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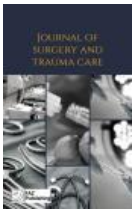

Urinary Bladder Dome Necrosis and Adhesion Causing Small Bowel Obstruction: A Case Report

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Abstract: It is rare for a pathology originating from the urinary bladder to cause intestinal obstruction. We report a case where a 65-year-old man presented with acute urinary retention and concurrent small bowel obstruction. The cause was found to be adhesion of the jejunal mesentery to a necrotic segment of the urinary bladder dome. The necrosis was likely caused by overdistension of the bladder from urinary retention. The urinary retention was relieved and the patient underwent laparotomy, adhesiolysis and bladder wall repair.

Keywords: Urinary Bladder Dome Necrosis, Adhesion, Small Bowel Obstruction

1. Introduction

Small bowel obstruction is most commonly caused by an obstructing hernia or intra-abdominal adhesions. It is rare for small bowel obstruction to be caused by an abnormality from the urinary bladder. We report a case where a patient presented with small bowel obstruction secondary to adhesion to the dome of the bladder. The adhesion was caused by a necrotic segment of an over distended bladder.

2. Case report

A 65-year-old man presented to the emergency department complaining of abdominal pain and distension. His pain had a gradual onset and had increased in severity. The pain was mainly at the lower half of his abdomen. For the past two days prior to his presentation, his abdomen has gradually become more distended. He had two episodes of vomiting at home and had an episode of feculent vomiting while in the emergency department. He has not passed motion for the past three days but was still passing flatus. For the past one week, his micturition had gradually reduced in volume with poor urine flow. For the past 24 hours, he has not passed any urine. He attributed this to running out of his benign prostatic hyperplasia (BPH) medication for the past month. His past medical history includes hypertension and ischaemic heart disease.

On examination, the man appeared to be in pain and was dehydrated. His blood pressure was 130/90 mmHg and his heart rate was 105 beats per minute. He was apyrexial. His abdomen was distended. There was no surgical scar. On abdominal palpation, his abdomen was soft with tenderness at the suprapubic area. A suprapubic mass could vaguely be palpated. Shifting dullness was not present. There was no abdominal or inguinal hernia. Bowel sound was occasionally tympanic. Per rectum examination revealed an empty rectum with an enlarged and smooth prostate gland. A urinary catheter was inserted and 1500mls of urine was produced. The vague suprapubic mass was not palpable after insertion of the urinary catheter.

His urine FEME was normal. His white cell count was 14.5 x 10^9 per L. His renal profile showed evidence of dehydration. There was small bowel dilatation on his abdominal radiograph (Figure 1).

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Fig. 1 - Abdominal radiograph showing organised small bowel dilatation.

The patient was admitted. He was kept nil by mouth, started on intravenous fluids and prescribed with intravenous analgesia. A ryles tube was inserted. A computed tomography (CT) scan of his abdomen and pelvis was arranged (Figure 2). The CT scan showed small bowel dilatation with a transition point at the jejunum in the left iliac fossa. There was also prostatic enlargement with bilateral hydronephrosis.

