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Case Report

Perineal Rectosigmoidectomy with defunctioning colostomy for Gangrenous Rectal Prolapse; A Case Report

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Abstract

A rare complication of rectal prolapse is incarceration or even strangulation. This type of complication needs emergency intervention either by medical reduction or surgical procedures. In this report, a rare case of rectal prolapse with deep mucosal ulceration down to the muscle with an unremarkable past medical history, and no predisposing pathology presented. The patient underwent laparotomy and perineal proctosigmoidectomy (Altemeier operation) but without primary anastomosis. The distal stump was closed and reduced with a temporary defunctioning colostomy. The postoperative course was uneventful. The colostomy was joined to a distal stump by a stapler after 6 months with an excellent outcome. This procedure gives a value of multi- procedures in the unusual presentation of rectal prolapse.

Keywords: rectal prolapse; proctosigmoidectomy; colostomy

Introduction

Rectal prolapse occurs when a mucosal or full-thickness layer of rectal tissue protrudes through the anal orifices [1]. The rectal prolapse has three different types. The mucosal prolapse, full-thickness prolapse, and internal prolapse (rectal intussusception) [2]. The male to female ratio is 1:6, women account for 80-90% of cases [3].

The precipitating factors of rectal prolapse are not completely understood. Various theories are presented to explain the causes of prolapse. These include poor bowel habits, relaxation of rectal ligaments, sliding herniation of pouch of Douglas, and rectal wall intussusception [4].

Most rectal prolapses are mild and resolve spontaneously. Symptomatic patients have difficulty in reduction, obstructed defecation, incontinence,

or mucosal ulceration [5]. Rarely does the prolapsed portion of the rectum may become strangulated [6].

This study describes a case of a young man presented with full-thickness rectal prolapse with ulceration of mucosa up to muscles and strangulation who was managed by perineal proctosigmoidectomy with closure and reduced the distal stump in a combination of laparotomy and defunctioning colostomy.

Case Report

A 28 years old Sudanese male presented to our emergency department with an irreducible ulcerated rectal prolapse that occurred 5 days before admission. The patient's past history includes recurrent rectal prolapse after defecation which started one month before presentation. Neither chronic constipation nor family history was reported.

General examination revealed a young healthy man with stable vital signs. Perineal examination showed a full-thickness rectal prolapse which was edematous, ulcerated with ischemic base and there were signs of gangrene. A rectal polyp was also present. (Figure1). Digital rectal examination revealed a thick concentric mucosal fold. (Figure 2). Blood, urine test, abdominal ultrasound, and plain abdominal x-ray were all normal. Preoperative preparations included rehydration, and antibiotics were administered. The trial of osmotic reduction by hypertonic solution had failed.

Then the decision was made to take the patient to the theatre. Under aseptic conditions, general anaesthesia, and Lloyd Davis position, laparotomy was done by mid-line abdominal incision. Exploration of the abdomen revealed no abnormalities.

Moving to the perineal approach, a dilute epinephrine solution was injected 2-3 cm proximal to the dentate line, and proctosigmoidectomy followed by the closure of stump and reduction was done. (Figure 3, 4, and 5)

Temporary defunctioning colostomy was performed. The primary anastomosis was difficult because the wall of the rectum was edematous and relatively ischemic with deep mucosal ulceration. The patient's postoperative course was quite uneventful and the patient was discharged 12 days later. The result of histopathology revealed gangrenous mucosa and the polyp was a juvenile one. Six months later, the patient was readmitted for reversal of stoma using a stapler. Colonoscopy revealed normal anatomy.

