

Bowel Obstruction in a Pregnant Patient With a Restorative Proctocolectomy and Ileoanal J-Pouch: A Case Report

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ABSTRACT

A 24-year-old pregnant woman had a bowel obstruction secondary to a gravid uterus. A multispecialty team approach resulted in a restorative proctocolectomy, which led to resolution of acute symptoms and a successful pregnancy.

INTRODUCTION

Inflammatory bowel diseases, such as ulcerative colitis and Crohn disease, affect women of reproductive age. Diarrhea, abdominal pain, and pyrexia are common symptoms of both disease processes. In approximately 1:3,000 to 1:1,500 pregnancies,^{1,2} patients may experience a bowel obstruction. Abdominopelvic adhesions account for 60%-70% of intestinal obstructions in pregnancy. A prior history of abdominal surgery, pelvic surgery, or pelvic inflammatory disease increases the risk of adhesions. Cecal volvulus is the cause of 25%-44% of obstructions during pregnancy, while only 9% of cases are attributable to small bowel volvulus.³ Our patient had an extensive history of abdominal surgery, including a restorative proctocolectomy with J-pouch ileoanal anastomosis for ulcerative colitis that increased the likelihood of adhesive disease.

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CASE REPORT

A 24-year-old primigravida was referred to our institution at 34.7 weeks' gestational age secondary to a small bowel obstruction. Two days prior to admission, she complained of nausea, vomiting, abdominal pain, and abdominal distension. She had intermittent abdominal pain throughout the pregnancy and noted a decrease in the number of daily bowel movements in part because of her diminished appetite and decreased oral intake. After an outside facility unsuccessfully attempted treatment with nasogastric suction and total parenteral nutrition, physicians referred her to our facility for consultation with maternal-fetal medicine and colorectal surgery specialists.

The patient was first diagnosed with ulcerative colitis in 2001 after a directed biopsy at the time of colonoscopy. Despite extensive attempts at medical therapy, she required a restorative proctocolectomy with the creation of a J-pouch ileoanal anastomosis in September 2002. After this procedure, she developed recurrent partial small bowel obstructions that required 2 surgical lyses of adhesions procedures (in 2003 and 2006). Postoperatively, she continued to have colicky abdominal pain, intermittent bloody diarrhea, nausea, and an inability to maintain adequate nutrition. In December 2008, another colonoscopy revealed ulcerations involving the ileum, and she was reclassified as having Crohn disease.

In early 2009, she became pregnant and was receiving prenatal care from her primary obstetrician. Her care was complicated by progressive intolerance of oral intake and continued partial small bowel obstructions. At 34.3 weeks, she was admitted to an outside facility after an examination consistent with a bowel obstruction. She received total parenteral nutrition during conservative management with nasogastric tube decompression. After no evidence of improvement, she was transferred to our facility for surgical consultation and access to neonatology specialists in the event of a premature delivery.

Upon arrival, the patient's primary complaint was nausea. The physical examination revealed a gravid

abdomen with marked distension of the right upper quadrant and epigastric region with associated tympani. The area was tender to palpation; however, peritoneal signs were absent. On a standard kidney, ureter, and bladder x-ray, colorectal surgeons noted markedly dilated loops of small bowel along with an airless J-pouch in the right upper quadrant. The radiation risks to the fetus of additional diagnostic studies, such as contrast x-rays, computed tomography, and endoscopy, were carefully considered. The team hypothesized that the obstruction was caused by the gravid uterus, adhesive small bowel disease, or Crohn disease (from fibrotic strictures or fistulas). Despite 6 days of prolonged bowel rest using nasogastric tube decompression and total parenteral nutrition, the clinical obstruction failed to improve. Because the prognosis for the fetus was excellent at 35 weeks' gestation and colorectal surgeons would need to intervene, the team decided to proceed with a cesarean delivery and potential small bowel resection.

