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## An uncommon diagnosis of a common presentation of mass per rectum

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## ABSTRACT

**Introduction** – In adults, protrusion of intussuscepted sigmoid growth through the anal canal is exceedingly rare, with only 9 cases being reported till date. **Case Report** – A 52-year old man presented to emergency department with what appeared to be an episode of rectal prolapse following straining while defaecating. On examination, he had a prolapsed 8 × 8 cm bowel, with a 2 × 2 cm friable villous growth as the lead point, with space between the mass and the perianal skin. Computed Tomography of the abdomen was done which was suggestive of telescoping of the sigmoid into the rectum protruding out through the anal canal with features of intestinal obstruction. He underwent exploratory laparotomy with sigmoidectomy with Hartman's Procedure. Post-operative period was uneventful. Histopathology was suggestive of moderately differentiated carcinoma. **Discussion** – In colo-anal intussusception, as was in our patient, the preferred approach is to reduce the intussusception before resection, to perform a sphincter saving operation as compared to an Abdominoperineal Resection (APR) otherwise. **Conclusion** – A high index of suspicion is important to diagnose and treat such cases early to avoid lethal outcomes by misdiagnosing it as simple rectal prolapse.

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## 1. Introduction

Intussusception, in which a proximal segment of bowel telescopes or invaginates into an adjacent distal segment, is rare in adults and accounts for less than 5% of all intussusception cases [1]. It is infrequent for large bowel malignancy to first present as intussusception protruding through the anal canal, and if misdiagnosed as rectal prolapse can be fatal. This case report has been reported in line with the SCARE 2018 guidelines [2].

## 2. Case report

A 52-year old male, with no prior medical or surgical history, presented to the emergency department with a history of bleeding per rectum with mass per rectum for the last 1 week. He also gave a history of constipation with straining during defecation and loss of appetite for the last 1 month. On physical examination, vital were stable. He was moderately built and poorly nourished. Per abdomen examination revealed generalized distension, with visible peristalsis and no masses palpable, bowel sounds were hyperperistaltic. On per rectal examination, an irreducible, prolapsed 8 × 8 cm bowel, with a 2 × 2 cm friable villous growth as a lead point, was noticed. The mucosa appeared edematous and dusky. There was

a space between the protruding mucosa and the anal wall, which was suggestive of intussusception, as opposed to a complete rectal prolapse. Reduction was not attempted as it did not appear feasible. Blood investigations were within normal limits. Erect Abdomen X ray showed signs of intestinal obstruction. In view of high clinical suspicion, Computed Tomography (CT) of the abdomen and pelvis was done, which demonstrated telescoping of the sigmoid colon, into the rectum with anal protrusion, with the villous friable growth as the lead point, with large bowel obstruction. An emergency laparotomy was performed, and intra-operatively we found a long segment sigmoid intussusception, with a sigmoid colon growth as the lead point. It resulted in a prolapse of the intussusceptum through the anus, thus mimicking a rectal prolapse. Manual reduction of the prolapsed intussusceptum transabdominally, aided by a perianal approach, was attempted. We partially reduced the intussusception back from the distal to the proximal rectum using a milking action but due to edematous bowel and tight intussusceptum it resulted in a sigmoid perforation. The condition of the bowel was sub-optimal for primary anastomosis; hence he underwent Hartman's procedure. The postoperative period was uneventful and the patient was discharged on the 6th postoperative day. Histopathology report was suggestive of a moderately differentiated adenocarcinoma, with free margins. Patient is for regular follow up and is doing well (Figs. 1–4Figure 4).

