



Adult sigmoid intussusception resembling rectal prolapse: A case report

Tsung-Jung Tsai, Yu Shih Liu

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Tsung-Jung Tsai, Department of Surgery, Changhua Christian Hospital, Changhua 500209, Taiwan

Yu Shih Liu, Department of Colorectal Surgery, Changhua Christian Hospital, Changhua 500209, Taiwan

Corresponding author: Yu Shih Liu, MD, Chief Doctor, Department of Colorectal Surgery, Changhua Christian Hospital, No. 135 Nanxiao Street, Changhua 500209, Taiwan. 184403@cch.org.tw

Abstract

BACKGROUND

Rectal prolapse arises from benign etiology. When symptoms of internal intussusception mirror those of rectal prolapse, a misdiagnosis is possible, especially under limited clinical presentation. It is crucial to recognize and differentiate rectal prolapse from internal intussusception because the two diagnoses have different prognoses. Here, we describe a case of adult sigmoid intussusception presenting as rectal prolapse.

CASE SUMMARY

A 64-year-old woman with no known medical history visited a gastrointestinal outpatient department due to hard bloody stool defecation for 1 wk followed by constipation for 3 d. Colonoscopy revealed a huge polypoid ulcerated tumor at the sigmoid colon with lumen stenosis. The patient was admitted due to post-procedural dull abdominal pain. Due to failed colonoscopy reduction and stent insertion, the patient underwent sigmoid colon resection with primary end-to-end anastomosis, with the transverse colostomy pathological report showing adenocarcinoma, pT3N0M0. She recovered well from the operation and was discharged with regular outpatient clinic follow-up.

CONCLUSION

Presentation and manifestation of sigmoid intussusception may resemble that of rectal prolapse, necessitating careful observation due to distinct prognostic implications.

Key Words: Sigmoid intussusception; Rectal prolapse; Endoscopic reduction; Adenocarcinoma; Case report

Core Tip: This case underscores the potential for sigmoid intussusception to bear a resemblance to rectal prolapse. These two diagnoses have distinct etiologies and treatment. Adults and children have different etiological factors. Sigmoid intussusception related to malignancy leads to an unfavorable outcome, whereas rectal prolapse has a better prognosis. A comprehensive literature review was conducted to elucidate the advantages and disadvantages of preoperative reduction.

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INTRODUCTION

Rectal prolapse occurs more frequently in elderly females, and a large rectal mass may not undergo spontaneous reduction. Symptoms of internal intussusception may bear a resemblance to rectal prolapse. In acute clinical scenarios, a paucity of the medical history may result in misdiagnosis. The prognosis of the two is different; so, recognition and differentiation are of the utmost importance. In this article, we describe a case of adult sigmoid intussusception presenting as rectal prolapse.

CASE PRESENTATION

Chief complaints

Hard bloody stool defecation for 1 wk followed by constipation for 3 d.

History of present illness

A 64-year-old woman visited a gastrointestinal outpatient department due to hard bloody stool defecation for 1 wk followed by constipation for 3 d. A digital examination diagnosed the patient with a second-degree hemorrhoid. Laxative medication was prescribed to aid constipation. However, constipation persisted, and she visited the outpatient department again 2 d later. Abdominal X-ray, abdominal computed tomography, and colonoscopy were arranged on the same day. Sigmoid cancer was suspected. One day after the examinations, she visited the emergency department for dull lower abdominal pain, bloody mucus, and obstipation.

History of past illness

There was no remarkable history of past illness.

Personal and family history

There was no personal or familial history of any specific disease.

Physical examination

The physical examination revealed tenderness in the lower quadrant of the abdomen. A digital rectal examination revealed rectal prolapse.

Laboratory examinations

Laboratory tests revealed a normal white blood cell count of 4100/ μ L (normal range: 4000-91000/ μ L), normal neutrophil level of 58.1% (normal range: 39.4%-72.6%), and normal hemoglobin of 11.4 g/dL (12-15 g/dL).

Imaging examinations

An abdominal X-ray showed fecal impaction in the colon. However, the colonoscope could not be advanced beyond about 15 cm from the anal verge. A huge polypoid ulcerated tumor with lumen stenosis was seen at the sigmoid colon, estimated to be 4 cm from the rectum (Figure 1). Abdominal computed tomography demonstrated sigmoid intussusception with inner irregular soft tissue (Figure 2).

