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ILEAL J-POUCH VOLVULUS FOLLOWING TOTAL PROCTOCOLECTOMY FOR ULCERATIVE COLITIS

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Abstract

Total proctocolectomy with ileal-pouch anal anastomosis [IPAA] allows restoration of continence in select patients with ulcerative colitis, but is associated with significant morbidity. Well-known complications following IPAA include pouchitis, anastomotic leak and small bowel obstruction. Obstruction secondary to ileal-pouch volvulus is exceedingly rare. We report a case of ileal-pouch volvulus, which occurred secondary to internal hernia. Radiographic and endoscopic identification of volvulus allowed for early operative management and pouch salvage.

Keywords

J-pouch; ileal pouch; volvulus; ulcerative colitis

Case presentation

A 37-year-old female presented to our institution with 24 hours of worsening abdominal pain, nausea, and obstipation. She has a history of ulcerative colitis and had undergone uncomplicated total proctocolectomy with ileal pouch-anal anastomosis [IPAA] ten years prior. Upon presentation, she was afebrile, non-tachycardic, and normotensive. Her abdomen was distended and tender to palpation in the lower abdominal fields without evidence of peritonitis. Digital rectal exam demonstrated an empty ileoanal pouch without gross blood or stool. Laboratory evaluation was unremarkable.

An abdominal radiograph showed dilated loops of small bowel in the lower abdomen proximal to the ileal pouch (Figure 1a). CT scan showed evidence of a small bowel obstruction with a transition point in the lower pelvis at the level of the ileal pouch. Lower gastrointestinal series with water-soluble contrast enema was performed which revealed an acute tapering of contrast at the mid-pouch creating a “bird-beak” appearance (Figure 1b). Flexible sigmoidoscopy revealed a “spoke-wheel” sign consistent with volvulus of the ileal pouch (Figure 1c). The ileal mucosa appeared viable without evidence of ischemia. The

endoscope was passed beyond the twisted segment, however, attempts at endoscopic detorsion were unsuccessful.

Informed consent was obtained and the patient was brought to the operating room for an urgent exploratory laparotomy. Intraoperatively, a diagnosis of volvulized ileal pouch secondary to internal herniation was discovered. The pouch was found to have herniated through a mesenteric defect in the region of the superior mesenteric artery [SMA] at the level of the sacral promontory and rotated 360 degrees about its midpoint. The internal hernia was reduced allowing visualization of the entire small bowel and pouch, which appeared viable without evidence of ischemia. The ileal pouch was returned to its prior orientation and the mesenteric defect between the distal SMA and gonadal vessels was closed (Figure 2). The patient's postoperative course was uncomplicated and she was discharged home on the third postoperative day. She has not experienced any further issues related to her ileal pouch over the following two years.

Discussion

Total proctocolectomy with IPAA is associated with several well-known complications. Common early complications include anastomotic leak and hemorrhage, whereas pouchitis, fistula formation, and obstruction secondary to postoperative adhesions or pouch stricture are well-described late complications. Ileal pouch volvulus is an exceedingly unusual complication following total proctocolectomy with IPAA rarely described in the surgical literature [1–3]. To our knowledge, this represents the first report to clearly illustrate classic endoscopic and fluoroscopic findings of volvulus in this setting. These studies were essential in promptly establishing the correct diagnosis, allowing for pouch salvage in this patient.

Though rare complications, internal herniation and pouch volvulus should be included in the differential diagnosis of patients with a history of total proctocolectomy with IPAA presenting with symptoms of bowel obstruction. Without early identification, pouch ischemia and necrosis may develop, necessitating additional surgery including pouch resection and end-ileostomy creation. Additionally, closure of the SMA mesenteric defect created at the time of proctocolectomy with IPAA may be of clinical value to minimize the risk of internal hernia formation and pouch volvulus.

References

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Figure 1.

1a: Abdominal radiograph showing dilated loops of small bowel proximal to ileal J-pouch

1b: Water-soluble contrast enema demonstrating an acute obstruction of contrast demonstrating a “bird-beak sign”, measured to be 12 centimeters from the anal verge

1c: Transanal flexible endoscopy exhibiting mucosal twisting leading to significant narrowing of the mid-pouch lumen 12 centimeters from the anal verge.

Figure 2.

Intraoperative image displaying the borders of the mesenteric defect which permitted internal herniation and volvulus of ileal pouch. Labels: IPAA (ileal pouch anal anastomosis), SMA (superior mesenteric artery mesentery), Gon (gonadal vessels), Arrow (path of ileal pouch through mesenteric defect)