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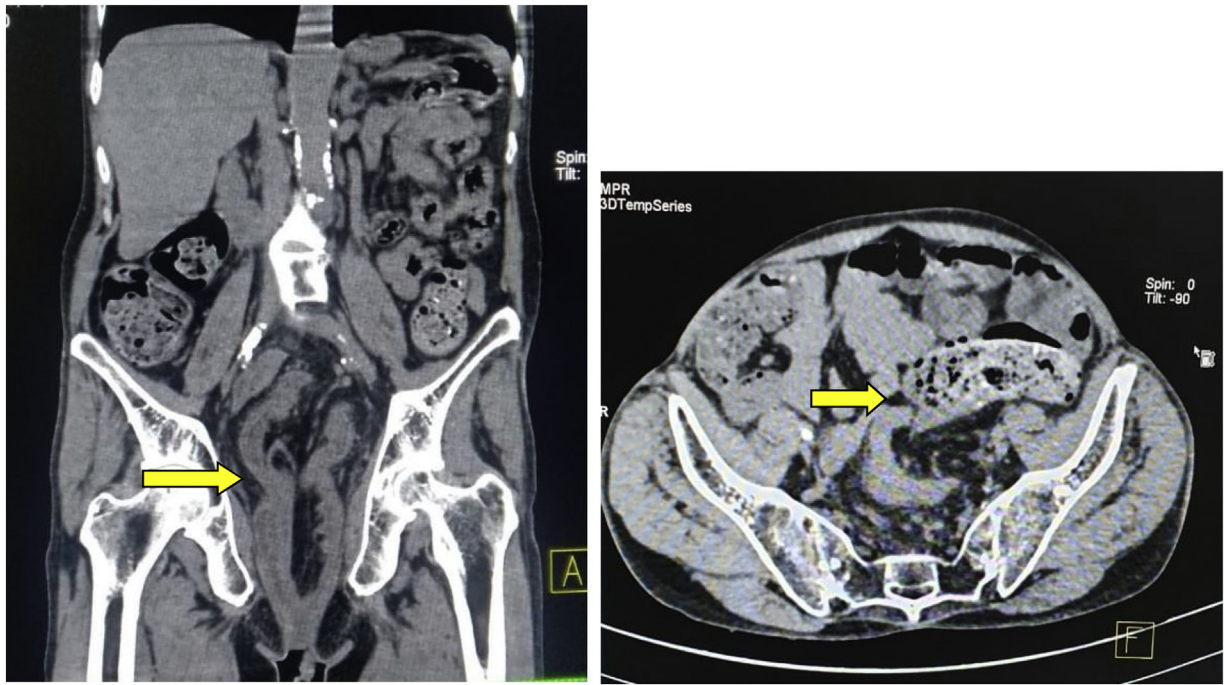


Fig. 1. CT abdomen shows telescoping of the sigmoid colon into the rectum with probable lead point in the anal canal; No lymph nodes/ascites/metastasis.

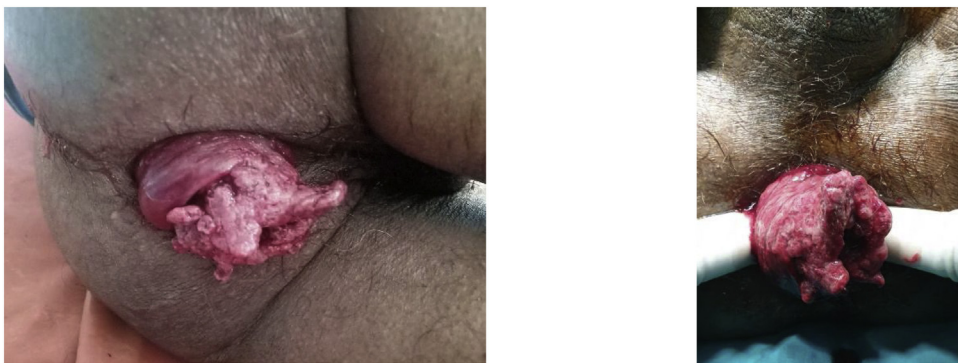


Fig. 2. On examination – (a) prolapsed bowel with friable mass as lead point; (b) space between the protruding mucosa and the anal wall – differentiating from rectal prolapse.



Fig. 3. Intra-operative – (a) intussusception of the sigmoid into the rectum; (b) gross specimen showing a sigmoid growth.

**Table 1**  
Difference between Intussusception & Rectal Prolapse.

	Intussusception	Rectal Prolapse
Etiology	Lead point	Pelvic floor dyssynergia and increased intra-abdominal pressure.
Signs/ Symptoms	Bowel obstruction	Fecal incontinence and pruritus ani.
PR examination	Finger invagination between protruding mucosa and anal wall.	Continuity between perianal tissue and protruding tissue.
Management	Exploratory laparotomy ± partial reduction	Easy reduction with definitive surgery at later date, unless incarcerated.

