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A rare case of bladder diverticulum causing acute intestinal obstruction: Case report

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Abstract
We report a case of 50 years male who presented with Abdominal pain and Distension for 2 days, Associated with several episode of vomting and constipation. X-Ray Abdomen showed multiple air fluid levels. CT Abdomen suggestive of small bowel \obstruction with a band arising from dome of the urinary bladder and extending up to mid ileum causing obstruction and gangrene of 30 cm Ileo-ceacal junction. Emergency Laparotomy proceeded and a thick short band connecting Ileo-ceacal junction and bladder was identified.

Keywords: small bowel obstruction, gangrene, bladder diverticulum, Resection, primary closure of bladder dome

Introduction
Acute intestinal obstruction is a common surgical emergency. Common causes are inflammatory adhesions, Neoplasms, Hernias and Inflammatory bowel disease. Mechanical obstruction and bowel gangrene formation due to bladder diverticulum compressing the bowel is a rare cause. Here we report a case of small intestinal obstruction and bowel gangrene caused by bladder diverticulum in a 50 years male.

Case Presentation
A 50 years male admitted with complaints of abdominal pain vomiting and constipation for 2 days. History of burning micturition on and off for last 5 months. Patient known case of Chronic Alcoholics. On Examination – Patient conscious, oriented, dehydration present, Dyspnoea and Tachypnoea present. On Inspection Abdominal distention present. No visible scar, sinus, distended veins No visible mass, Hernial Orifices appears free. On Palpation - diffuse tenderness present all over the Abdomen. Guarding and Rigidity present in all quadrants. No Palpable mass. Per rectal Examination normal tone, fecal staining present. External Genitalia appears normal. Provisionally diagnosed as acute intestinal obstruction.
X-Ray Abdomen erect showed multiple air fluid level. CECT Abdomen showed obstruction at level of mid ileum with proximal dilated loops (Max size 3.1 CMS). Collapsed distal loops with twisting of mesentery noted. Low density cystic lesion with smooth contours in presacral region pushing bowel to right side. Emergency laparotomy proceeded after stabilizing the patient with IV fluids. Under gender Anesthesia Midline laparotomy incision made. Abdomen opened in layers. 750 ml of Haemorrhagic fluid drained. A thick short band connecting ileocecal junction and bladder found. Gangrenous bowel of 20 cm above ileocecal junction found with perforation present at 10 cm away from ileocecal junction with gangrene of 30 cm of ileum identified. Gangrenous bowel resected and proximal loop placed as end ileostomy and distal loop closed. Diverticulum resected and primary closure of bladder dome was done using 2-0 vicryl (2 layers technique). Supra pubic catheterisation done.