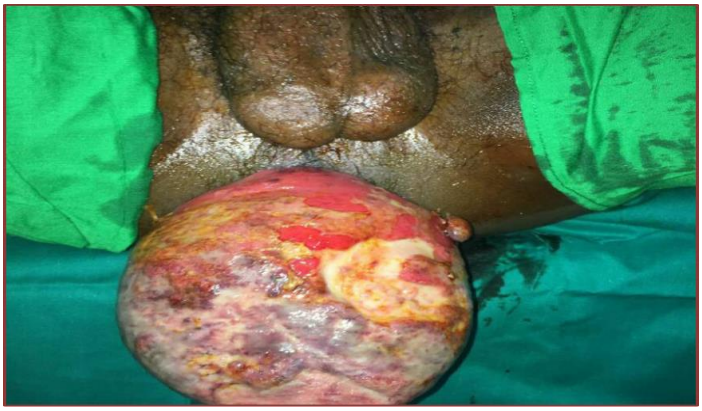

Figure 1. *Full-thickness rectal prolapse which was edematous, ulcerated with ischemic base and there were signs of gangrene. Also, there was a rectal polyp.*

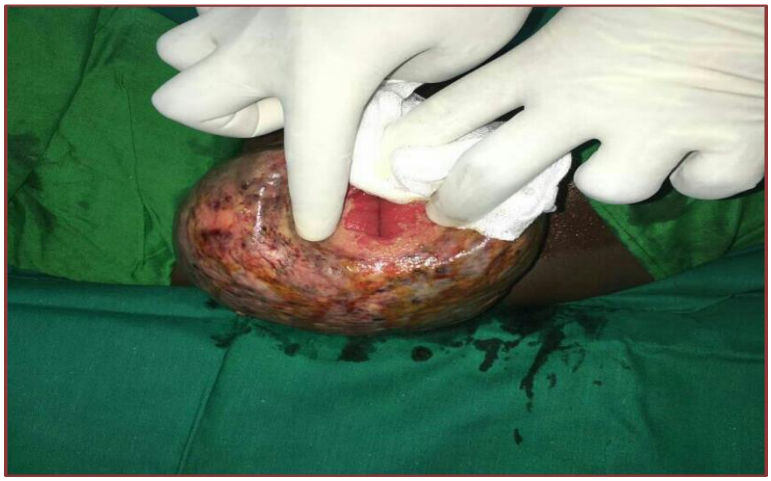

Figure 2. *Thick concentric mucosal fold with signs of gangrene.*

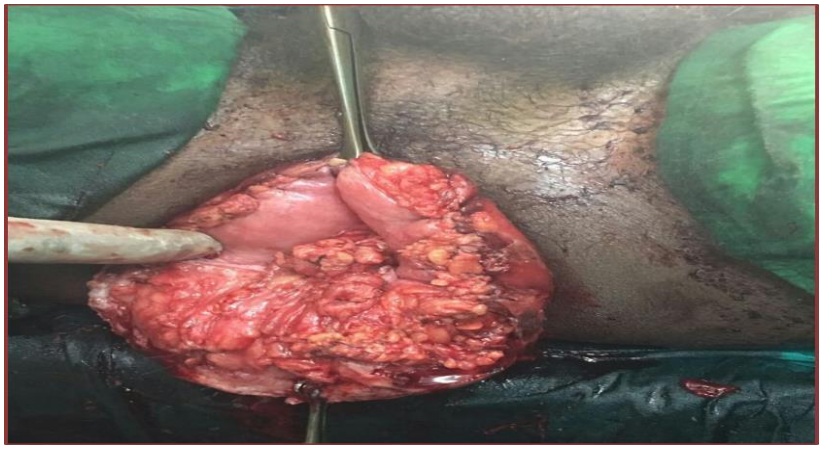

Figure 3. *Proctosigmoidectomy using Altemeier procedure.*

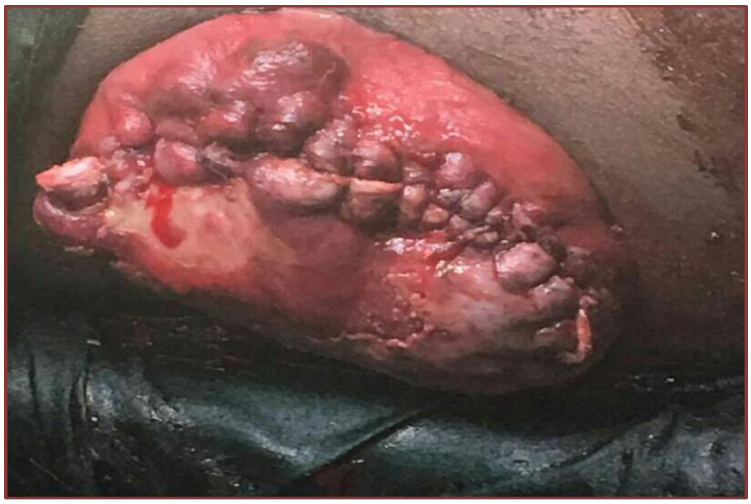

Figure 4. *A hand-sewn continuous suturing of the distal stump by absorbable suture material*

