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IMAGES IN UROGYNECOLOGY

Concurrent total abdominal colectomy and ileorectal anastomosis with transvaginal posterior colporrhaphy for constipation

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Introduction

Constipation, one of the most commonly encountered gastrointestinal disorders, is associated with impaired quality of life and a large economic burden. Studies estimate the prevalence of constipation in the general population to be 12–19% and up to 30–40% among people >65 years of age [1, 2]. The high rate of recurrence of constipation in the elderly can result in fecal impaction, stercoral ulcers, and volvulus [3]. Constipation can be categorized as slow-transit constipation, normal-transit constipation, or obstructed defecation, with diagnoses occurring separately or in combination [4]. Patients with severe slow-transit constipation have an increased risk of pelvic organ prolapse (POP) due to chronic straining. Prior to surgical correction of the prolapse, it is necessary to address the underlying risk factors, such as slow-transit constipation, often with a separate subtotal or total colectomy [4–6]. We report a case of a patient with a longstanding history of slow-transit constipation and rectocele, with impressive images to further illustrate the lasting effects of constipation on the gastrointestinal system.

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Due to the duration and severity of the symptoms despite medical management, the patient underwent a combined total abdominal colectomy with ileorectal anastomosis and a transvaginal posterior colporrhaphy.

Case report

A 59-year-old woman was initially referred to our institution in 2016 with a 50-year history of chronic constipation. Despite diet, medication, and medical management, her symptoms worsened 2 years prior to presentation. The duration between bowel movements lengthened to every 2–3 weeks and then to months. She developed poor tolerance for liquids and would experience emesis with solids. During this period, she had tried bulking agents, stool softeners, stimulate laxatives, and osmotic agents, including polyethylene glycol, lactulose, milk of magnesia, and magnesium citrate. She also tried lubiprostone, a chloride-channel activator, as well as linaclotide, a guanylate cyclase 2C (GC-C) receptor agonist.

In the previous 2 years, she had undergone three colonoscopies, which could not be fully completed because of residual stool interfering with visualization, incomplete clearance with lavage, and a significantly looping and tortuous colon. Computed tomography (CT) of the abdomen and pelvis with and without contrast showed significant burden of retained stool (Fig. 1) in January 2015. A sitz-markers study indicated slow transit, as the markers remained in the colon for >2 weeks (Fig. 2a and b).

At the time of referral to our institution, she had experienced a recent syncopal episode, which was determined to be a vagal reaction from straining after 6 weeks without a bowel movement. A defecography in October 2016 revealed a 4-cm rectocele with defecation and difficulty initiating emptying (Fig. 3a and b). She complained of the inability to evacuate her rectum and the need to splint in order to complete a bowel

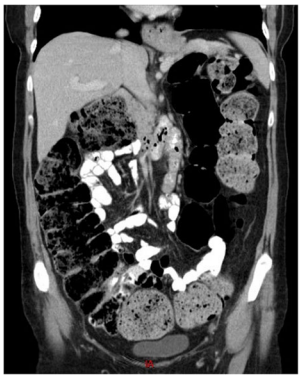

Fig. 1 Computed tomography of abdomen and pelvis with and without contrast showing marked colonic distension filled with feces. There is no evidence of a volvulus or a sigmoid mass. Distal sigmoid and rectum are completely collapsed

movement. Due to the duration and severity of symptoms despite medical management, surgical options were discussed with the patient. In January 2017, she underwent a laparoscopic procedure converted to open total abdominal colectomy with ileorectal anastomosis, along with a posterior colporrhaphy. Initial laparoscopic attempt required extensive blunt and sharp dissection of the adhesions. Intestinal volvulus, a finding not seen on preoperative CT imaging, was visualized intraoperatively after gentle pulling on the sigmoid colon and subsequently reduced. Safety concerns of difficult visualization, challenges mobilizing the bowel, and prolonged general anesthesia were factored into the decision to convert to an open procedure. The patient's entire colon was found to be enlarged, tortuous, and full of stool (Fig. 4). The narrow portion of the colon was distal to a segment that was malrotated. On pathology, the colon was opened to reveal a dilated lumen containing hard fecal material with the mucosal pink–tan, dusky, and unremarkable throughout (Fig. 4). Further findings in the operating room included extensive malrotation and obstruction at the level of the sigmoid colon, which was adhered to the posterior aspect of the splenic flexure of the colon. While a typical large intestine is approximately 150 cm in length, her colon from the cecum to the rectosigmoid colon was 220 cm and had a circumference ranging from 4 to 12 cm. Following surgery, her postoperative course was complicated by nausea and poor oral tolerance, which resolved in a few days, and a urinary tract infection. By discharge, she began having several loose bowel movements daily. She was very satisfied at her 3-month, 6-month, and 1-year clinic visits. She was not taking any bowel medications, having on average three loose stools a day, and was electing not to bulk up the stools. The patient reported no symptoms of obstructed defecation, abdominal pain, or difficulty eating. On physical exam, the rectocele repair was intact.