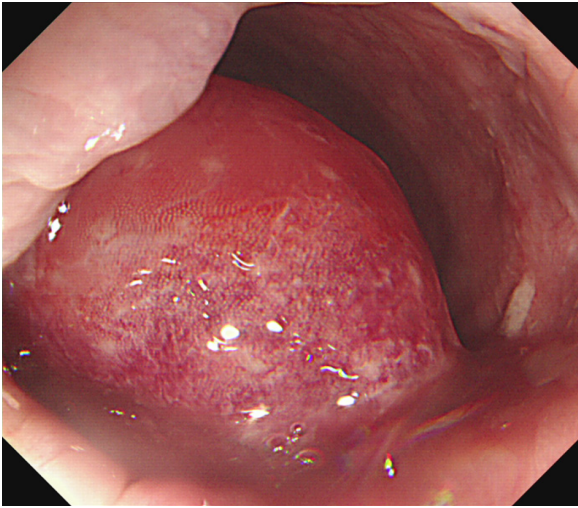


Figure 1 Colonoscopic images. A polypoid ulcerated tumor causing intestinal stenosis.

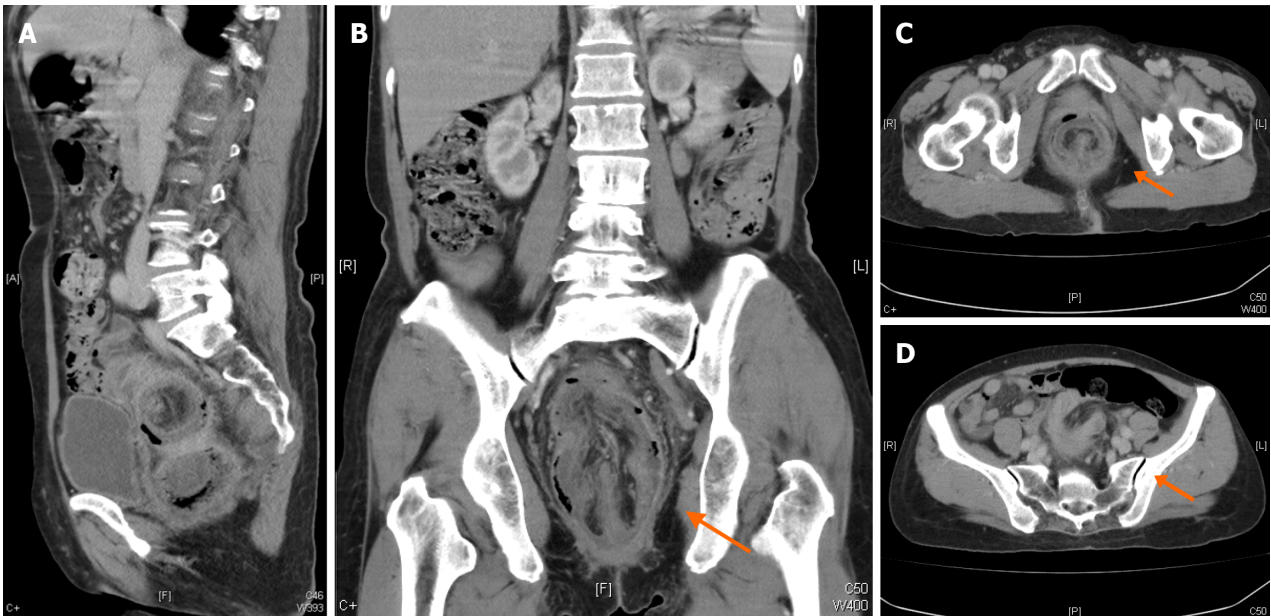


Figure 2 Computed tomography images. A and B: Coronal and sagittal abdominal computed tomography (CT) revealed sigmoid intussusception (arrow); C and D: Axial abdominal CT demonstrated target sign (arrow).

FINAL DIAGNOSIS

Sigmoid intussusception resembling rectal prolapse.

