

VIDEO | ENDOSCOPY

Endoscopic Ultrasound-Guided Drainage of a Pelvic Abscess With a Lumen-Apposing Metal Stent

Kornpong Vantasiri, MD¹, Elizabeth Aby, MD², James Harmon, MD³, Robert Madoff, MD³, Chesney Siems, MD³, Nabeel Azeem, MD², Martin Freeman, MD², and Guru Trikudanathan, MD²

¹Department of Medicine, University of Minnesota, Minnesota, MN

²Division of Gastroenterology, Hepatology and Nutrition, Department of Medicine, University of Minnesota, Minnesota, MN

³Department of Surgery, University of Minnesota, Minnesota, MN

CASE REPORT

Pelvic abscess could occur as a complication after abdominopelvic surgery. Transanal surgical drainage and percutaneous drainage are conventional treatment options for adequate source control.¹ However, these management approaches might not be technically feasible under some circumstances.² Endoscopic ultrasound (EUS)-guided lumen-apposing metal stents (LAMSs), such as the AXIOS stent



Figure 1. Contrast-enhanced computed tomography demonstrated a 10.7 × 7.6 × 5.6 cm pelvic abscess located within the rectouterine pouch and surrounding the rectosigmoid colon.

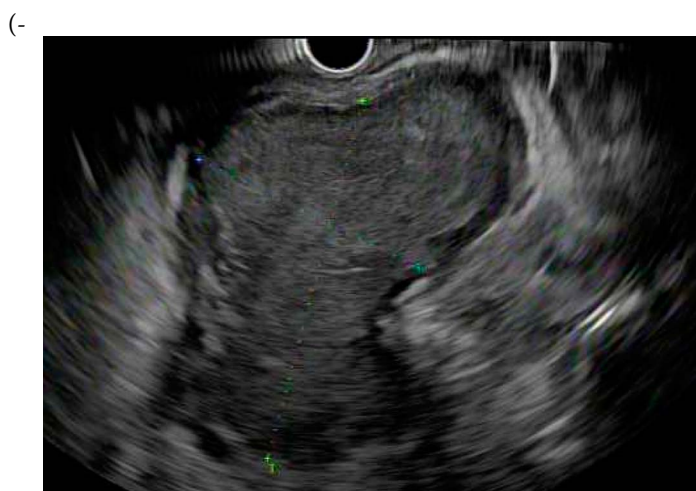


Figure 2. Lower endoscopic ultrasound demonstrated a perirectal abscess.

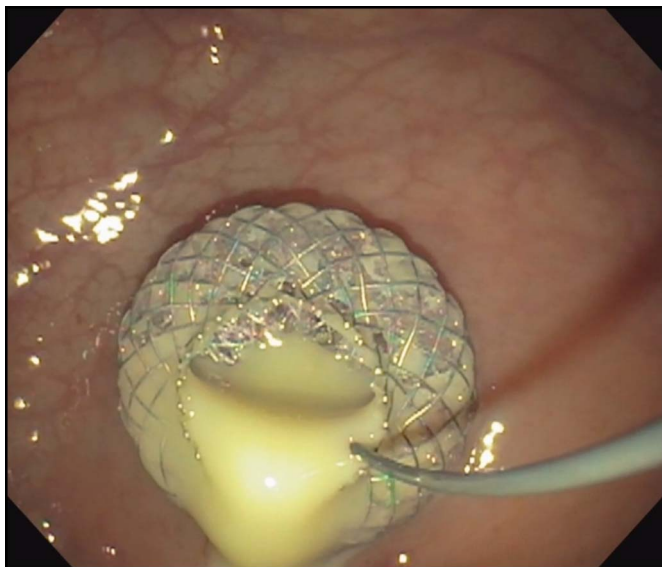


Figure 3. Lumen-apposing metal stent was placed into the collection with drainage of a copious amount of pus.

