



Case Report

Spontaneous Rupture of Rectal Prolapse with Transanal Evisceration of The Small Bowel in a Multiparous Lady – First Case Reported in Saudi Arabia

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Abstract

Introduction: Rectal prolapse is defined as a protrusion of the mucosa through the external anal sphincter and it commonly affects women and elderly whose age is above 50 years. It is a rare disease, therefore, it is estimated to occur in 0.5% of the total population. Rectal perforation with a trans-anal small bowel loop evisceration is an uncommon emergency that necessitates immediate surgical management.

Case Presentation: This is a 40-year-old female patient diagnosed medically with hypertension and bronchial asthma, who presented to the emergency department with evisceration of the small bowel through the prolapsed rectum after defecation. She denied any symptoms regarding abdominal pain, bleeding or mucus per rectum, except for chronic constipation and she is a multiparous woman who delivered 9 kids. The patient manifested the same bowel evisceration earlier and she manually reduced it. On examination, she was tachycardic with moderate hypogastric area distension with signs of peritonitis. In addition to 3 meters of small bowel herniated from a 4 cm transverse rectal tear. Immediate surgical intervention was done to prevent gangrene of the eviscerated small bowel loops. The patient underwent exploratory laparotomy, where the eviscerated bowel was reduced gently into the peritoneal cavity. There was fecal contamination, in addition to the 4 cm transverse rectal tear. Therefore, rectal tear primary repair was performed and stapled rectal stump proximal to it, rectal prolapse Thiersch stitch was performed, then end colostomy was done. The patient recovered and was discharged after a few days from the operation in good condition and followed up in 2 weeks, 1 month, and 3 months later, she remained asymptomatic.

Discussion: Small bowel evisceration through rectal tear is an extremely rare event that was firstly reported by Brodie in 1827, after that, approximately 70 cases have been published in the literature.

Risk factors of spontaneous rectal perforation are elderly with chronic constipation or colorectal cancer, benign rectal diseases like diverticulosis or solitary rectal ulcer, blunt or penetrating trauma, iatrogenic in case of instrumentation, however, risk factors of rectal prolapse include anatomical variations such as levator ani diastasis, an abnormally deep cul-de-sac, a redundant sigmoid, a patulous anal sphincter, and loss of the rectal sacral attachments. Fecal incontinence and constipation are reported in rectal prolapse patients by nearly 75% and 50% respectively. Prompt surgical intervention has a fundamental role in the management of such cases as the literature revealed that mortality decreased to 23% when suturing of the tear accompanied by colostomy was performed.

Conclusion: Surgical management is the standard treatment of rectal prolapse patients with eviscerated small bowel. In our patient, the transverse tear was primarily repaired, accompanied by a diverting colostomy and a Thiersch repair, with preservation of the viable eviscerated bowel. This is the first case to be reported in Saudi Arabia, the patient was following regularly with proven successful outcome.

Introduction

Rectal prolapse is defined as a partial or full-thickness protrusion of the rectal wall through the anal canal and it commonly affects women and elderly whose age is above 50 years [1,2]. The recognition of rectal prolapse by the patients might be spontaneous, during the standing position, or when Valsalva maneuver has applied such as defecation and coughing [3]. It is triggered by loosening of the muscles of the pelvic floor, which is a consequence of aging, multiple pregnancy and straining during defecation [4]. It is a rare disease; therefore, it is estimated to occur in 0.5% of the total population [5]. It is estimated to be more frequent in women than in men by approximately 10 times [3]. In case of an irreducible prolapsed bowel segment, the patient might manifest severe pain, strangulation, bleeding, and perforation [3]. Rectal perforation with a trans-anal small bowel loop evisceration is an uncommon emergency that necessitates immediate surgical management [6].