TREATMENT

After discussion with the patient and her family, we established their expressed preference for nonsurgical treatment. Hence, we attempted colonoscopic reduction with stent insertion 2 d after admission. Colonoscopy treatment failed; so, a surgical approach was taken. Laparotomy for sigmoid colectomy with primary anastomosis was carried out. Intraoperative reduction of the prolapsed intussusception was not achieved by either the manual method or rectum dilator (Courtesy of Covidien, Inc., Norwalk, CT, United States) due to tense sigmoid intussusception with sigmoid cancer (Figure 3A). Distal resection under manual check *via* digital examination followed by primary end-to-end anastomosis with a transverse colostomy was performed (Figure 3B).

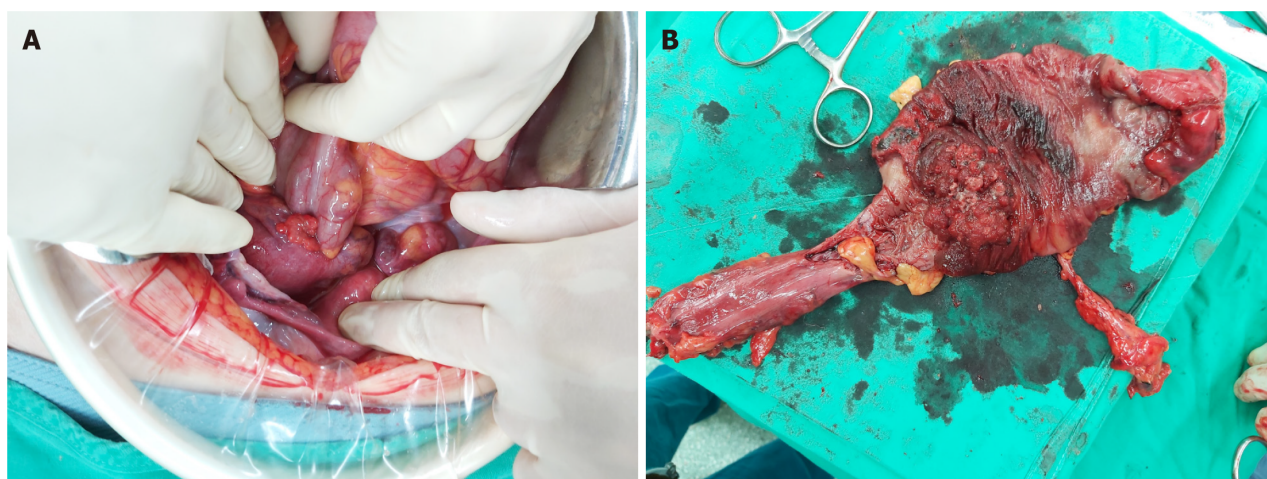


Figure 3 Perioperative images. A: Sigmoid intussusception; B: Ulcerated and ischemic change of sigmoid colon.

OUTCOME AND FOLLOW-UP

The patient recovered well post operation and was discharged on the 9th post-operative day. The pathology report confirmed a 5.1 cm adenocarcinoma, pT3NOMO, with KRAS Wild Type. The patient recovered and has returned to the outpatient clinic for close follow-up.

DISCUSSION

In comparison to its occurrence in children, adult intussusception is a rare condition. Pediatric intussusception is predominantly located in the small intestine, with 80%-90% of cases being idiopathic. By contrast, about half of adult intussusceptions occur in the large bowel, particularly in the right colon (70% of cases)[1]. Sigmoido-rectal intussusception is distinctly rare in the adult population.

Table 1[2-14] summarizes similar case reports that were published within the last 30 years. All cases involve sigmoid intussusception presenting as rectal prolapse. It is evident that sigmoido-rectal or sigmoido-anal intussusception are often misdiagnosed as rectal prolapse, especially when a detailed digital examination is not performed. Intussusception should be suspected after a tumor is observed. The classic triad of pediatric intussusception is paroxysmal abdominal pain, rectal bleeding, and abdominal palpable mass[15]. The symptoms of the classic triad are only observed in 9.8% of cases of adult intussusception. The clinical presentation of adult intussusception is nonspecific and chronic or subacute, presenting as intestinal obstruction (70.7%), abdominal pain (95.1%), bloody stool (26.8%), and a palpable abdominal mass (34.1%)[16, 17].

