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Case report: Sigmoid strangulation from evisceration through a perforated rectal prolapse ulcer – An unusual complication of rectal prolapse



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ABSTRACT

INTRODUCTION: Rectal prolapse occurs particularly in elder females and presentation can sometimes lead to complications such as strangulation and evisceration of other organs through the necrotic mucosa.

PRESENTATION OF CASE: This is a case of a 61 year-old female with rectal prolapse complicated by rectal perforation through which a segment of sigmoid colon eviscerated and became strangulated. This patient initially presented with sepsis requiring ICU admission, but fully recovered following a Hartmann's procedure with a sacral rectopexy.

DISCUSSION: Complications of rectal prolapse include incarceration, strangulation, and rarely, perforation with evisceration of other viscera requiring urgent operation. This report provides a brief overview of complications associated with rectal prolapse, reviews similar cases of transrectal evisceration, and discusses the management of chronic rectal prolapse.

CONCLUSION: Prompt surgical consult is warranted if any signs or symptoms suggestive of complications from prolapse are present.

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1. Introduction

Rectal prolapse involves intussusception of bowel, and is characterized by protrusion of all layers of the rectum through the anus. It may be confused with hemorrhoids, and it is important to note that rectal prolapse involves concentric protrusion whereas a prolapsed hemorrhoid is a radial bulging of veins in the anal region. The estimated prevalence of rectal prolapse is 1% in adults over age 65. There are many contributing factors: constipation, pregnancies, diastasis of the levators, redundant sigmoid colon, deep cul-de-sac, abnormal rectal angle, and lack of retroperitonealization of the rectum [1]. Patients with rectal prolapse may present with abdominal discomfort, incomplete bowel evacuation, mass protruding through the anus, and incontinence. Surgical treatment is indicated to improve quality of life when medical treatment, including stool softeners and Kegel exercises, fails.

Incarceration and strangulation of the prolapsed rectum is rare, but is one of the most noticeable and serious complications of rectal prolapse requiring prompt surgical consultation. Ulceration and weakening of the rectal mucosa is also seen in patients with chronic prolapse; however, there is no literature describing ulcer-

ation and its associated risk of perforation in the setting of chronic rectal prolapse. While colonoscopic evaluation for rectal prolapse at the initial presentation is recommended to rule out other mucosal abnormalities that may be contributing to the disease such as neoplasm, there are no recommendations for surveillance of prolapse being managed non-operatively [2]. The risk of perforation from colonoscopy is higher in elderly females; however there is no evidence that rectal prolapse is associated with an increased risk of colonoscopic perforation.

2. Presentation of case

A 61-year-old female was referred to General Surgery for rectal prolapse. Her comorbidities included hypothyroidism, depression, hypertension, dyslipidemia, esophageal reflux, urinary retention with an indwelling urinary catheter, and chronic back pain managed with opioids. She had two previous vaginal childbirths. The prolapsed rectum was 20 cm in length, demonstrated viable mucosa with shallow ulceration and was reducible, but recurred immediately. A preoperative colonoscopy was performed, but could not be completed due to poor bowel preparation. The patient was scheduled for an elective perineal proctosigmoidectomy (Alte-meier procedure).

Within a week of the colonoscopy, the patient presented to the Emergency Department (ED) with malaise, lower abdominal pain and decreased level of consciousness. Initial evaluation

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Fig. 1. Necrotic sigmoid colon eviscerating through rectal prolapse.

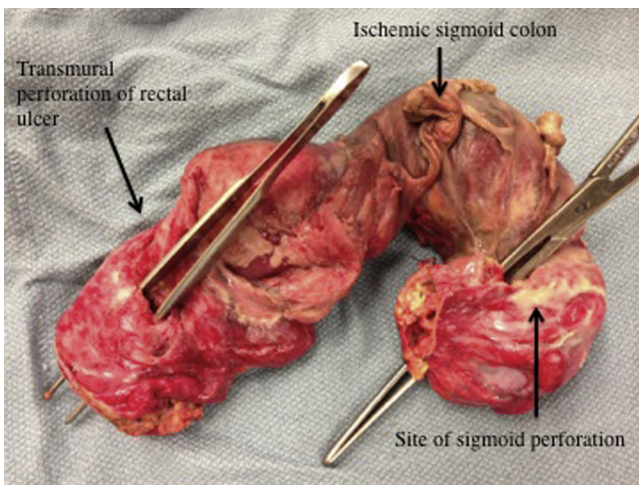


Fig. 2. Resected specimen showed necrotic sigmoid and viable margins.