Boston Scientific, Natick, MA), is a novel minimally invasive modality for internal drainage of pelvic abscesses, which obviates the need for surgical or percutaneous approach.³

A 37-year-old woman with a high-grade glioblastoma on chemotherapy underwent a laparoscopic appendectomy for acute gangrenous appendicitis. On postoperative day 12, she returned with abdominal pain and fever. Vital signs and physical examination were significant for a temperature of 38.9°C and mild midlower abdominal tenderness. A contrast-enhanced computed tomography (CT) demonstrated a 10.7 × 7.6 × 5.6 cm pelvic abscess located within the rectouterine pouch and surrounding the rectosigmoid colon (Figure 1). Given her immunocompromised state, rapid resolution of the abscess was crucial to prevent further clinical deterioration. With percutaneous approach via transgluteal access, a 14 Fr catheter was required to be left in place for weeks for adequate drainage, which would be detrimental to the patient's quality of life. The case was discussed in an interdisciplinary meeting, and a minimally invasive endoscopic approach was pursued (Video 1; watch the video at <http://links.lww.com/ACGCR/A23>). Lower EUS under fluoroscopy was performed under general anesthesia. A mucosal bulge was observed when advancing the colonoscope to the rectum. EUS demonstrated the perirectal abscess, which was further confirmed with 19-gauge needle aspiration (Figure 2). Thick, viscous fluid resembling pus was confirmed from aspiration and sent for culture and sensitivity. The abscess was then punctured along the anterior aspect of the rectum 12 cm from anal verge under endosonographic and fluoroscopic guidance using a 10 mm Hot AXIOS delivery system (Boston Scientific, Natick, MA). A 0.025 inch by 450 cm VisiVSlide wire (Olympus) was then inserted to the abscess cavity under fluoroscopic and endoscopic guidance, and a 10 mm by 10 mm AXIOS stent was placed into the collection with drainage of a copious amount of pus (Figure 3). After



Figure 4. Contrast-enhanced computed tomography demonstrated near-complete resolution of the pelvic abscess after lumen-apposing metal stent placement.

Video 1. Endoscopic ultrasound (EUS)-guided drainage of a pelvic abscess with a lumen-apposing metal stent (LAM).

the procedure, there was marked improvement in symptoms, and the patient was discharged the next day. Given the predominant liquid contents of the abscess cavity and relatively large luminal diameter of the LAMS, a quick decompression was anticipated, and therefore, a CT was performed within 5 days. The CT demonstrated near-complete resolution of the abscess (Figure 4). The LAMS was then removed and exchanged with a 7 Fr by 2 cm Zimmon double pigtailed stent (Cook Endoscopy, IN), which later passed spontaneously as the abscess cavity collapsed.

We describe a case of a successful application of LAMS for EUS-guided pelvic abscess drainage. LAMS are novel devices for transluminal drainage that were initially developed for use in the management of pancreatic fluid collections; however, the use of LAMS has expanded to other indications, including for pelvic abscess drainage. This novel approach is a highly effective therapeutic alternative to percutaneous and transanal surgical drainage for drainage of pelvic abscess collections adjacent to the gastrointestinal lumen, especially those higher than 6–8 cm from the anal verge.⁴ It should be considered in immunocompromised patients, in situations where external drainage is

technically challenging and may be associated with complications and when transanal surgical drainage is not feasible. This technique also poses a decent safety profile when performed by advanced endoscopists. Potential adverse events include hollow viscus perforations, bleeding, and damaging neighboring structures, which are rare.⁵

DISCLOSURES

Author contributions: All authors contributed equally to this manuscript. G. Trikudanathan is the article guarantor.

Financial disclosure: None to report.

Informed consent was obtained for this case report.

Received April 12, 2020; Accepted July 10, 2020

REFERENCES

1. Akinci D, Ergun O, Topel C, Ciftci T, Akhan O. Pelvic abscess drainage: Outcome with factors affecting the clinical success. *Diagn Interv Radiol*. 2018;24(3):146–52.
2. Maher MM, Gervais DA, Kalra MK, et al. The inaccessible or undrainable abscess: How to drain it. *Radiographics*. 2004;24(3):717–35.
3. Shah SL, Karadesh S, Dawod E, Saumoy M, Afaneh C, Sharaiha RZ. Endoscopic ultrasound-guided transrectal pelvic abscess drainage using a lumen-apposing metal stent. *Endoscopy*. 2018;50(9):E254–5.
4. deBeche-Adams T, Nassif G. Transanal minimally invasive surgery. *Clin Colon Rectal Surg*. 2015;28(3):176–80.
5. Poincloux L, Caillol F, Allimant C, et al. Long-term outcome of endoscopic ultrasound-guided pelvic abscess drainage: A two-center series. *Endoscopy*. 2017;49(5):484–90.

Copyright: © 2020 The Author(s). Published by Wolters Kluwer Health, Inc. on behalf of The American College of Gastroenterology. This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.