Reversal and reloading of a 22-mm duodenal stent for urgent decompression of malignant colonic obstruction in a high-risk patient

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Acute colonic obstruction is a medical emergency, and a delay in decompression has been associated with increased mortality and morbidity.[1-3] Previous studies have shown the efficacy of endoscopic stent placement in relieving malignant colonic obstruction (MCO) as an alternative to emergent surgery.[3-4] In recent years, endoscopic stent placement for MCO has become a common palliative therapy or a bridge to surgery in selected patients to optimize

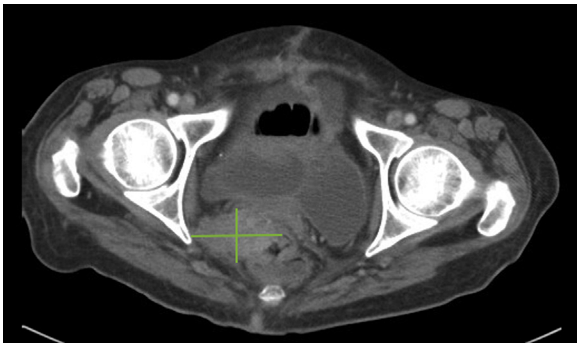

Figure 1. CT view of abdomen and pelvis (axial) showing 4.8- × 2.7-cm mass at rectosigmoid junction *(green cross)*.

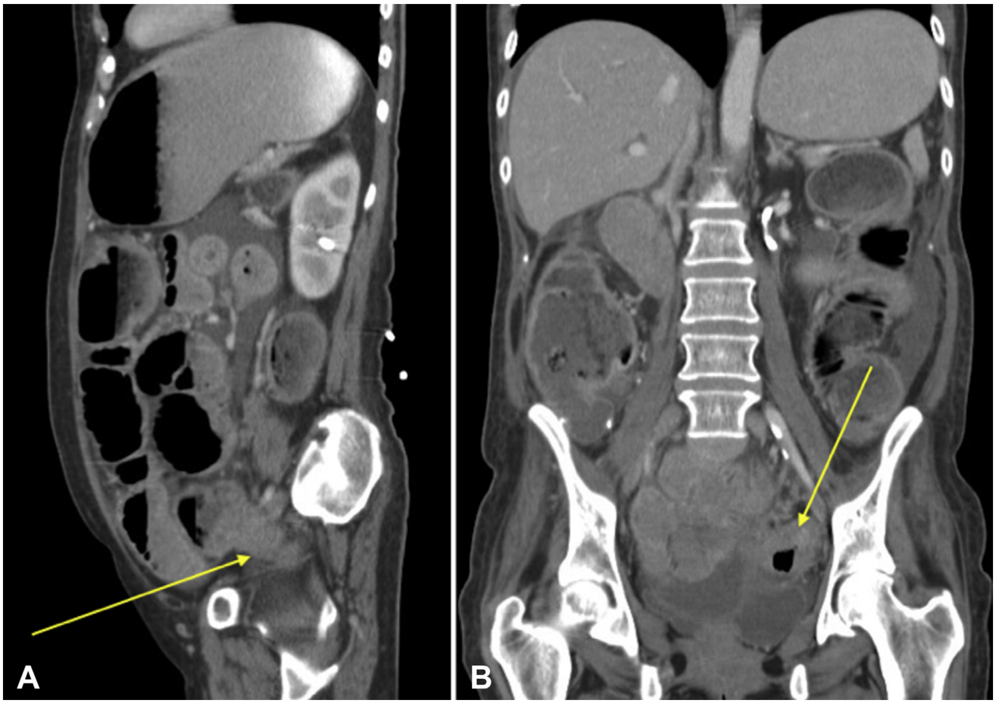

Figure 2. CT views of abdomen and pelvis (**A,** sagittal; **B,** coronal) showing dilated loops of bowel proximally, secondary to rectosigmoid obstruction *(yellow arrows)*.

Figure 3. Sigmoidoscopic view showing rectosigmoid stenosis.

Figure 4. Balloon-occluded colonographic view depicting guidewire and stricture (patient in semi-left lateral position).