was significant for hypotension (blood pressure 67/45 mm Hg), leukocytosis (white blood count $21 \times 10^9/L$) and acute kidney injury (creatinine 346 $\mu\text{mol/L}$). Urinalysis was positive for nitrates and had 30+ leukocytes/high power field. She was initially diagnosed with urosepsis attributed to a blocked urinary catheter and required Intensive Care Unit (ICU) admission for resuscitation with intravenous fluids and vasopressors. The original ED document noted rectal prolapse on physical examination. Upon assessment of the perineum the next day, a segment of sigmoid colon was found herniating through a perforation in the rectal prolapse (Fig. 1). The herniated segment of sigmoid colon appeared necrotic.

Subsequent to General Surgery consultation, an emergency Hartmann's procedure with a sacral rectopexy was performed. The prolapse and strangulated sigmoid were reduced back into the abdominal cavity by the application of manual pressure on the perineum. There was a perforation of the rectum 10 cm from the anal verge through which the sigmoid colon had protruded. The resected specimen is shown in Fig. 2. Pathology of the resected sigmoid showed ischemic necrosis of the resected sigmoid and viable margins.

Following a short stay in ICU post-operatively, the patient was transferred to the surgical ward and gradually recovered. Her colostomy was functioning well. Her bladder function also normalized following the resolution of her rectal prolapse and her

indwelling catheter was removed. She was transferred to a rehabilitation facility within a few weeks, and discharged home a week later. She was well when seen in the outpatient clinic for follow-up.

3. Discussion

In this case, the patient had typical risk factors for developing a rectal prolapse. Colonoscopy that was done a week prior may have been contributory to the sigmoid evisceration through the rectal prolapse, but more importantly, the patient in this case had constipation secondary to chronic opioid use as well as two previous vaginal deliveries.

A number of cases of ileal evisceration through rectal prolapse have been previously reviewed in the literature [3,4]. There have also been cases reported on strangulated ileal herniation through coloanal anastomosis following an Altemeier repair [3], as well as following a failed reduction [4]. Sigmoid evisceration is much more rare, with only one previous case reported in the literature, involving a 96 year-old female who underwent an Altemeier procedure and had an uneventful recovery [5]. The current case is unique in that the sigmoid not only eviscerated through the prolapsed rectum but also became strangulated and necrotic. A delay in diagnosis of up to 24 h may have occurred as an alternate etiology for sepsis was first identified. Unlike most patients with strangulated bowel, this woman had no abdominal symptoms as the affected bowel was eviscerated, and she therefore did not develop peritonitis.

The most common factors provoking transmural evisceration of bowel through rectal prolapse include defecation, spontaneous perforation, blunt trauma, and other maneuvers associated with increased intra-abdominal pressure such as heavy lifting, vomiting, and valsalva maneuver [6]. The site of evisceration is most frequently reported to be the anterior rectal wall due to the chronic friction exerted by small bowel with the anterior rectal wall [1,6]. However, in this case, the ulceration was seen laterally during colonoscopy and evisceration occurred at the left posterolateral aspect.

4. Conclusion

Chronic rectal prolapse can lead to a number of complications that require urgent surgical attention. Health care providers should recognize the typical appearance of rectal prolapse, prescribe medical management with stool softeners, and advise avoidance of increased abdominal pressure. Rectal prolapse is usually a benign condition, however, if the prolapse appears atypical or if there is any doubt regarding the viability of the bowel in a prolapsed segment, urgent surgical consultation is recommended.

Conflict of interest

None.

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None.

Author contribution

Jennifer Li – literature review, chart review, writing initial manuscript, editing.

Tiffany Kittmer – literature review, chart review, manuscript editing.

Shawn Forbes – case analysis and discussion, manuscript editing.

Leyo Ruo – case analysis and discussion, manuscript editing.

Consent

Consent has been obtained from the patient and available upon request from editorial office.

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