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Prolapsed Gangrenous Sigmoido-Rectal Intususception; A Case Report of 65-Year-Old Female Patient

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Keywords: Adult intussusception; Prolapsed intussusception; Pathologic lead point; Colonic lipoma.

Abstract

Background: Prolapsed sigmoido-rectal intussusception in adults with a pathologic lead point of colonic lipoma is a rare clinical condition. Gangrenous prolapsed colonic intussusception is even rarer. Adult intussusception often has a malignant lead point, commonly seen in ileocolic cases, while small bowel-to-small bowel intussusceptions are relatively benign. However, a benign lead point of large bowel intussusception caused by a colonic lipoma is an extremely unusual clinical condition.

Case presentation: We report a 65-year-old female presenting with a painful prolapsed anal mass for five days, associated with failure to pass stool. She experienced diarrhoea a week before the incident but had no trauma, prior surgeries, rectal bleeding, or significant weight loss. On examination, her vital signs were stable, and a gangrenous prolapsed sigmoido-rectal intussusception was observed, with a palpable polypoid soft mass within the intussusceptum lumen.

Result: A diagnosis of prolapsed gangrenous colo-anal intussusception with a pathologic lead point of sigmoid colonic mass was made. Surgery involved a combined perineal and abdominal approach. The prolapsed gangrenous segment was initially resected perineally, followed by abdominal reduction and exploration. The soft mass arose from the sigmoid colon, with no evidence of malignancy. Necrotic bowel and mesocolon were resected, and primary colo-colic anastomosis were performed. Biopsy confirmed a benign colonic lipoma as the lead point. The patient recovered well post-operatively and remained healthy on follow-ups.

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Conclusion: Protrusion of a mass per anus in adults warrants consideration of sigmoido-rectal intussusception as a differential diagnosis. In cases of gangrenous, irreducible prolapsed intussusception, a combined abdominal and perineal surgical approach is essential for relieving bowel obstruction, controlling sepsis, and preventing complications like malignant perforation and peritoneal seeding, while ensuring accurate diagnosis and definitive treatment.

Introduction

Adult intussusception is a rare clinical condition account only about [1-5] % of intestinal obstruction. Moreover, presence of prolapsed colonic intussusception is another extremely rare clinical finding compered to small bowel to small bowel and small bowel to colonic intussusception. Intussusception in adult is generally not benign clinical condition as of pediatrics. Usually associated with pathologic lead point in more than 90% and those pathologic lead points are malignant condition in more than 60% of cases. The leading point protrude into distal lumen of adjacent bowel and pull proximal adjacent bowel segment through anterograde peristalsis. Subsequently telescopes into distal adjacent lumen along with its mesentery, which may later compromise the blood flow and simultaneously cause luminal obstruction.

Adult intussusception has no peculiar clinical presentation. Often patient present with longstanding abdominal cramp until it results in complete bowel obstruction. However, in case of prolapsed intussusception patient may seek medical attention early due to obvious discomfort from associated pain and defecation difficulty. Diagnosis of adult intussusception require thorough clinical evaluation and optimum investigation with; Ultrasound, colonoscopy, CT-scan or MRI is crucial due to its pathologic condition. But, if patient present with complete obstruction and gangrenous bowel surgical exploration and post op diagnosis is inevitable.

Overall, gaol of surgical management is enblock resection of intussusception mass and restoration of bowel continuity in an emergency case. However, proper oncologic resection is required if preoperative accurate diagnosis is obtained. The options surgical approach may be based on the case scenario, perineal resection is inevitable for oedematous prolapsed gangrenous irreducible intussusception to prevent further perforation and iatrogenic anal sphincter injury.

Case presentation

History and physical examination: This is a 65-year- old female patient presented with a compliant of protrusion of mass per anus of five days, it was painful and it didn't reduce spontaneously, she had history of bloody diarrhoea one week prior to the protrusion of the mass. She didn't passed stool over the last three days. For this suffering she went to the nearby local hospital and reduction tried but unsuccessful. Otherwise, she had no, she passes flatus, no distension, no vomiting, no chronic cough, no difficulty of urination, no trauma/ surgical history, no weight loss, no smoking history, no previous bowel habit change. On objective evaluation: the patient was acute sick looking in pain, vital signs were BP-130/85mmHg. PR-88, RR-26, T-36.6°c, pertinent findings was on abdominal examination; DRE- there was prolapsed intususceptum bowel segment with gangrenous mucosa circumferentially at distal end of prolapsed mass but rectal wall was pinkish and there was also a polypoid darken firm palpable mass in the lumen of prolapsed intususceptum. The examining finger able to pass between protruded mass and rectal wall and irreducible (Figure 1).