### 3. Discussion

The first report of intussusception was made in, Amsterdam in 1674 by Barbette. The pathophysiology of intussusception is usually due to a lead point, which may be a lesion in the bowel wall or an irritant in its lumen, which alters the normal peristaltic bowel activity and initiates the invagination process. Ingested food and the subsequent peristaltic activity of the bowel results in an area of constriction above the stimulus and relaxation below, thus telescoping the lead point through the distal bowel lumen. It can be classified as primary or idiopathic, which occurs in the absence of lead point or secondary, when a lead point (benign, malignant or iatrogenic) is identified, as in 90% of cases [3,4]. According to location it is classified into (a) Entero-enteric, (b) Colo-colic, (c) Ileocolic and (d) Ileo-caecal. Based on etiology (a) Benign (b) Malignant (c) Idiopathic [5,6]. In adults, colo-colic intussusception is the most common type, which is further sub-classified into: (a) colo-rectal – colon invaginates through rectal ampulla and (b) recto-rectal – with rectum invaginating into the rectum but with and without anal protrusion [7]. Our patient has had a colo-colic intussusception, protruding through the anal canal. Rectal prolapse is protrusion of rectal mucosa (mucosal prolapse) or the entire rectum (full thickness prolapse) through the anal opening. Rectal prolapse as a first presentation of underlying malignancy has an overall incidence of 0.25 to 0.4% [8], with only 9 cases being reported in the literature [9]. Prolapse of a proximal segment of bowel masquerading as a full-thickness rectal prolapse is even less frequently seen.

During physical examination, it becomes important to differentiate between rectal prolapse and intussusception (Table 1). Also, in the event of intussusception, the patient could show abdominal signs such as distension, tenderness or abdominal mass. With a reported accuracy of 58% to 100%, abdominal Computed Tomography is the most sensitive diagnostic modality. It is characteristically described as 'target' sign or the 'sausage-shaped' soft tissue mass with a layering effect with mesenteric vessels within the bowel lumen. It also provides information about the site, extent of intussusception, underlying lesion, dilated bowel and signs of obstruction and extent of invasiveness [10]. Classical features in barium enema are "cup shaped" filling defect or "spiral" or "coil-spring" appearances [11], whereas ultrasound showed a "target" or "doughnut" signs on transverse view and "pseudo kidney" or "hay-fork" sign on longitudinal view[12] In our case, telescoping of the sigmoid colon was seen with the lead point outside the anal canal.

Surgery is the first line of management, as 60–65% of cases of intussusception occurring in the large bowel are due to malignancy [1]. Several authors have suggested surgical resection without reduction (en bloc resection) when the bowel is inflamed, ischemic or friable, or when the risk of malignancy is high, due to dissemination of malignant cells [13,14]. Azar et al. suggested that this should be preferred treatment in adults, as almost 50% of both colonic and enteric intussusceptions are associated with malignancy [15].

On the other hand, the advantage of reduction, especially in the small bowel, is preservation of considerable lengths of the bowel to prevent short bowel syndrome. However, reduction is acceptable in post-traumatic, idiopathic, and benign lead point intussusceptions. In colo-anal intussusception, as was in our patient, the preferred approach is to reduce the intussusception before resection, to perform a sphincter saving operation as compared to an Abdominoperineal Resection (APR) otherwise [16]. In our case we managed to partially reduce the Intussusception, however because of inflamed and edematous bowel there was perforation of the bowel wall and we performed a Hartman's procedure.

### 4. Conclusion

For early definitive management, surgeons need to have high index of suspicion as Sigmoidorectal intussusception through anal canal in elderly patients may be misdiagnosed as long standing rectal prolapse with excoriation. This could lead to fatal complications, if not dealt with in emergency. En bloc resection following oncological principles should be the standard of treatment, however, in cases of colo-anal intussusception, surgical technique may need to be modified according to the situation and maybe challenging.

### Declaration of Competing Interest

None.

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None.

### Ethical Approval

Not applicable.

### Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

### Author contribution

Akshay Surendra Naik – Concept, Design, Selection and recruitment of study subject, Data collection and monitoring of data, Interpretation of data, Drafting final report

A.P. Roshini – Design, Selection and recruitment of study subject, Data collection and monitoring of data, Interpretation of data, Drafting final report, maintaining patients file and master file of project

Vishal Sardesai - Design, Selection and recruitment of study subject, Data collection and monitoring of data, Interpretation of data, Drafting final report

C G Radhika Raj - Design, Selection and recruitment of study subject, Drafting final report

### Guarantor

Dr. Ayoub Abetti and Prof. Youssef Ettaoumi.

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