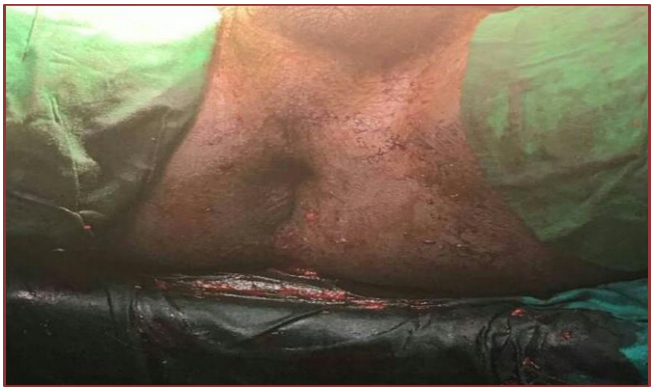

Figure 5. *The stump was reduced using a lubricant.*

Discussion:

Full-thickness rectal prolapse or procidentia is defined as a circumferential protrusion of all layers of the rectum outside the body through the anus. External protrusion of rectal prolapse is rare and the estimated prevalence is about 0.5 % in the general population [7]. Rectal prolapse commonly occurs in females and the elderly population with significant comorbidities [8]. The common predisposing factors for rectal prolapse are straining to pass bowel motions, chronic constipation, weak pelvic floor or anal sphincter muscles, with coexisting anatomical or physiological abnormalities [7].

Patients with complete rectal prolapse commonly present with a bulging mass through the anus, faecal incontinence, constipation, mucus discharge or bleeding per rectum (lilian). In the case of ischemic prolapsed rectum selective use of investigations like sigmoidoscopy, manometry and videoproctography is practically omitted because emergency surgery is mandatory [9].

In symptomatic patients, surgical treatment is the treatment of choice and there are two approaches either abdominal or perineal approaches. The abdominal approach can be through open or laparoscopic surgery. The selection of appropriate procedure largely depends on the patient's condition, presence of comorbidities and operator experience [10]. The abdominal approach is suitable for young, fit patients who can tolerate laparotomy with lower recurrence rates and higher complication and mortality rates [11]. In elective cases, rectopexy is more common with a good outcome [12].

When prolapse cannot be manually reduced, sedation, Trendelenburg position and trial of osmotic reduction may decrease bowel oedema and help in reduction [13]. However, when the prolapsed bowel is incarcerated, strangulated or ulcerated the situation becomes a surgical emergency and the operation of choice, in this case, is perineal proctosigmoidectomy with or without colostomy [14].

Our patient presented with ulcerated and incarcerated complete rectal prolapse so a decision of perineal proctosigmoidectomy with the closure of distal stump and proximal colostomy was done.

Conclusion

Complete rectal prolapse is a rare condition that can result in significant morbidity and mortality. There are various modalities of treatment of rectal prolapse, however the options for the incarcerated type are limited. The abdominal or perineal approach can be used according to the patient clinical condition and operator experience. The abdominal approach appears to carry an increased risk of impotence and infertility. Perineal approach with the closure of distal stump combined with colostomy is a better option in the edematous or incarcerated bowel which is found in the emergency setting.

Declarations

List of abbreviations

Ethics approval and consent to participate

Ethical approval was obtained from the hospital authorities. In addition, informed consent was taken from the patient.

Consent for publication

Consent for publication was taken from the patient.

Availability of data and materials

All data and materials mentioned here are available.

Competing interests

No conflict of interest was encountered.

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Authors' Contribution

All authors participated in data collection; patient's follow up and paper draft.

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