A 43-year-old man with a history of metastatic poorly differentiated signet ring adenocarcinoma of the colon, with metastases to the omentum and significant peritoneal carcinomatosis, was seen as an inpatient. He had an extensive surgical history, including a left hemicolectomy with colostomy and colostomy reversal, cytoreductive surgery, omentectomy, small-bowel resection, and lysis of adhesions. He also had received heated intraperitoneal chemotherapy in the past. He presented with a recurrent small-bowel obstruction.

Contrast-enhanced CT of the abdomen was performed with oral as well as intravenous contrast material and demonstrated dilation of the proximal duodenal and jejunal loops up to a diameter of 4 cm (Fig. 1). A transition point was identified in the proximal to mid ileum.

Surgical evaluation was requested, and the morbidity of surgical intervention was thought to be prohibitively high, given the dense intraabdominal adhesions and the extensive peritoneal carcinomatosis. Interventional radiology consultations were also unable to offer viable options because of the extensive peritoneal disease. The gastroenterology service was then consulted to discuss potential endoscopic management options.

Placement of a venting percutaneous gastrostomy or jejunostomy tube was attempted, but tubes were unable to be placed because of the lack of transillumination due to extensive peritoneal carcinomatosis, along with a midline abdominal wound from prior surgery. EUS evaluation was then performed for potential placement of a lumen-apposing metal stent from the proximal small bowel to an area distal to the obstruction (Video 1, available online at www.VideoGIE.org).

The linear echoendoscope was advanced to the second portion of the duodenum. A segment of colon was seen in close proximity to the second portion of the duodenum. Through the rectum, a rectal tube for instillation of water could not be advanced easily because of an acute angulation at the transverse-sigmoid anastomosis. Therefore, colonoscopy was performed to the cecum with a pediatric colonoscope, and 120 mL of diluted contrast material was infused into the cecum to distend the cecum and aid fluoroscopic identification. As the colon was distended, the distended portion of the colon was well visualized from the second portion of the duodenum endosonographically. Once an appropriate position in the duodenum was identified, color Doppler was used to evaluate the walls between the duodenum and colon for interposing vessels, and a safe window was chosen where no obvious peritoneal implants were seen. Under endosonographic guidance, the duodenal wall and colon wall were punctured by use of a cautery-enhanced 15-mm × 10-mm lumen-apposing metal stent (LAMS) (Axios; Boston Scientific, Marlborough, Mass, USA), and the stent was deployed (Fig. 2). With a colonoscope in place in the colon throughout the procedure and the echoendoscope in place in the duodenum in the event of stent misdeployment, stent redeployment of adjustment could be performed expeditiously.

After stent deployment, colonic contents could be seen in the LAMS and in the duodenal lumen. A 0.035-inch × 450-cm straight guidewire (Jagwire; Boston Scientific) was advanced into the duodenum, through the LAMS,
and into the colon to maintain continuous access for the remainder of the procedure. The tract was dilated with a 15-mm balloon dilation catheter (CRE Balloon Dilator; Boston Scientific) per institutional protocol to allow for immediate relief of obstruction and to visualize the colon. The gastroscope was then advanced from the duodenum through the LAMS into the ascending colon. Diluted contrast material was infused into the duodenum, and fluoroscopically, contrast material could be seen flowing through the LAMS into the right colon segment.

The next day, the patient reported resolution of abdominal pain, nausea, and vomiting. An abdominal radiograph done that day showed resolution of the small-bowel obstruction and demonstrated the well-positioned LAMS in place (Fig. 3). A few days later, the patient remained symptom free, and he did not describe having diarrhea. He was discharged home to receive home hospice care and was able to tolerate oral comfort feeding. He did not attend his 6-week office visit and was not readmitted to the hospital. Therefore, we presume the patient died during this time.

In conclusion, EUS-guided enterocolostomy can be considered in similar cases where all therapeutic options (including venting gastrostomy or jejunostomy tube placement) for palliative relief of malignant small-bowel obstruction have been exhausted or deemed too risky. This permanent endoscopic management option can provide lasting symptom relief in patients truly at the end of life, with life expectancy estimated to be days to weeks.

**DISCLOSURE**

All authors disclosed no financial relationships relevant to this publication.

**Abbreviation**: LAMS, lumen-apposing metal stent.

**ACKNOWLEDGEMENT**

Supported by a Robert W. Summers grant from the American Society for Gastrointestinal Endoscopy.

Division of Gastroenterology, Drexel University College of Medicine, Philadelphia, Pennsylvania, USA.

Copyright © 2019 American Society for Gastrointestinal Endoscopy. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

https://doi.org/10.1016/j.vgie.2019.07.015

---

**Figure 2.** Endoscopic view across the lumen-apposing metal stent demonstrating the connection from the duodenum to the colon.

**Figure 3.** Radiographic view of the abdomen demonstrating resolution of small-bowel obstruction and lumen-apposing metal stent in place.