A viable female was born at 35.1 weeks' gestational age via low transverse cesarean section without complications. The small bowel was then explored. Intraabdominal findings included a markedly dilated portion of small bowel proximal to a large ileoanal pouch. No ischemic or inflamed bowel or adhesions were present. To decompress the bowel and exclude a luminal obstruction, surgeons decided to advance a large (34F) Malecot catheter through the anus into the upper J-pouch where, via low suction, the bowel was decompressed. No further intraoperative interventions were necessary. The operation was then completed, and the patient tolerated the procedure well. Following the surgery, the patient denied any nausea or vomiting, and her diet was slowly advanced as tolerated. The rectal tube was kept in place on straight drain until she tolerated solid nutrition; the drain was then removed without complication at the bedside. The postoperative course was otherwise uncomplicated.

DISCUSSION

Bowel obstructions occur in approximately 1:3,000 to 1:1,500 pregnancies and are medical emergencies that require prompt evaluation. These cases are the third most common reason for non-obstetric laparotomies in pregnancies.² The clinical presentation of a bowel obstruction in pregnancy is more common in the third trimester because of the enlarged gravid uterus and is symptomatically similar to its presentation in the nonpregnant state: abdominal distention, emesis, crampy abdominal pain, and obstipation. Timely diagnosis is critical in pregnant patients to minimize maternal and fetal morbidity and mortality. The radiation exposure from plain abdom-

inal films is nominal, and the test will demonstrate air-fluid levels or progressive bowel dilatation. It is estimated that any significant delay in diagnosis can increase maternal mortality by up to 20% and neonatal mortality by as much as 40%.⁴

Treatment of bowel obstruction is the same in the pregnant and nonpregnant states. Conservative therapy is attempted first, consisting of bowel rest and decompression, along with fluid and electrolyte replacement. Surgical therapy is indicated in cases of complete obstruction or failed conservative therapy for partial bowel obstructions. This patient did not show adequate improvement with medical therapy. Because of her advanced gestational age and the risks to both the patient and the fetus of delaying treatment, we considered it appropriate to deliver the fetus to allow for necessary surgical management of the suspected small bowel obstruction. If the fetus had been preivable or very premature and conservative treatment options had not been successful, surgical exploration would have still been warranted with adherence to the same surgical tenets applicable to a nonpregnant patient.⁵ Throughout the hospital course, a multispecialty team composed of high-risk obstetricians, colorectal surgeons, and neonatologists was involved in making operative recommendations.

Mode of delivery depends greatly on the disease pathology. A recent metaanalysis of patients with a restorative proctocolectomy for chronic ulcerative colitis found that mode of delivery should be dictated by obstetric indications.⁶ If a patient has a scarred or rigid perineum, a cesarean delivery has been shown to be beneficial because of the increased risk of damage to the anal sphincter with a vaginal birth.⁷ Active perianal disease in a patient with Crohn disease is an indication for a cesarean delivery,⁸ although a recent survey suggests that physicians could consider raising the threshold for cesarean delivery given that a minority of patients complain of persistent fecal incontinence.⁹ Our team decided to proceed with a cesarean delivery because the colorectal surgeons felt that surgical exploration was warranted given the patient's lack of response to conservative therapy. With her next pregnancy, a vaginal birth may not be an unreasonable option if it is obstetrically appropriate.

Other approaches to bowel obstruction can be considered. Retrograde insertion of a colonic stent has been widely used for the relief of a colonic obstruction caused by malignancy.^{10,11} Colonic stent decompression can provide palliation in patients with widespread metastatic disease or serve as a bridge to surgery but at the risk of greatly increased maternal and fetal morbidity.⁴ Our multidisciplinary approach

enabled us to spare the patient the need for a stoma by effectively communicating our patientcentric concerns and avoiding an emergent surgical situation. Endoscopic balloon dilatation has also been performed on selective strictures, and colonoscopy with and without rectal tubes has been used for volvulus of acute colonic pseudo obstruction.^{12,13} Malecot catheters are frequently used to irrigate or decompress the rectum or pouch in colorectal surgery. This case is one of the first to use a Malecot to decompress the bowel during pregnancy.¹⁴

CONCLUSION

In this unusual case of a young pregnant woman with a restorative proctocolectomy and bowel obstruction secondary to a gravid uterus, a multispecialty management approach resolved acute symptoms and led to a successful delivery.

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