

Case Report

Rectal prolapse: rare presentation and complication

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ABSTRACT

An 86-year-old female presented with the first episode of an incarcerated full thickness rectal prolapse, concerning for ischemia of the prolapsed segment. Intra-operatively, the patient was noted to have an enterocele containing a 20-25 cm segment of strangulated and perforated small bowel. She underwent a perineal rectosigmoidectomy (altemeier procedure) with levatorplasty followed by a small bowel resection and anastomosis trans-abdominally.

Keywords: Enterocele, Incarceration, Rectal prolapse, Small bowel, Strangulation

INTRODUCTION

Rectal prolapse is an uncommon condition with an estimated prevalence of 0.5%, however its incidence increases to 1% after age 65 due to age related connective tissue and neuromuscular changes.¹⁻³ It carries a female predominance (especially if multiparous), in whom the prevalence increases to 2.9%.³ Acute presentation of a strangulated rectal prolapse is even rarer. An enterocele associated with rectal prolapse is mostly seen in the setting of recurrent episodes, prior perineal surgery, chemotherapy or pelvic radiation.^{4,5} We herein present a rare case of a strangulated loop of small bowel within an enterocele associated with an incarcerated rectal prolapse requiring emergent surgery via both perineal and abdominal approaches.

CASE REPORT

Patient is an 86-year-old female with past medical history of diet-controlled hypertension, dementia, and remote past surgical history of hemorrhoidectomy and hysterectomy. She had a BMI of 26.7 kg/m² and was a former smoker with a 30-pack year history. A history of prolonged or difficult childbirth was not available due to the patient's baseline dementia. Patient presented to the

emergency department with symptoms of nausea, rectal and abdominal pain and examination revealed the first episode of a full-thickness rectal prolapse precipitated by straining during defecation (Figure 1).



Figure 1: Presentation of rectal prolapse with dusky and mottled appearance of bowel wall concerning for impending ischemia.

The prolapse remained incarcerated despite attempts at manual reduction with the mucosa appearing increasingly congested and concerning for bowel ischemia. Pertinent

lab values included mildly elevated white blood cell count of 12,600/mm³ and metabolic acidosis with serum bicarbonate of 16 mmol/L. Given the failure of manual reduction and concern for rectal viability, a perineal rectosigmoidectomy (altemeier procedure) was planned.

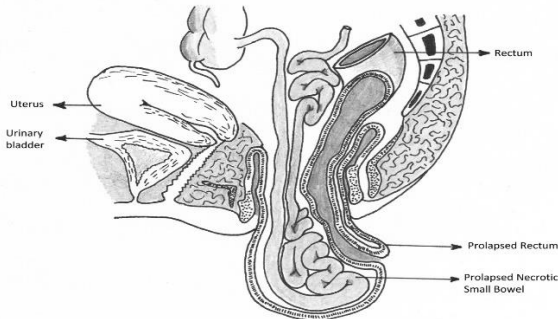


Figure 2: Depiction of intraoperative findings demonstrating incarcerated rectal prolapse with strangulated small bowel loops within an enterocele.

Intra-operatively, the patient was noted to have an enterocele, within the prolapsed rectum, containing a 20-25 cm segment of strangulated and perforated small bowel (Figure 2). This was encountered as the cul-de-sac was entered during anterior dissection for the altemeier procedure. The perforation in the small bowel was temporarily isolated after which the perineal rectosigmoidectomy was completed.

The patient was noted to have a very widely patulous anus with no appreciable puborectalis sling which was reconstructed with a levatorplasty. A coloanal anastomosis was then done after which the patient was repositioned to a supine position. Exploratory laparotomy was performed through a small lower midline incision which identified an ischemic and perforated 25 cm segment of small bowel, 10 cm proximal to the ileocecal valve.

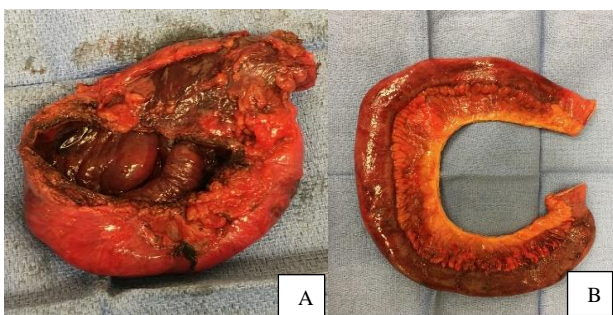


Figure 3: Pictures of resected specimen. a) Resected rectal specimen demonstrating ischemic rectal mucosa. b) Necrotic small bowel specimen with healthy edges.

