

CASE REPORT**Stomasitevolvulus: A Case Report**

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ABSTRACT:

Small bowel obstruction due to volvulus at stoma site is a rare entity. The case of a young male with stoma site volvulus causing obstruction as a late complication of stoma formation is reported and the relevant literature is briefly reviewed.

Keywords: obstruction, volvulus, Complications

INTRODUCTION:

Ileostomy is the surgical exteriorization of ileum through anterior abdominal wall. It is done for life saving emergency surgical diversion procedure to prevent morbidity and mortality associated with primary repair. Complications associated with stoma formation are not uncommon. Early complications associated with stoma usually presents within 30 days whereas late complications present > 30 days. They include stenosis (2-10%), fistula formation (7-10%), prolapsed (2-3%), retraction (3-17%), parastomal hernia (2-5%) abscess (3%) and small bowel obstruction (6-12%). Small bowel obstruction due to volvulus at stoma site is a rare entity.² This case report presents stoma site volvulus as an unusual etiology for small bowel obstruction and as a complication of ileostomy formation.

CASE REPORT:

40-year-old HCV positive male smoker with Type 2 Diabetes mellitus presented to surgery emergency with non-functional stoma. He had a history of exploratory laparotomy with end ileostomy done for ileal perforation at private hospital three months prior (records unavailable). Patient was a sputum positive case of Pulmonary tuberculosis on ATT for 2 months. He was a smoker and intravenous drug abuser. Patient presented with generalized abdominal pain and non-functional stoma for four days. On examination, Patient was afebrile, Pulse rate was 98 per minute and Blood pressure 122/70mmHg in supine position. On inspection abdomen was distended with visible distended bowel loops. On palpation abdomen was non tender, no guarding, rigidity and rebound tenderness. Bowel sounds were absent on auscultation. Proximal loop of stoma was healthy but non-functional and distal loop of stoma not visualized on local examination. On per-stomal examination, a blind ending proximal loop was present. Distal loop was absent with single silk suture seen hanging from the distal end. Blood work-up was unremarkable (TLC 6.7, Hb 11.4, Urea 16 creatinine 0.5, TSB 0.3, ALP 54 SGOT/PT 16/17) with Abdominal X Rays revealing dilated small bowel loops with air fluid levels. Ultrasound was suggestive of multiple dilated jejunal loops in left iliac fossa up to 4cm in caliber with sluggish peristalsis and mild interbowel fluid. (figure1) Patient was kept nil per oral for 24 hours on intravenous fluids and intravenous antibiotics. RTPCR for covid was sent and patient was planned for Exploratory Laparotomy.



Figure1: Abdominal Xray showing stepladder pattern.

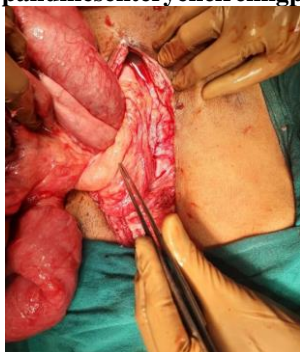
Exploratory Laparotomy was performed through midline incision. On entering the peritoneal cavity, there was minimal ascitic fluid along with dilated small bowel loops. Gut was oedematous and studded with tubercles. Previous stoma was found to be 30cm from ileo-caecal junction with distal end tucked inside. On inspection, knotting was found around

mesentery of gut forming the stoma. (The end ileostomy acted as axis around which proximal bowel rotated). Dilated small bowel was de-rotated around mesentery which was the cause of obstruction. (figure2,3) Multiple strictures were seen in the small bowel at respectively 80 cm, 110 cm and 160 cm from Duodenojejunal junction. The proximal stricture was passable. The distal two strictures were partially passable with no finger apposition across them. 50 cm of segment containing the strictures was resected. End jejunostomy with distal mucous fistula as jejunum was created 110cm from Duodenojejunal junction in left iliac fossa. Previous stoma was re-anastomosed. Patient recovered well with stoma regaining function on the second postoperative day. Patient was discharged on ATT after an uneventful postoperative course. Patient presented to emergency with dyselectrolytemia and was managed with intravenous fluid and distal re-feed supplementation.



Figure 2: Volvulus of bowel loop around stoma site with dilated proximal loops and collapsed distal bowel loops.

Figure 3: shows bowel loop and mesentery encircling proximal loop of stoma.



DISCUSSION:

Ileostomy formation is a fundamental element in management of gastrointestinal diseases. Unfortunately, there is associated morbidity with stoma formation ranging from 20 to 70 % and these complications can be classified into early and late complications.³ Early complications occur within first 30 days of stoma formation include ischemia, necrosis, retraction and parastomal abscess. Late complications can be functional or mechanical. Functional complications are peristomal excoriation and high-volume output. Mechanical complications include stoma prolapsed, stoma stenosis, fistula formation, small bowel obstruction. Small bowel obstruction is seen in 23 percent cases.⁴ Intra-abdominal adhesions from previous surgeries is the most common cause of small bowel obstruction. Stoma site volvulus is a rather uncommon cause of bowel obstruction secondary to stoma formation.

Diagnosis is usually made during surgery. Re exploration is required in 15 to 20 percent of patients with stoma complications.⁵ Complications occur more commonly in the loop variety rather than end ileostomies. Careful surgical technique minimizes complications for good ostomy function. A loop ileostomy is routinely brought out directly through abdominal wall with minimal or no fixation of lateral space. Simple technique of Anti mesenteric fixation minimizes the risk of volvulus. This can be performed by widening the seromuscular attachment of afferent and efferent ileal loops by their fixation to parietal peritoneal aspect of the abdominal wall. It creates a broader fulcrum and reduces the incidence of obstructive events due to volvulus formation. Another alternative is creation of an extraperitoneal tunnel during stoma formation. This technique also reduces the probability of volvulus at stoma site. Although care must be taken to preserve adequate bowel length to prevent kinking of bowel while entering tunnel.

Modification of surgical technique and its routine use is recommended to minimize the frequency of obstructive events. This prevents unnecessary morbidity and mortality related with re exploration and revision of stoma formation.

REFERENCES:

1. Anderson, D.N, Driver, C.P, Park, K.G.M. *et al.* Loop ileostomy fixation: a simple technique to minimise the risk of stomal volvulus. *Int J Colorect Dis.*1994;9:138-40.
2. Shellito PC. Complications of abdominal stoma surgery. *Dis Colon Rectum.*1998;41:1562-72.
3. Whitehead A, Cataldo PA. Technical Considerations in Stoma Creation. *Clin Colon Rectal Surg.* 2017;30:162-71.
4. Assenga A, Chibwae A, Nuri A.A. *et al.* Indications for and complications of intestinal stomas in the children and adults at a tertiary care hospital in a resource-limited setting: a Tanzanian experience. *BMC Gastroenterol.*2019;19:157
5. Watson AJ, Nicol L, Donaldson S, Fraser C, Silversides A. Complications of stomas: their aetiology and management. *Br J Community Nurs.*2013;18:111-2.