interventional gastroenterology placed a 10 cm x 23 mm covered wall flexible esophageal stent under fluoroscopic guidance. The stent bridged the perforation site well and was anchored to the abdominal wall with sutures.
- POD14-20: Wound vac therapy was continued with stent in place. Granulation tissue developed and the end-colostomy perforation shrunk.
- Patient progressed well, completed her antibiotics and was stable to be discharged to a skilled nursing facility to continue with wound care and full recovery.

Conclusion

- Large complex wounds that involve fistulization to the enteric tract are notoriously difficult to manage and usually result in long term burden on the health system and frequent returns to the hospital.
- This case highlights an unconventional use of covered metal stent placement and a viable treatment option for an enterocutaneous fistula on a patient who was not a good surgical candidate
- Case reports have demonstrated success of endoscopic stents in enterocutaneous fistula management. This is an example of creative use of these stents to expand options in complex ostomy wounds in an unusual case of ECF.

Sources

- Hussain, S; Kim S; Rubin M. Following Transcutaneous Endoscopic placement of two overlapping enteral stents. American Journal of Gastroenterology. 106(): pS263, October 2011
- Melich G; Pai A; Balachandran B; Marecick S; Prasad L; Park J. Endoscopic control of enterocutaneous fistula by dual intussusception stent technique. Surg Endos. 2016 Sep;30(9):4150-1.
- Nikfarjam M; Champagne B; Reynolds H; Poulose B; Ponsky J; Marks J. Acute management of stoma-related colocutaneous fistula by temporary placement of a self-expanding plastic stent. Surg Innov. 2009 Sep;16(3):270-3.