Investigations

On labs exam; on complete blood count profile WBC-13.93×10^3, HCT-39.9% Serum electrolyte results; K^+-(3.7mEq/L), Na^+-(140mEq/L), Liver enzymes; GPT;33U/L, GOT-51.8U/L, ALP-58.2U/L, Serum Creatinine-0.53g/L.

Management outcomes and follow ups

With all the above clinical evidences adult-onset gangrenous prolapsed coloanal intussusception was diagnosed. After patient was optimized for exploration and she was taken to operation theatre, prepared and approached both abdominal and perineal. Intraoperative finding was that a part of sigmoid colon telescoped into rectum and prolapsed through the anal opening and a prolapsed intususceptum mass was frankly gangrenous (Figure 1). A gangrenous prolapsed mass was resected perineally and viable segment reduced to abdomen (Figure 2 & 3). The remain part of intususceptum which involves sigmoid colon resected enblock and colo-colic anastomosis was done through the abdominal approach (Figure 4). A resected mass was examined and there was polypoid soft to firm intraluminal mass arising from mid sigmoid colon and sample sent for histopathologic study Figure 4). Later the biopsy results confirmed sigmoid colon luminal lipoma (Figure 5 & 6). Post operatively patient was improved discharged home. On Subsequent follow ups the patient is doing well.

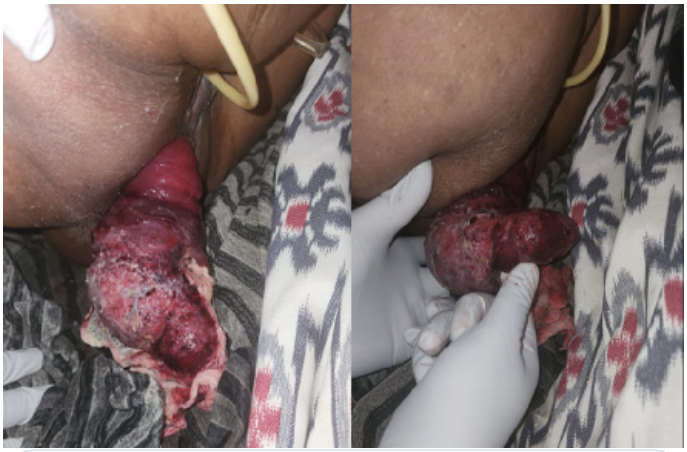

Figure 1: Perineal examination shows gangrenous prolapsed adult intussusception with intraluminal polypoid soft mass.

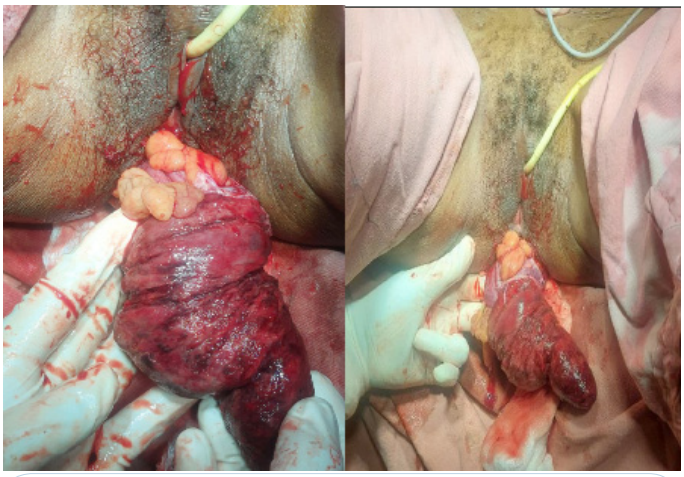

Figure 2: Intraoperative photograph shows perineally resection of prolapsed gangrenous sigmoido-rectal adult intususception.

