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Direttore Nicola Picardi

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Muhammet Akyuz, Ugur Topal, Mustafa Gök, Türkmen Bahadır Arıkan, Erdogan Sozuer
Hizir Yakup Akyildiz

Department of General Surgery, Erciyes University Medical Faculty, Melikgazi, Kayseri, Turkey

Sigmoid colon cancer presenting as complete prolapse

BACKROUND: *The association of rectal prolapse and colorectal cancer is quite rare and only a few cases have been reported previously in the literature. It is unclear whether colorectal cancer triggers rectal prolapse.*
CASE PRESENTATION: *A 77-year-old male patient presented to our emergency department with complete rectal prolapse, and an anterior resection was performed after rectal digital examination revealed a mass. The pathology result came back as mucinous adenocarcinoma in the sigmoid colon and the postoperative period was uneventful.*
CONCLUSIONS: *Considering the age group in which rectal prolapse is most commonly seen, and the change in bowel habits, chronic constipation and irritation chronic seen in rectal prolapse may be responsible for the development of rectum cancer, therefore endoscopic screening should not be overlooked in rectal prolapse cases.*

KEY WORDS: Anorectal emergencies, Colon cancer, Rectal prolapse

Introduction

Rectal prolapse (prosidence) is defined as the protrusion of all layers (complete) or only the mucosal layer (incomplete) of the rectal wall through the anal canal [1,2]. Rectal prolapse may occur at any age. Its frequency in society is 1/1000. It is more common in women and especially in the elderly. Female to male ratio is around 6-10/1 [3]. However, the coexistence of colorectal malignancies and rectal prolapse is extremely rare. To our knowledge, a limited number of cases of sigmoid cancer have been reported in the literature presenting with rectal prolapse [4–7].
Colorectal cancers are more common in elderly patients, such as rectal prolapse [4,8]. When both of these disorders develop concurrently in a patient, they usually occur independently of each other; however, colorectal cancer or polyps may rarely contribute to the development of rectal prolapse by a mechanism similar to intussusception due to intestinal masses [4,8].
There is not enough information about the relationship between colorectal cancer and rectal prolapse in the literature because of the limited number of cases. Therefore, it is still unclear whether colorectal cancer triggers rectal prolapse.
In this article, we aimed to present a case of sigmoid colon cancer accompanying incarcerated rectal prolapse.

Case Presentation

A seventy-seven-year-old male patient was admitted to the emergency department with the complaint of his intestines coming out of the anus for two days and could not be pushed back. In rectal examination, it was found that the rectum was approximately 15 cm prolapsed, edema and circulatory disorder developed in the prolapsed bowel segment and the intestine could not be reduced (Fig. 1). On rectal digital examination, a mass narrowing the colon lumen circumferentially was palpated. The following was found during the physical examination; TA:140/70 mmHg, Respiratory rate: 24, Pulse: 102/min, rhythmic, Body temp: 38.1°C. His general condition was

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Correspondence to: Uğur Topal, M.D, Erciyes University Medical Faculty, General Surgery Department, Köşk Mahallesi, Prof. Dr. Turhan Feyzioğlu Cad. No: 4238030, Melikgazi, Kayseri, Turkey (e-mail: makyuz@gmail.com)

Fig. 1: Prolapsed rectum with edema and ischemic appearance.

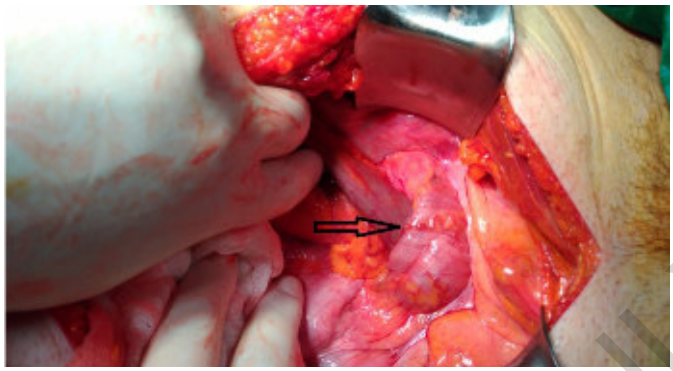

Fig. 2: Intraoperative appearance of invaginated sigmoid colon. Arrow shows the invagination site.

Fig. 3: Sigmoid colon after reduction of invagination. Arrow shows the sigmoid colon tumoral mass.

good, he was conscious, cooperating and oriented. He did not have defense or rebound during abdominal examination. His other systemic examinations were normal. In the laboratory examination, the complete cell count showed the following; WBC: 8.7x10^3 /µl, HGB:14.8 g/dL, HCT: 43.1, PLT: 249x10^3 /µl. Urinalysis and biochemical parameters were within normal ranges. The patient had no systemic disease other than chronic constipation history. In the last 6 months, the patient reported having the same complaint with spontaneous reduction and he had no history of previous abdominal surgery. It was decided to perform laparotomy because of the presence of an ischemic appearance in the prolapsed bowel segment and palpation of the mass. Midline laparotomy was performed in supine lithotomy position under general anesthesia. During exploration, it was seen that the entire sigmoid colon was invaginated into the rectum (Fig. 2). There was a mass formation that narrowed the lumen in the sigmoid colon after the correction of invagination (Fig. 3). The patient underwent anterior resection, including total strangulated segment, and total mesocolic excision. The operation lasted 165 min. There was 150 ml intraoperative hemorrhage. The patient was followed up postoperatively in the general surgery ward. Postoperative follow-up included antibiotic therapy (Ampicillin/sulbactam), intravenous fluid, analgesic (paracetamol), and anti-emetic administration, and the oral intake was started after gastrointestinal passage was achieved. The patient had no specific postoperative complications, a wound complication did not develop. We did not need re-discovery/revision surgeries. We did not experience post-operative 30 day and long-term morbidity/mortality. The patient was discharged on the 7th postoperative day. The patient was followed up as an outpatient 10 days after discharge and they were well with no further complaints.

