

Incarcerated Coloanal Intussusception Requiring a Combined Transabdominal and Perineal Approach

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Background	Incarcerated coloanal intussusception, though rare, can be misdiagnosed as rectal prolapse. We present the case of a 78-year-old female with a bulge from her anus following bowel movement strain, highlighting the diagnostic importance of differentiating coloanal intussusception.
Summary	The presence of a “sulcus sign” confirmed coloanal intussusception. A combined perineal and transabdominal approach was initially attempted to reduce the intussusception. However, due to irreducibility and patchy ischemia of the proximal rectum, a rectosigmoid resection with anastomosis and rectopexy was performed. Tissue edema necessitated a hand-sewn anastomosis and a diverting loop ileostomy.
Conclusion	Coloanal intussusception remains poorly described in the literature. Accurate diagnosis is crucial for preoperative planning, as a perineal approach alone is not feasible. This case demonstrates diagnostic challenges and our selected treatment approach.
Key Words	coloanal intussusception; rectal prolapse; sulcus

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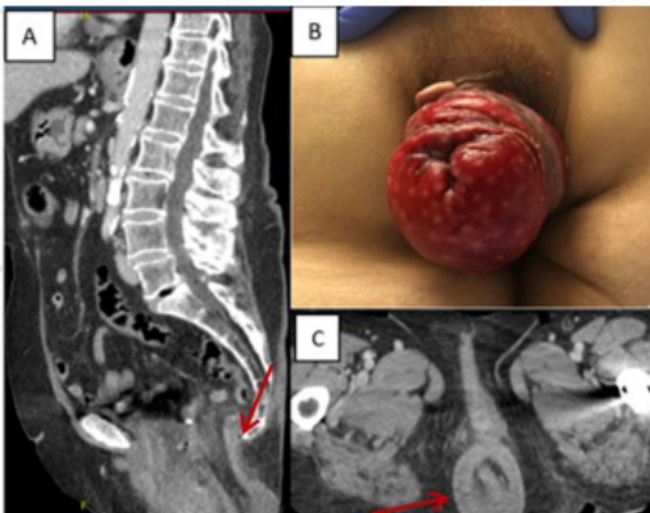
Case Description

A 78-year-old female with chronic constipation and a history of pelvic organ prolapse (previously treated with hysterectomy and sacrocolpopexy with mesh) presented with acute abdominal pain and an anal bulge following an episode of straining. She denied any prior history of similar symptoms other than constipation.

The patient presented with mild abdominal pain, and physical examination revealed an irreducible, circumferential, full-thickness prolapse (Figure 1). A positive sulcus sign (Figure 2) strongly suggested coloanal intussusception rather than rectal prolapse. CT imaging of the abdomen and pelvis showed what appeared to be a prolapse of the rectum with associated surrounding inflammation (Figure 1). An attempt to reduce the edema and facilitate reduction using table sugar was unsuccessful. Given the diagnosis of incarcerated coloanal intussusception, the patient was consented for a combined perineal and abdominal approach by a colorectal surgeon.

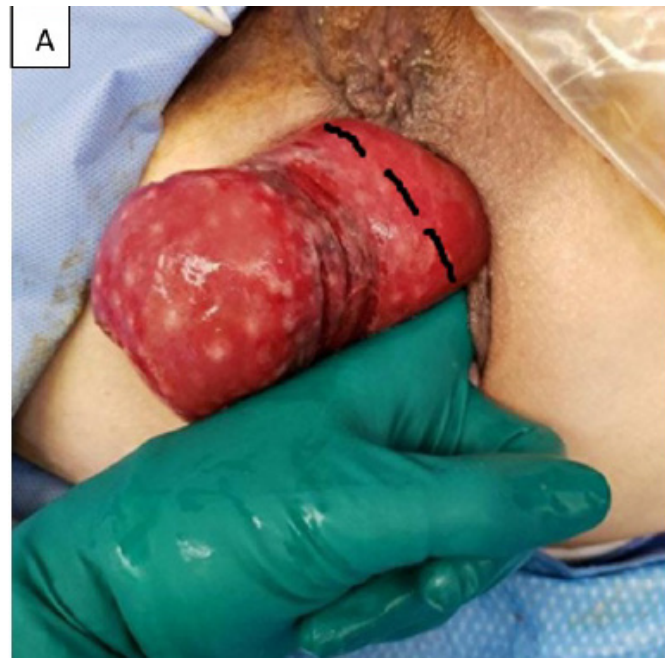
The patient, under general anesthesia, was positioned supine with legs in stirrups for easy access to the perineum. Initial manual reduction of the rectal intussusception via the perineum failed, necessitating a low, midline laparotomy. The rectosigmoid junction was identified as the lead point, with patchy ischemia on the proximal rectal wall. Combined transabdominal and perineal reduction attempts were unsuccessful. Therefore, a perineal approach was used to circumferentially transect the distal rectum 3-4 cm from the anal verge (Figure 2). After changing surgical attire, the transabdominal approach mobilized the sigmoid colon, successfully reducing the remaining incarcerated bowel into the abdomen. Further rectal mobilization occurred below the ischemic areas. A low anterior resection was performed due to rectal edema and size mismatch, followed by a side-to-end hand-sewn anastomosis. A negative leak test via flexible sigmoidoscopy and a 2-0 suture rectopexy concluded the procedure.