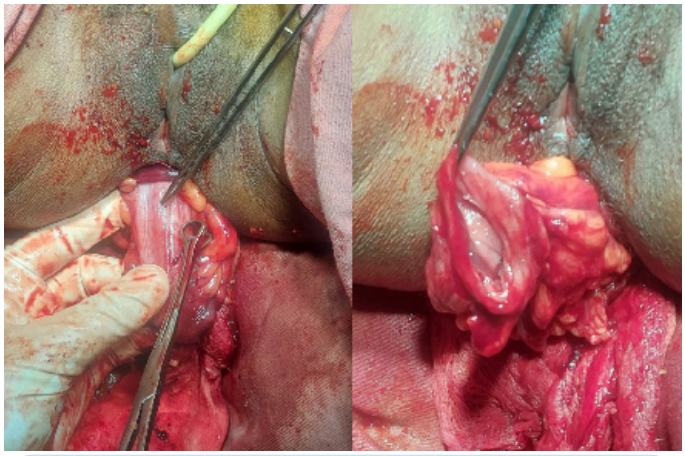

Figure 3: Intraoperative photograph shows perineal resection completed and viable segment ready to reduced per Anus.

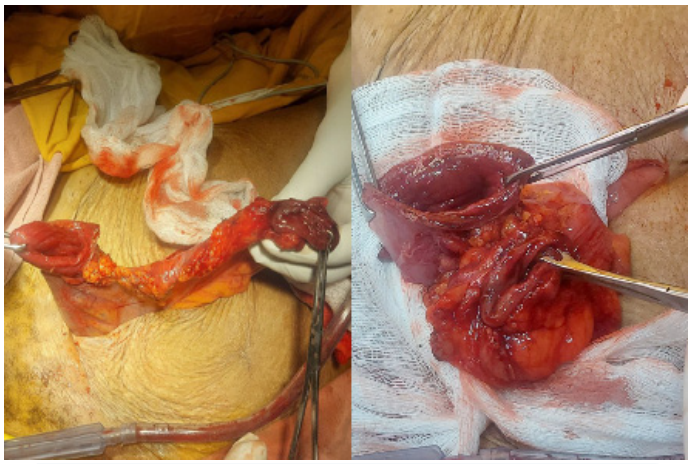

Figure 4: Intraoperative photograph of resected redundant sigmoid colon segment and ready for end-to-end anastomosis.

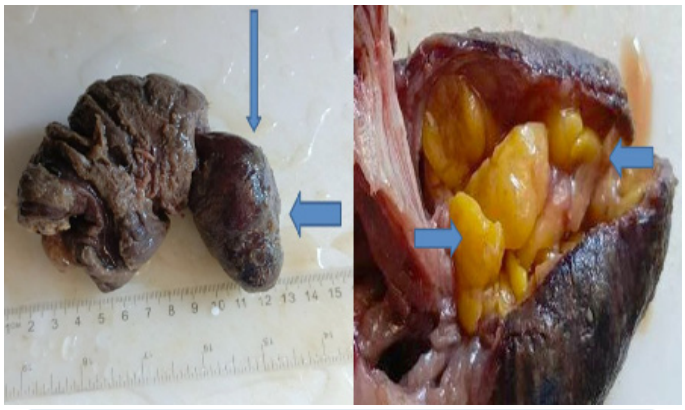

Figure 5: A gross picture of the resected segment of colon with polypoid mass (blue arrow) and Cut surface through the polypoid mass shows lumen filled with yellowish soft tissue (blue arrow).

Discussions

Prolapsed sigmoido-rectal intussusception in adult with pathologic lead point of colonic lipoma is a rare clinical condition in literature. From data of 203 literature review the over overall incidence adult intussusception was 2-3/100,000 predominantly affects female with median age of 51.57 years. However, the exact incidence of prolapsed sigmoido-rectal intussusception is not yet known [1-4].

Intussusception in adult is generally not benign clinical condition as of pediatrics. Usually associated with pathologic lead point in more than 90% and those pathologic lead points are malignant condition in more than 60% of cases. The leading point protrude into distal lumen of adjacent bowel and pull proximal adjacent bowel segment through anterograde peristalsis. Further telescoping of proximal bowel segment into distal along with its mesentery in single segment or compound segment of intususceptum lead to vascular flow compromise and luminal mechanical obstruction. The commonest adult intussusception is small bowel to small bowel and small bowel to colonic intussusception and the pathologic lead points are usually, adenocarcinoma, benign polyps and colonic lipoma. However, colonic intussusception by lead point of lipoma is rare finding, sigmoid colon is second common site of colonic lipoma causing intussusception next to transverse colon. Majorities (90%) of colonic Lipomas originate from submucosa and sessile type and rarely pedunculated with average size of (5.9×4.5×3.4) cm and the largest (16×11×11) cm located at ascending colon is documented in literature. In addition, the presence of prolapse in sigmoido-rectal intussusception with pathologic lead point of colonic lipoma will further potentiate additional complications from progress of septic condition and bowel perforation due to bowel exposure to external mechanical shear apart from blood flow compromise and acute bowel obstruction [5-7].