The final diagnosis is a pT3N0M0 mucinous adenocarcinoma of the sigmoid colon (lymph nodes: 0/20) according to the TNM 2016 classification.

Twelve months after surgery, our patient is doing well with no evidence of recurrence of either the rectal prolapse or the cancer.

Discussion

The etiology in rectal prolapse is not clear. There are theories or simultaneous existence of anatomical variances that are suggested as explanations. Deep Douglas cavity, laxity or atony of pelvic floor and anal canal muscles, external and internal anal sphincter weakness caused by pudendal nerve neuropathy, levator diastasis, long sigmoid colon, diameter difference between rectum and sigmoid colon, inadequate fixation of rectum to sacrum accompanied by mobile mesorectum and loose lateral ligament, colorectal tumor or polyps are conditions that may cause rectal prolapse [3]. The presence of a long rectosigmoid colon was found to be the most common risk factor in a study conducted at Cleveland Clinic [9]. Our patient had a 6-month history of constipation and sigmoid colon tumor in the etiology.

Colorectal cancer is one of the malignancies associated with high mortality and morbidity, seen commonly in developed countries. Patients with colorectal cancer usually present with changes in intestinal habits, bloody or mucous stools, abdominal pain, tenesmus and unexplained weight loss. However, rectal prolapse is rarely seen as the first clinical sign of colorectal cancer [6]. In

our literature review, colorectal cancer association was reported in 8 patients with rectal prolapse. Four of these patients had rectum cancer, three had sigmoid colon cancer, and one had rectosigmoid zone cancer. Except for the patient with the rectosigmoid tumor, all patients were female [4-6,8,10-13].

The association of rectal prolapse with colorectal carcinoma has not been fully elucidated. Etiologically, there is no significant relationship between rectal cancer and rectal prolapse [12]. Symptomatic rectal prolapse may be a sign of colorectal cancer in a significant proportion of patients [14].

In the article on the relationship between colorectal cancer and rectal prolapse, the risk of colorectal cancer development was 4.2 times higher in the patients with rectal prolapse (5.7%) than in the control group (1.4%). These results suggest that the prevalence of colorectal cancer may increase in patients with symptomatic rectal prolapse. Rectal prolapse may reflect the body's response to increased intra-abdominal pressure caused by constipation due to a hidden colorectal malignancy [14].

Physical examination is sufficient for the diagnosis of rectal prolapse. However, several tests are needed to identify other accompanying pathologies [2,6]. Colonoscopy should be performed to detect mucosal pathologies. In our case, the diagnosis was made by physical examination and the mass in the sigmoid colon was palpated with rectal digital examination. We did not perform preoperative colonoscopic examination because the patient underwent emergency operation for strangulation.

Curative treatment of rectal prolapse can only be achieved by surgery. There are over 100 different techniques reported in the literature [15]. The aim of the ideal surgical treatment is anatomical correction of prolapse, removal of incontinence or obstructive defecation symptoms and prevention of recurrence by minimizing surgical complications [1,2]. The search for the ideal surgical method to meet all these features is still ongoing. Due to the excessive edema of the rectum in cases of acute prolapse, replacement may not always be possible. The reduction of the prolapsed mass allows the patient to have elective surgical treatment. Reduction should not be attempted in cases of strangulated prolapse with ischemia or necrosis, emergency surgery should be performed [16,17].

In our case, we did not perform a reduction because strangulation had developed. Upon discovering a mass during rectal digital examination, we preferred to perform resection with an abdominal approach.

Conclusions

Rectal prolapse may be initiated by colorectal cancer and rectal prolapse may be a sign of colorectal cancer. Therefore, patients with rectal prolapse should be investigated for colorectal cancer. Endoscopic examination should be performed in patients with rectal prolapse.

Riassunto

L'associazione tra prolasso rettale e carcinoma del colon-retto è piuttosto rara e solo pochi casi sono stati riportati nella precedente letteratura. Non è chiaro se il tumore del colon-retto inneschi il prolasso rettale.

Viene qui presentato il caso di un uomo di 77 anni giunto al nostro pronto soccorso con prolasso rettale completo e su cui si è eseguita una resezione anteriore dopo che l'esame digitale rettale aveva ha rivelato la presenza di una massa. Il referto patologico è stato di adenocarcinoma mucinoso nel colon sigmoideo. Il periodo postoperatorio è stato privo di eventi.

Considerando la fascia di età in cui si osserva più comunemente il prolasso rettale con il cambiamento nelle abitudini intestinali, costipazione cronica e irritazione osservati nel prolasso rettale cronico possono essere responsabili dello sviluppo del cancro del retto, pertanto lo screening endoscopico non deve essere trascurato nel caso del prolasso rettale.

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