A 30-cm segment of small bowel was resected (Figure 3) followed by an end to end stapled anastomosis. The

postoperative course was uneventful with the diet advanced to a clear liquid diet on post-operative day one and regular diet by post-operative day three, when she was discharged.

DISCUSSION

To our knowledge, this is the only case reported to date of an adult with an incarcerated rectal prolapse with strangulated small bowel in a patient without any predisposing risk factors. A thorough literature review of a similar presentation of rectal prolapse is shown in Table 1.

A total of six cases are reported in the literature, however, there are notable differences. Only four of the six were adult patients, all aged 78 years or older, with three of the four presenting with small bowel ischemia needing resection. The adult patient not needing resection had an enterocele with subsequent perforation of the rectal wall during attempts at manual reduction, resulting in ileal evisceration.⁴ Ours is the only case with a primary presentation of strangulated small bowel within a rectal prolapse. Of note, this presentation is associated with a 50% mortality rate in the literature so far. Our patient continues to do well at home 3 months after the procedure.

While a presentation of small bowel perineal prolapse has been associated with certain risk factors in previous cases, our patient did not have any reported. These risk factors include obesity, extensive perineal surgery, connective tissue compromise due to straining and recurrent pelvic organ prolapse, chemotherapy or radiation.³ Given the intra-operative findings of a large enterocele, widely patulous anus and absence of a puborectalis sling, which are all markers of severe pelvic floor weakness, it is likely that our patient had some degree of pelvic floor dysfunction prior to presentation. Social embarrassment has been shown as a cause of this condition being under-reported to health care providers.^{6,7} The Oxford Pelvic Floor Center emphasizes the importance of detailed history, physical exam and functional scoring in addition to diagnostic work up in the assessment and decision making process for rectal prolapse.⁷ Such an approach could lead to earlier recognition and decreased incidence of complicated presentations of rectal prolapse, as in this case, leading to decreased morbidity. The surgical approach to rectal prolapse has been the topic of much debate in the literature as well.⁸⁻¹¹ The perineal approach offers a viable surgical approach to high risk patients but with a higher recurrence rate, as opposed to the abdominal approach.^{9,12} In the presence of possible rectal ischemia, a perineal rectosigmoidectomy is the only available option, as was in our case. The subsequent intra-operative discovery of an incarcerated and perforated small bowel within the rectal prolapse necessitated a laparotomy. In an average-risk patient and the absence of bowel ischemia, an abdominal approach is preferred. We have

shown that a dual abdominal and perineal approach can be undertaken safely in a high-risk patient with

impending sepsis from strangulated small bowel and rectum.

Table 1: Summary of all reported cases of small bowel incarceration associated with rectal prolapse.

Author	Year	Number of patients	Gender	Adult/ Pediatric	Age	Prior perineal Surgery	Initial presentation?	Ischemic small bowel?	Needing small bowel resection?	Outcome
Singh et al ¹³	2010	One	Male	Pediatric	8 m	No	Yes	Yes	Yes	Expired
Sengar et al ¹⁴	2008	One	Female	Pediatric	4 m	No	Yes	Yes	Yes	Expired
Wroblewski et al ¹⁵	1979	One	Female	Adult	81 yrs	Unknown	No	Yes	Yes	Expired
Hovey et al ⁴	1997	One	Female	Adult	97 yrs	Unknown	No	No	No	Discharged
Sakaguchi et al ¹⁶	2005	One	Female	Adult	78 yrs	Yes	No	Yes	Yes	Discharged
Present study	2017	One	Female	Adult	86 yrs	No	Yes	Yes	Yes	Discharged

m=months, yrs= years, * our report

CONCLUSION

We report a rare case of incarcerated rectal prolapse complicated by an enterocele with strangulated small bowel in a patient without any predisposing risk factors (obesity, prior perineal surgery, chemotherapy or local radiation), requiring emergent surgery via both perineal and abdominal approaches.

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Ethical approval: Not required

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