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A Case of Incarcerated Rectal Prolabsus due to an Unspecified Sigmoid Colon Tumor: Emergency Surgical Approach

Sadık Keşmer[1]*, Barış Candan[2], Mehmet Zeki Öğüt[1]

***Corresponding author:**
Sadık Keşmer, MD
Department of Gastrointestinal Surgery
Elazığ City Hospital, Turkey
E-mail: dr28sadik@hotmail.com

[1]Department of Gastrointestinal Surgery, Elazığ City Hospital, Turkey
[2]Department of Surgical Oncology, Konya City Hospital, Turkey

ABSTRACT

Rectal prolapse (RP) is a rare cause of anorectal emergencies. The etiology of RP is not clear. Many theories have been presented. Colorectal masses are uncommon causes of RP. Patients with high sphincter tonus may develop incarceration and strangulation which may require surgical intervention. If an undiagnosed mass is found in the prolapsed segment, pathologic evaluation is recommended. In cases where there is no pathologic diagnosis and urgent surgery is required, the surgical technique should be chosen considering the possibility of malignancy of the mass.
Key words: rectal prolapse, colon tumor, incarceration, strangulation

INTRODUCTION

Full-thickness prolapse of the rectum from the anus is called RP. Pain, incomplete defecation, rectal bleeding, mucous stools, and rarely strangulation may be observed with the prolapsed bowel segment from the anal canal. The annual incidence of rectal prolapse is 2.5 per 100 000 population (1). Although it is seen at any age, it is more common in women and especially in the elderly. The ratio of female to male is around 6-10/1 (2). There are studies reporting that it is more common in men in the young population as opposed to the elderly population (3). Rectal prolabsus is a disease of unclear etiology. Many theories have been proposed and it has also been tried to be explained by anatomical differences in the pelvic region. First Moschowitz developed the theory of sliding herniation from the pelvic floor in 1912 and performed the Moschowitz procedure accordingly (2). Genetic factors also affect rectal prolapse. Failure in fixation of the rectum to the sacrum, excessive straining habit, pelvic floor pathologies that occur with aging, sphincter weakness as a result of pudental nerve damage, long sigmoid colon, mobile mesorectum, relaxation of lateral ligaments, colorectal masses may cause rectal prolapse (2,3). Rectosigmoid colon tumors are rare causes of rectal prolapse. In patients with high sphincter tension, strangulation may occur with incarceration and urgent surgical treatment may be required.

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RP is diagnosed by clinical evaluation. The most common complaint is intermittent protrusion of the rectum from the anal canal. It is typical to see rings of the rectum in the prolapsed segment. The patient should be examined by straining. Colonoscopy, MRI defacography, barium enema, fluoroscopy, urodynamic tests can be used selectively to support the diagnosis and to identify associated pathologies. Especially in elderly patients, RP may be accompanied by a tumor and preoperative colonoscopy would be useful.

There is no standardized classification for RP. It is clinically divided into 3 groups (4)

- Full-thickness rectal prolapse; true prolapse;
- Rectal mucosal prolapse; only the mucosa is prolapsed;
- Rectal invagination is not a true prolapse. The rectum does not protrude from the anal verge.

CASE REPORT

Seventy-two-year-old female patient. She presented to the emergency department with rectal prolapse with an undiagnosed mass at the tip that could not be reduced for three days. Approximately 25 cm segment of the colon was prolapsed (*fig. 1*). On presentation, edema and occasional bleeding were seen in the prolapsed part. In the absence of necrosis, manual reduction was attempted under emergency conditions but was not successful. Because of pain and edema, it was planned to be reduced under anesthesia and taken to the operating room. Since the patient could not be reduced under any condition, anterior resection was planned. Reduction could not be achieved laparoscopically. On laparotomy, there was a 4 times diameter difference between the invaginated distal portion and the normal proximal colon segment (*fig. 2*). The incarcerated portion could be reduced into the abdomen by colotomy. Considering the diameter difference and the clinical condition of the patient, the patient underwent sigmoid colon resection and hartman procedure. The pathologic diagnosis was reported as well-differentiated adenocarcinoma on the basis of villous adenoma. The tumor had invaded the muscularis propria. One metastatic lymph node was detected in 19 lymph nodes (T2N1M0). Postoperative regimen was started on the 1st day and the patient was discharged on the 5th day. Colostomy was closed on the 3rd month. The patient who did not receive oncologic treatment voluntarily did not have any problem in the 48-month follow-up.