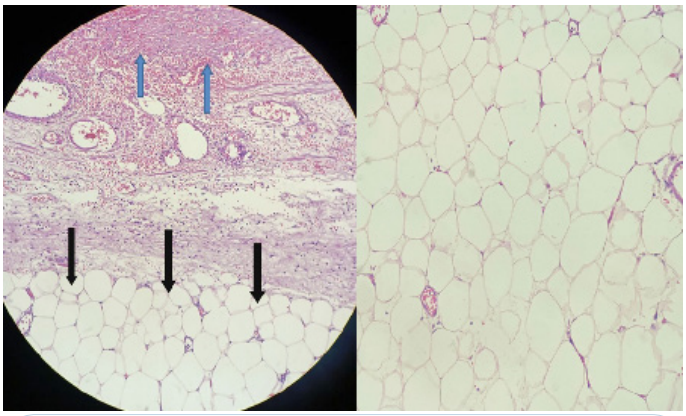

Figure 6: Medium and high power-section show intraluminal adipose tissue indicative of lipoma (black arrow) and underlaying muscular layer (blue arrow).

Here we are reporting a 65-year-old female patient presented with prolapsed sigmoido-rectal intussusception with pathologic lead point of a pedunculated mid sigmoid submucosal originated lipoma which is very rare clinical condition.

Generally, adult intussusception presents with history of longstanding abdominal cramp in more than 83.17%, intermittent bleeding per rectum and constipation, vomiting and mild abdominal distension, until complete bowel obstruction results in which they may exhibit cardinal signs of mechanical bowel obstruction. On the other hand, prolapsed intussusception present early with mass protrusion per rectum with associated pain and acute obstruction [8,9].

Diagnosis of adult intussusception generally need clinical evidence and accurate interpretation of radiological imaging, intraoperative finding and biopsy result. Ultrasound can assess vascularity status, presence of target sign, intrabdominal associated mass but it's always operator dependent. CT-scan and MRI provide more informative image evidences for diagnosis and management plan as well. Colonoscopy is also important to know intraluminal pathologic conditions and histopathologic study before further treatment plan. However, in clinical scenario of acute bowel obstruction with a progressive septic

condition, the preoperative diagnosis may be challenging and retrospective diagnosis after exploration and optimum treatment [10-12].

The mainstay of treatment in adult intussusceptions is en-block surgical resection in case of acute bowel obstruction and in the presence of progressive of septic condition, particularly gangrenous prolapsed sigmoido-rectal intussusception. The choice of surgical approach may depend on clinical scenario and pathologic site. For perineal with abdominal approach or open vs laparoscopic/endoscopic technique. The most commonly performed procedure for colonic lipoma induced intussusception was right hemicolectomy (32.21%) and Sigmoidectomy was only 19.14% Overall gaol of surgical intervention includes; relief of acute bowel obstruction, control of septic focus from gangrenous bowel, prevention peritoneal seeding from perforation of malignant intussusception and restoration of bowel continuity by anastomosis or diversion colostomy or ileostomy based of clinical condition of patients [13-18].

Conclusion

Protrusion of a mass per anus in adults warrants consideration of sigmoido-rectal intussusception as a differential diagnosis. In cases of gangrenous, irreducible prolapsed intussusception, a combined abdominal and perineal surgical approach is essential for relieving bowel obstruction, controlling sepsis, and preventing complications like malignant perforation and peritoneal seeding, while ensuring accurate diagnosis and definitive treatment.

Author's declarations

Author contribution

All authors had involved in the process of edition and approved the final manuscript document.

Belay Mellese Abebe: Conceptualization, supervision, data curation, validation; **Murtii Teressa Obolu:** writing original draft, review editing, data curation, Software; **Gediyon Getachew Gebo:** Data curation & Methodology; **Biruk Woisha Bogale:** Data curation & Methodology; **Teketal Tadesse Geremew:** Data curation & Methodology; **Alemwosen Teklehaimanot:** Data curation & Methodology.

Informed consent

Formal written informed consent is taken from parents for publications along with accompanying images, any identification part has been anonymised for the privacy and confidentiality of patients and it will be available up on request by journal chief editor.

Conflict of interest

No conflict of interest in computation.

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