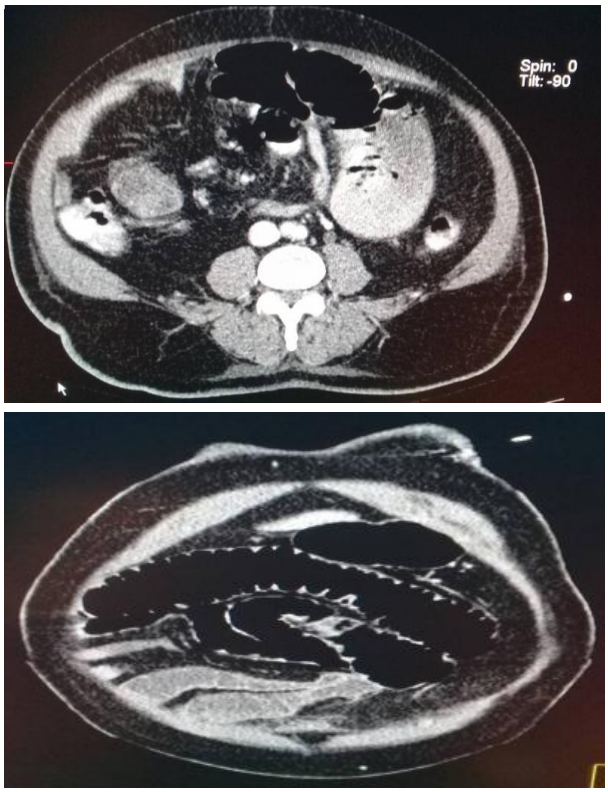

Fig. 2 - CT abdomen and pelvis showing jejunal dilatation.

Base on the clinical and radiological features of a mechanical cause for the small bowel obstruction, a decision was made for emergency laparotomy. Intra-operatively, the transition point was a kinked jejunum caused by a segment of the jejunal mesentery adherent to a necrotic part of the urinary bladder dome (Figure 3).

Upon releasing the adhesion, the small bowel regained its continuity. There was a urine leak from the necrotic area. The necrotic area was excised and the excised tissue was sent for histopathological examination (the result later was negative for malignancy). The rest of the intra-peritoneal cavity was normal. The bladder was repaired in two layers before the abdomen was washed and closed in the usual manner.

His post-operative recovery was slow but uneventful. He was re-started on his BPH medication. His urinary catheter was kept for two weeks before a successful trial of urinary voiding during out-patient follow- up.

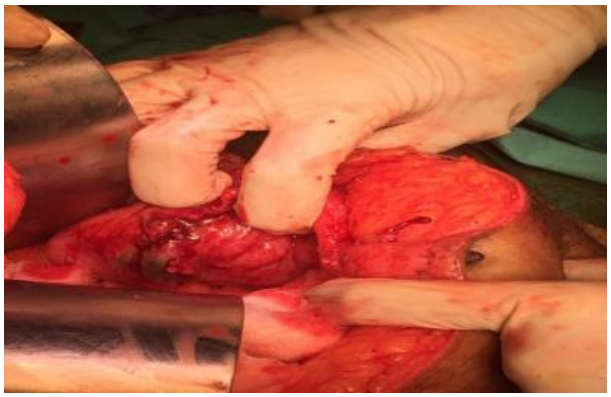

Fig. 3 - The necrotic patch on the left side of the urinary bladder dome.

3. Discussion.

The majority of small bowel obstruction (SBO) are caused by intra-abdominal adhesions from previous surgeries or herniation of the small bowel into a ventral, inguinal or femoral hernia. Adhesions are a cause of up to 75 per cent of SBO[1]. Malignancies of the small bowel are rare.

An over distended urinary bladder from urinary retention can potentially compress the intestine and cause constipation or even partial bowel obstruction[2,3]. Usually, in these circumstances, the insertion of a urinary catheter to relieve urinary retention will solve the intestinal blockage.

Urinary bladder ischaemia can potentially be caused by overdistension of the urinary bladder and bladder vessel atherosclerosis[4]. Our patient has both these risk factors. This ischaemia has then most likely caused tissue death and necrosis. The necrosis and the surrounding tissue reaction most likely caused adhesions to develop between the urinary bladder and the jejunal mesentery. Fixation of the usually mobile mesentery caused the jejunum to kink and obstruct. Operative adhesiolysis and bladder wall repair were successful in treating our patient. For the long term, prevention of the urinary bladder form over-distension is achieved by BPH medication. Trans-urethral resection of the prostate should also be considered.

4. Conclusion

Small bowel obstruction caused by adhesion between the small bowel mesentery and a necrotic segment of an over distended urinary bladder is rare. The treatment involves operative adhesiolysis and urinary bladder wall repair (when there is bladder wall injury). Prevention of bladder outflow obstruction is important to avoid recurrence.

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