Diagnosis is crucial, and a colonoscopy or sigmoidoscopy can provide insight into the potential underlying causes and obtain a specimen for histology. Computed tomography is considered superior because it can pinpoint the location and reveal the cause of the obstruction. In malignancy cases, computed tomography images provide more details of lymph nodes and metastasis status.

Treatment for adult colo-colonic or sigmoido-rectal intussusception is controversial. Sarr *et al*[18] investigated preoperative reduction due to malignant seeding risk. However, preoperative reduction can mean avoidance of emergent surgery or lesion survey and reduce the extent of intestinal resection and radical surgery for cancer. Though most cases of intussusception are related to lesions, few are idiopathic. In a recent study, preoperative endoscopy reduction was found to be more advantageous than emergent surgery because of the simultaneous diagnosis and treatment[17]. Moreover, endoscopy can provide a direct evaluation of the mucosal surface to determine the severity, such as ischemia or total obstruction or special intussusception. Laparoscopic reduction is feasible in idiopathic intussusception in adults. Radical resection is a priority for malignant cause. Rectal prolapse usually has a benign etiology, whereas sigmoido-rectal intussusception is mostly related to tumors.

CONCLUSION

Sigmoid intussusception in adults is mostly related to malignancy. Clinicians should be more cautious in differentiating between sigmoid intussusception and rectal prolapse based on limited presentation and medical history.

Table 1 Cases about sigmoid intussusception presenting as rectal prolapse

Ref.	Sex	Site of intussusception	Histopathology	Symptom	Reduction	Surgery
Younes <i>et al</i> [2], 1998	F	Sigmoid	Lipoma	Rectal prolapse	Yes	Sigmoid colon resection, and rectopexy
Tony <i>et al</i> [3], 2007	F	Colo-colonic	Lipoma	Rectal prolapse	No	External surgical resection
Chen <i>et al</i> [4], 2008	M	Ileocolic	Lipoma	Abdominal pain, rectal prolapse	Yes	Subtotal colectomy
Ochiai <i>et al</i> [5], 2010	F	Sigmoid	Adenocarcinoma	Abdominal pain, rectal prolapse	Yes	Intraoperative reduction and low anterior resection
Teyha <i>et al</i> [6], 2011	M	Sigmoid	Idiopathic	Rectal prolapse	No	Sigmoid colon resection
Roy <i>et al</i> [7], 2011	F	Sigmoid	Idiopathic	Rectal prolapse	Yes	Partial resection of the sigmoid colon
Elliott <i>et al</i> [8], 2014	M	Sigmoid	Lipoma	Obstruction, rectal bleeding, rectal prolapse	Yes	Sigmoid colon resection
Mahmood <i>et al</i> [9], 2014	M	Colo-colonic	Villous adenoma	Rectal prolapse, obstruction	Yes	Intraoperative reduction and sigmoid colon resection
Du <i>et al</i> [10], 2015	F	Sigmoid-rectum	Tubulovillous adenoma	Obstruction, rectal bleeding, rectal prolapse	Yes	Total colectomy
West <i>et al</i> [11], 2019	F	Sigmoid	Polyp	Rectal prolapse, hematochezia	No	Enterotomy and polypectomy
Mazumdar <i>et al</i> [12], 2021	M	Sigmoid-rectum	Adenocarcinoma	Abdominal pain, rectal prolapse	No	Hartmann's procedure
West <i>et al</i> [13], 2022	F	Sigmoid	Lipoma	Rectal bleeding, rectal prolapse	No	Hartmann's procedure
Penton <i>et al</i> [14], 2023	M	Sigmoid	Adenocarcinoma	Rectal prolapse	Yes	Sigmoid colon resection

F: Female; M: Male.

FOOTNOTES

Author contributions: Liu YS contributed to the conceptualization, investigation and supervision; Tsai TJ contributed to the data curation, investigation, preparation of the manuscript, and editing; Both authors have read and approved the final manuscript.

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Country/Territory of origin: Taiwan

ORCID number: Tsung-Jung Tsai 0000-0002-1800-4451; Yu Shih Liu 0000-0003-0614-0664.

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