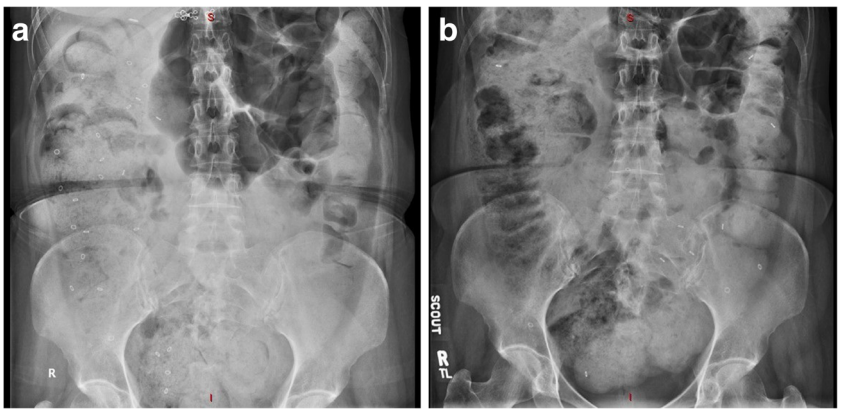

Fig. 2 **a** and **b** Abdominal X-ray taken 2 days (left) and 2 weeks (right) into a sitz-marker study. At 2 days, all sitz markers have moved to the colon. Prominent fecal material and gas seen within the colon. No gas dilated in small bowel to indicate small-bowel obstruction or ileus. At 2 weeks, large amount of retained stool present throughout the colon. Sitz markers have advanced, with the most distal overlying the region of the rectum

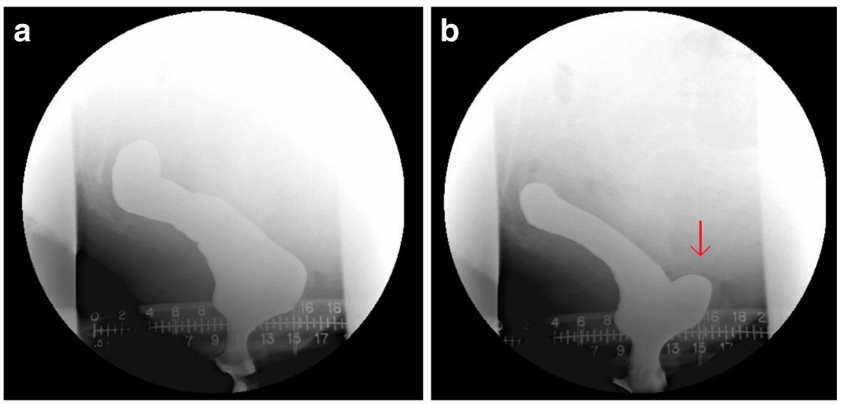

Fig. 3 **a** and **b** Defecography: Pevacuation image (left) showing rectocele measuring 4 cm. Postevacuation image (right) showing contrast media retained

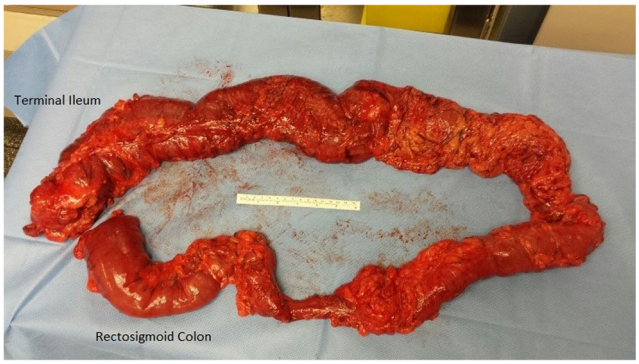

Fig. 4 Gross specimen of the total colectomy specimen consisting of a portion of terminal ileum (4.0 cm in length × 5.5 cm in circumference) with attached cecum; ascending, transverse, descending, and rectosigmoid colon (220.0 cm in length and ranging in circumference from 4.0 to 12.0 cm); and attached appendix (10.0 cm in length × 0.3 cm in diameter). The serosal surface is purple–tan to red, dusky, and exhibits attached pericolonic adipose tissue up to 3.5 cm in maximal thickness. On pathology, the colon was opened to reveal a dilated lumen containing hard fecal material. The mucosal is pink–tan, dusky, and unremarkable throughout. No discrete masses, fissures, fistulas, or perforations were identified

Conclusion

Patients with severe slow-transit constipation have an increased risk of POP because of chronic straining. Prior to surgical correction of the prolapse, it is necessary to address the underlying risk factors for the condition. Our case illustrates the importance of considering surgical intervention for patients with constipation under certain circumstances and demonstrates a combined surgical approach as a viable option for patients with chronic slow-transit constipation and concurrent rectocele causing obstructed defecation.

Compliance with ethical standards

Conflicts of interest None.

Consent Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

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