Intra Operative Images

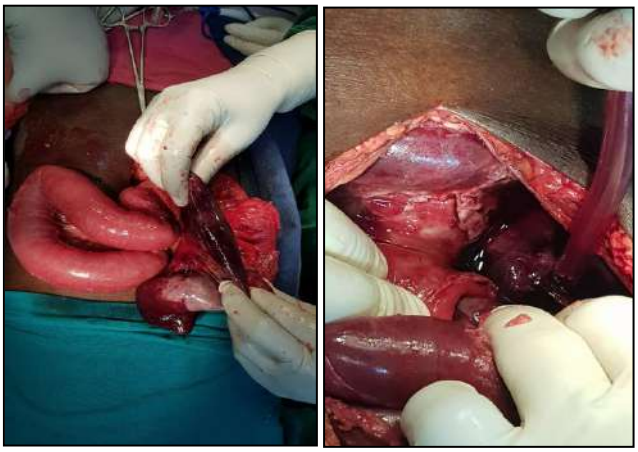

Fig 1a, 1b: Bowel Gangrene

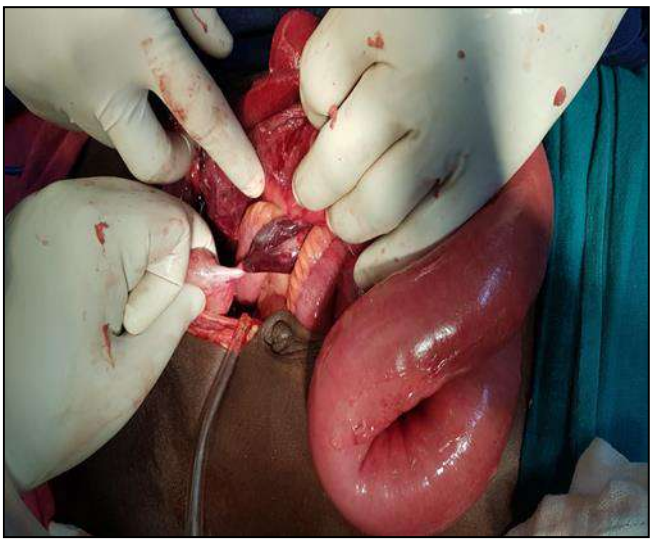

Fig 2: Bladder Diverticulum Compressing the Bowel Loop

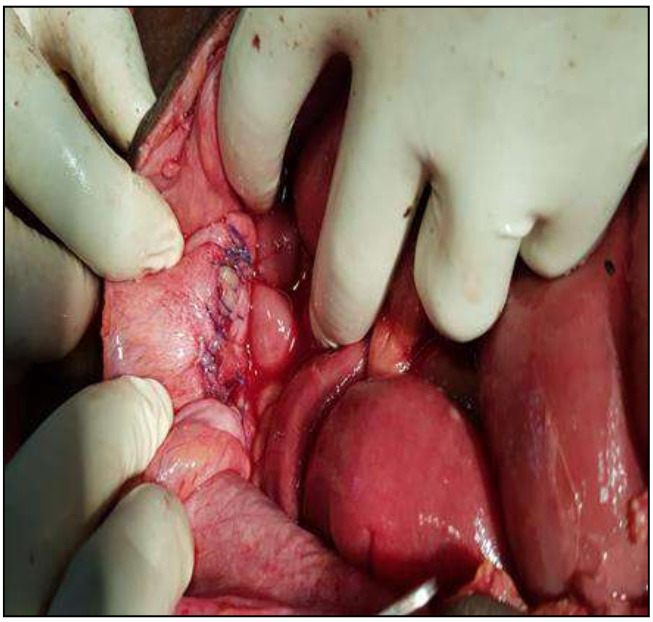

Fig 3: Repaired Bladder Dome by 02-0-Vicryl

Post-operative events

Catheter retained in place for three weeks after which it is removed. Patient was discharged with ileostomy and asked to review in surgery OPD for follow up.

Discussion

Bladder diverticulum is a Sac formed by herniation of bladder mucosa and sub mucosa through muscular wall. Mostly acquired in males. In the early stages, multiple small protrusions of the bladder lumen appear between the trabecular (sacculation). As they enlarge above 2 cm they become defined as diverticulum. Most found close to the ureteric orifices. The congenital diverticulum is connected with the urinary bladder cavity by a narrow duct; its wall consists of the same layers as the urinary bladder wall [1].

Urinary bladder diverticula are located most often in the area of ureteral orifices and bladder sidewalls; in rare cases they appear on the bladder top or around its bottom. Often the congenital diverticulum is larger and has a bigger capacity than the urinary bladder. It must be differentiated from such a rare congenital abnormality as the duplicated urinary bladder. Acquired- More common than congenital. Two types: Pulsion and Traction diverticulum .Most common causes: trauma or surgical intervention Other causes : chronic obstruction, BPH, cystitis. Most common in males. Complications-stasis, stone, metaplasia and malignancy Treatment option. Open surgery. Intravesicular and extravesical approach. Cystoscopic – stent placement. Suprapubic transverse extraperitonial approach. Diverticulum excision and Bladder suturing in layers. Midline closed with Malecot catheter placement [2].

Conclusion

In our case intestinal obstruction is due to urinary bladder diverticulum is a rare cause. Hence bladder diverticulum should be considered as one of the cause of intestinal obstruction with bowel gangrene in acute Abdomen.

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