Discussion

Small bowel evisceration through rectal tear is an extremely rare event that was firstly reported by Brodie in 1827, after then, approximately 70 cases have been published in the literature [7,6]. Risk factors of spontaneous rectal perforation are elderly with chronic constipation or colorectal cancer, benign rectal diseases like diverticulosis or solitary rectal ulcer, blunt or penetrating trauma, iatrogenic in case of instrumentation, however, risk factors of rectal prolapse include anatomical variations such as levator ani diastasis, an abnormally deep cul-de-sac, a redundant sigmoid, a patulous anal sphincter, and loss of the rectal sacral attachments, and dysfunction of the pelvic musculature (such as paradoxical spasm of the puborectalis muscle and non-relaxing puborectalis muscle) [6,5,3]. Fecal incontinence and constipation are reported in rectal prolapse patients by nearly 75% and 50% respectively [5]. Another factor related to the gender variable that predisposes female to be at a high risk which is multiparity, vaginal delivery and previous pelvic surgery [3]. Prompt surgical intervention has a fundamental role in the management of such cases as the literature revealed that mortality decreased to 23% when suturing of the tear accompanied by colostomy was performed [1,7]. There are three subtypes of Rectal prolapse: mucosal invagination, incomplete(partial), and complete (full thickness). The symptoms of RP include: a sensation of incomplete evacuation, rectal fullness, perianal pain, mucous discharge, chronic constipation, urinary incontinence, which is estimated to occur in one third of the patients, cystocele, and uterine prolapse are considered in female patients' clinical presentation [3]. The patient also presents with a sensation of a mass that protrudes from the anus that may or may not be reduced [8]. All patients with a history of rectal prolapse will require follow-up with colonoscopy to check for

cancer, polyps, or colitis as an underlying cause in some patients. The initial management is rendering the disease progression by relieving constipation with administering laxatives, and edema subside by applying (hypertonic) household sugar. However, the surgical treatment is the definitive management of rectal prolapse [3].



There are different surgical options: (Moskowitz procedure), which consists of reduction of the prolapsed bowel with Douglas pouch obliteration, (Ripstein and Wells procedures) rectum fixation to the sacral periosteum, (Frykman-Goldberg procedure) resection of the redundant sigmoid with rectopexy [3,8]. Perineal approach includes (Delorme procedure) mucosal proctectomy with plication of the muscle, (Altemeier's procedure), which is resection of the prolapsed rectum and sigmoid through the perineum, and anal cerclage (Thiersch procedure) [3,8]. In general, the operative procedures for rectal prolapse have been reported to be more than 100 operations, and they are subdivided into abdominal and perineal approaches. Nowadays, the perineal approaches are confined to Delorme's and Altemeier's procedures, while the abdominal approach is represented by laparoscopic rectopexy [2]. The management choice depends on many factors such as gender, age, incontinence, history of constipation, prior prolapse repair, and the surgeon's experience. Therefore, in elderly patients who have multiple comorbidities, the perineal approach is the preferred surgical management; however, in young patients who manifest constipation, incontinence or a redundant sigmoid, the abdominal approach is the optimal surgical strategy. The Optimal procedure in emergency operation is a diverting loop colostomy/ ileostomy [3]. The guidelines of the American Society of Colon

and Rectal Surgeons recommend that surgeons' selection of the appropriate procedure depends on each patient's overall status [2]. They reported that laparoscopic rectopexy is suitable for patients with good performance status. However, for patients at high risk of surgery or who have poor performance status, the perineal approach is the optimal operative option [2]. In terms of recurrence rate of the perineal and the abdominal approach, it is estimated to be about 20% and 26% respectively [2]. In our patient, the rectal tear was repaired primarily, with diverting colostomy accompanied by Thiersch repair, and preserving the herniated small bowel. In addition, we clarify that this is the first reported case where the Thiersch repair was used in the surgical management of a spontaneous rupture of rectal prolapse, and follow-up has proved a successful outcome. Thiersch procedure (Anal encirclement) circumferentially around the anal canal, by using a suture or prosthesis such as Dacron, silastic, or silicone to narrow the anus. It was firstly reported by Carl Thiersch. It provides a mechanical tension and strengthens the rectum to the surrounding area. Moreover, it was indicated in the elderly, hemodynamically unstable patients, or high-risk with existing comorbidities who presented with rectal prolapse [8-10].

Conclusion

Surgical management is the standard treatment of rectal prolapse patients with eviscerated small bowel. In our patient, the transverse tear was primarily repaired, accompanied by a diverting colostomy and a Thiersch repair, with preservation of the viable eviscerated bowel. All patients with a history of rectal prolapse will require a colonoscopy as follow-up for the underlying cause. This is the first case to be reported in Saudi Arabia, the patient was followed regularly with proven successful outcome.

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