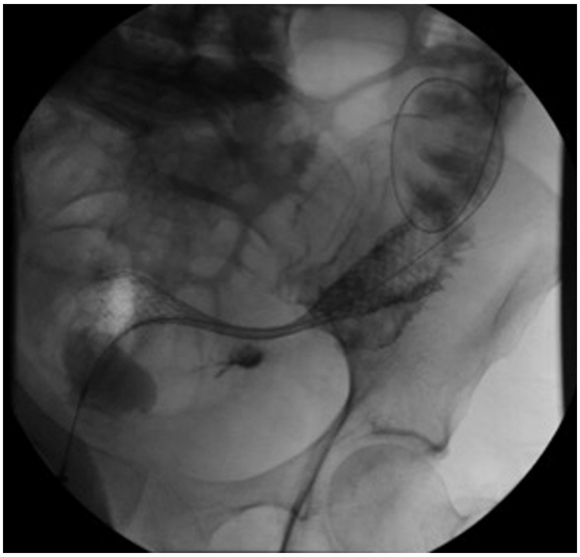

Figure 5. Colonographic view depicting a 22- × 90-mm uncovered duodenal stent deployed across rectosigmoid stricture (patient in supine position).

Figure 6. Sigmoidoscopic view showing patent rectosigmoid junction after stent deployment.

their preoperative state.[5] Perforation is the most serious adverse event, with a mortality rate near 16%.[5,6] Selection of the appropriately sized stent is a key factor in minimizing the risk of perforation, especially for obstructions at the rectosigmoid junction, which carry a higher risk of perforation.[5] We present a patient who required urgent decompression for MCO at the rectosigmoid junction that was managed with a reversed 22-mm duodenal stent, because the equivalent-sized colonic stent was unavailable.

A 57-year-old woman with metastatic endocervical mucinous carcinoma presented with persistent nausea, vomiting, and generalized abdominal pain that aroused concern for an intestinal obstruction. She had an extensive surgical history, including hysterectomy, omentectomy, ileocecectomy, and subsequent small-bowel resection with ileocolonic anastomosis. On physical examination, she was frail and cachectic, with a body mass index of 12 (height 152 cm and weight 28 kg), and her abdomen was distended, with high-pitched borborygmi. Laboratory tests revealed a serum albumin level of 2.6 g/dL. Contrast-enhanced CT of the abdomen and pelvis demonstrated progression of her pelvic malignancy, peritoneal carcinomatosis, ascites, and a high-grade stricture at the rectosigmoid junction with upstream dilation (Figs. 1 and 2). Owing to her severe malnutrition, cachexia, and advanced malignancy, she was a poor surgical candidate. Nasogastric tube decompression was attempted; however, her condition worsened, with progressive obstipation and distention. A multidisciplinary discussion was held, and urgent decompression with a colonic stent placement was requested.

After 4 tap-water enemas, sigmoidoscopy was performed using a water-immersion technique, and high-grade rectosigmoid stenosis was noted 15 cm from the anal verge (Fig. 3). An angled-tipped 0.035-inch × 450-cm guidewire was passed through the stenosis under endoscopic and fluoroscopic guidance, and balloon-occlusion colonography was performed (Fig. 4). Because of the patient's small body habitus and high perforation risk, a smaller 22-mm diameter colonic stent was desired (compared with the standard 25-mm stent) but was not available. A 22-mm × 90-mm uncovered duodenal stent was selected. However, duodenal and colonic stents are loaded onto the deployment catheter in reverse configuration in such a manner that the antimigration flare is released upstream to the obstruction. Before the duodenal stent was used in the colon, it was reversed on the deployment catheter. This was accomplished by removing the stent from the deployment catheter, reversing it, and reloading it by squeezing the braided wires onto the anchor and sliding the sheath back over it (Video 1, available online at www.VideoGIE.org). The reloaded stent was deployed by passing the catheter over the guidewire and was positioned in such a manner that the midbody of the stent was at the middle of the stenosis (Fig. 5). Stent deployment was followed by a gush of liquid stool and contrast material (Fig. 6), and a follow-up abdominal radiograph confirmed decompression of the proximal colon. After stent placement, the patient's abdominal pain and nausea resolved, and she began to tolerate oral intake as well. She did not require stent exchange or revision before discharge. Unfortunately, she presented 17 days later with cardiac arrest due to sepsis, acute renal failure, and hyperkalemia. There was no evidence at the time of her readmission that there were any stent-related adverse events.

In conclusion, retrograde deployment of reversed and reloaded duodenal stents may be used (off label) as an alternative technique when urgent decompression is indicated and the desired colonic stent is unavailable.

DISCLOSURE

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Abbreviation: MCO, malignant colonic obstruction.

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