Figure 1 - Undiagnosed sigmoid colon mass causing RP by forming a leading point (white arrow)

DISCUSSION

Although rectal prolapse is benign, it is a disease that reduces the patient's quality of life. The clinical situation varies. The rectum may prolapse with or without defecation. The rectal mucosa is usually edematous and fragile. Small ulcerated areas and bleeding may be seen. Spontaneous reduction may occur in some patients, but manual reduction is required in others. It should be kept in mind that

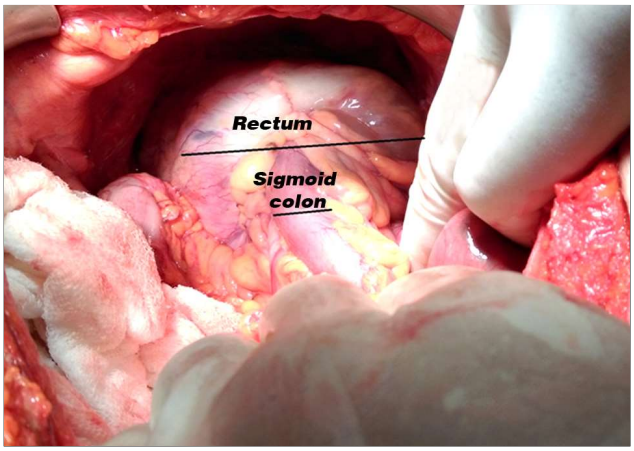

Figure 2 - Difference in diameter between two intestinal segments

recurrent episodes of prolapse may cause relaxation of the anal sphincter and fecal incontinence.

The etiology of rectal prolapse has been attributed to anatomical, mechanical, mental and neurologic causes but has not been fully explained. The most accepted theory is that an anatomical defect causes the disease with the effect of some predisposing factors (5). In their study, Sun et al. reported that the most common cause of rectal prolapse in the young population was the long rectosigmoid colon with 61% (5). After the development of prolapse, the idea that the increasing depth of anatomical problems (elongation of the mesocolon, deepening of the Douglas space, weakening of the pelvic floor muscles) is not the cause of prolapse but the result of prolapse has started to be accepted (2,6,7). As an opposing view, Attaallah et al. put forward the thesis that rectum length is the cause of prolapse, not the result of prolapse. In the study, patients with RP were compared with patients who underwent laparotomy for reasons other than RP and RP was significantly more common in patients with longer rectum length (8). Intussusception due to colon tumor is a rare but important condition. Sun et al. in their study of 44 patients, no rectosigmoid cancer was observed in any patient with rectal prolapse, while Rashid et al. in a retrospective study of 70 patients found a 5.7% association of rectosigmoid cancer in the etiology of rectal prolapse (5,9). In addition, the risk of colorectal cancer was found to be 4.2 times higher in patients with rectal prolapse compared to the control group (9). In case reports, the majority of patients with RP due to colorectal cancer were women like our patient (10). In our case, the pelvic floor was quite deepened and the sigmoid colon was elongated. It can be thought that the tumor in the sigmoid colon creates a leading point and causes intussusception with siphon effect, elongation of the mesocolon and sigmoid colon, and deepening of the pelvic floor. Progressive intussusception with the effect of constipation, peristalsis and straining develops prolapse.

Rectal prolapse is very rare in anorectal emergencies. Reduction by gentle manipulations with sedation and analgesia is recommended in patients who are not strangulated but cannot be reduced (11). Incarcerated or strangulated rectal prolapse is seen in 2-4% of cases (12). Strangule RP cases present with pain and bleeding. Necrosis and perforation may develop in cases without early intervention. In our case, the strangulated intestinal segment was edematous, hemorrhagic and painful. Intussusception had dragged the tumoral structure, which was the leading point, to the end of the prolapsed colon segment.Increasing edema and pain made reduction impossible. Although it could not be reduced even under anesthesia, necrosis and perforation were not seen. The RP could be reduced after laparotomy by performing colotomy proximal to the tumor site. Treatment of irreduced rectal prolapse is controversial. Sugar administration and simple reduction may be considered in conservative treatment approach. Surgical approach [rectopexy, resection by laparotomy, Delorme's procedure, perineal resection (Altemeiers' operation)] usually gives good results (13). The choice of surgical technique depends on the patient's clinic and the surgeon's experience and preference. We planned sigmoid colon resection in our case without a pathological diagnosis because of a suspicious tumoral mass in order to perform adequate mesenteric and lymphoid tissue excision (Emergency pathological evaluation could not be performed for the mass during the surgical procedure). Sülü et al. changed their decision of perineal approach and performed anterior resection in a similar case with a pathological diagnosis of adenocarcinoma (14). In the postoperative paraffin section examination, the mass was reported as adenocarcinoma, supporting the surgical procedure we performed. Colo-rectal anastamosis was considered risky in this case because of the 4 times diameter difference between the distal and proximal segments and the distal segment was edematous. In high-risk incarcerated RP cases who underwent perineal rectosigmoidectomy, 25% anastamotic leakage was observed (15). This supports our decision of colostomy.

CONCLUSION

Rectal prolapse is rare in anorectal emergencies. A review of the literature reveals a limited number of cases of RP due to sigmoid colon tumour. It should be kept in mind that one of the causes of rectal prolapse may be a colon tumour as in our case. Total colonoscopy and biopsy should be performed in cases of rectal prolapse caused by colorectal masses. Which surgical procedure to choose depends on the patient's clinic, time of presentation, the cause of RP (such as rectosigmoid cancer) and the hospital's facilities. In patients with RP due to a mass, without a pathologic diagnosis and presenting urgently, we believe that the mass should be considered malignant and oncologic surgery should be performed.

Conflict of interest

All authors declare that they have no conflict of interest.

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Ethical statement

Written informed consent was obtained from the patient of this case report.

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