Figure 1. Patient Presentation. Published with Permission



A) Sagittal CT demonstrating coloanal intussusception; B) clinical presentation of coloanal intussusception in the emergency department; C) axial CT view of the intussusception

Figure 2. Coloanal Intussusception with Sulcus Sign. Published with Permission



The sulcus sign is visualized as a circumferential space between the colon wall and anus. The dentate line is in the anatomic position, distinguishing this from rectal prolapse. The black dashed line indicates the planned transanal resection site.

Given the edematous tissue and the patient's comorbidities, a diverting loop ileostomy was created to protect the anastomosis. The patient recovered well postoperatively, progressing with diet and was discharged on postoperative day four, demonstrating ostomy function and competence in self-care. A follow-up outpatient colonoscopy one month later showed normal findings, and the diverting loop ileostomy was successfully taken down three months after the initial surgery without complications.

Discussion

Coloanal intussusception is a rare and easily misdiagnosed condition, often mistaken for the more common rectal prolapse. A key distinguishing feature is the presence of a sulcus (groove) between the colon wall and anus, extending past the dentate line created by the telescoping colon in coloanal intussusception (Figure 2). This sulcus is absent in rectal prolapse. Despite their clinical overlap, coloanal intussusception and rectal prolapse necessitate distinct surgical approaches, underscoring the importance of accurate diagnosis for surgeons. Unfortunately, limited published information exists on coloanal intussusception, and it is often excluded from surgical textbooks.

As expected, an attempt to reduce the intussusception via a perineal approach was unsuccessful in this case of incarcerated coloanal intussusception. Due to the proximal lead point, the affected bowel cannot be adequately exteriorized for reduction, unlike in cases of rectal prolapse. This underscores the necessity of a transabdominal approach for incarcerated coloanal intussusception. Importantly, preoperative diagnosis is crucial for both patient awareness and surgical planning.

Adult intussusception is a rare diagnosis, with an incidence of roughly two to three cases per million patients.¹ Most cases involve the small bowel, with colonic intussusception being even less frequent.^{2,3} Incarcerated coloanal intussusception is exceptionally uncommon, with no established incidence data. Importantly, while malignancy often drives adult intussusception,²⁻⁴ this association has not been observed in coloanal intussusception. To date, no studies have specifically investigated the characteristics and causes of coloanal intussusception.

Conclusion

Accurate differentiation of coloanal intussusception from rectal prolapse is important as it directly impacts the surgical approach. Incarcerated coloanal intussusception often necessitates a transabdominal approach for successful bowel reduction. The sulcus sign is a valuable diagnostic tool to guide appropriate management.

Lessons Learned

Coloanal intussusception must be distinguished from rectal prolapse, with the sulcus sign being a key diagnostic feature. This sign presents as a groove between the colon and anus, extending proximally beyond the dentate line. In contrast to true rectal prolapse, the dentate line remains in its anatomic position and is less prone to eversion in coloanal intussusception. For incarcerated coloanal intussusception, a perineal reduction attempt is warranted. However, this approach may be unsuccessful as the lead point cannot be easily exteriorized transanally.

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