

## A Case of Bowel Obstruction Due to A Rare Supra-Vesical Hernia

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### Abstract

Intestinal obstruction is one of the common causes' emergency department visits, the prompt management of which is complicated by wide array of causes. Supra-vesical hernia has been reported to be a rare surgical cause of obstruction. Early diagnosis is often difficult and therefore can it has high chances of acute & emergent presentation. Prompt recognition of symptoms and evaluation are important to prevent poor prognosis. We are presenting a case of 62-year-old, medical free, male patient presenting to emergency department with clinical picture of abdominal obstruction. Based on the clinical examination and abdominal radiography, a provisional diagnosis of small bowel obstruction was made. CT scan confirmed the diagnosis with further specifying the extent of the hernial sac reaching up to the urinary bladder. The patient was managed successfully through exploratory laparotomy with no injury to the urinary bladder.

**Keywords:** abdominal obstruction, small bowel hernia, supra-vesical, Saudi Arabia.

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### INTRODUCTION

Intestinal obstruction is one of the common causes' emergency department visits, the prompt management of which is complicated by wide array of causes. Supra-vesical hernia has been reported to be a rare surgical cause of obstruction. The hernia which surrounds the urinary bladder is referred to as supra-vesical hernia. Early diagnosis is often difficult and therefore it has high chances of acute & emergent presentation. Prompt recognition of symptoms and evaluation are important to prevent poor prognosis. We present a cases of bowel obstruction due to supra-vesical hernia in a 62-year-old male patient.

### CASE REPORT

A 62-year-old male medical free patient presented to emergency department complaining of abdominal pain, obstipation, abdominal distension and

vomiting for 5 days. The pain was colicky in nature which started in the lower abdomen mainly suprapubic area with gradual increase and became diffused. It was associated with one episode of vomiting, complete obstipation and abdominal distension. There was no fever at the time of presentation. Previous history of similar episode was also negative, however, he had surgical history of open inguinal hernia repair 20 year ago with no complications.

On examination, the patient was found to be dehydrated with a pulse rate of 100/min, BP 130/80 mm Hg and temperature 36.7 °C. On abdominal examination, abdominal distension was noted with tenderness on palpation in the lower abdomen manly suprapubic area. Bowel sounds appeared to be hyperactive. No external hernia was observed and the rectum was found to be empty.

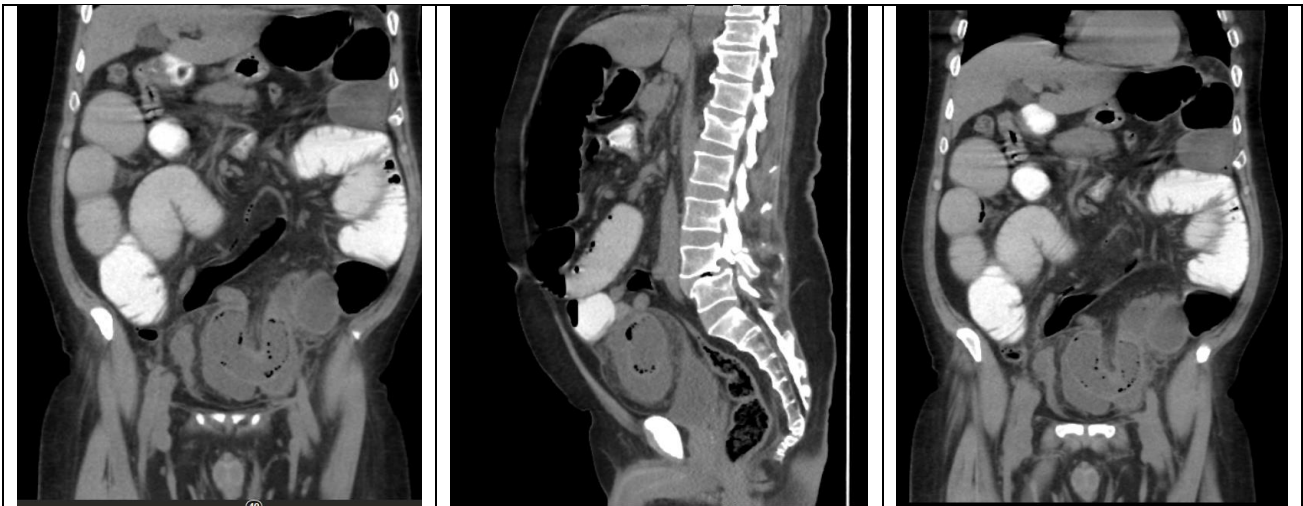


**Figure 1: Abdominal Radiograph showing small bowel obstruction**

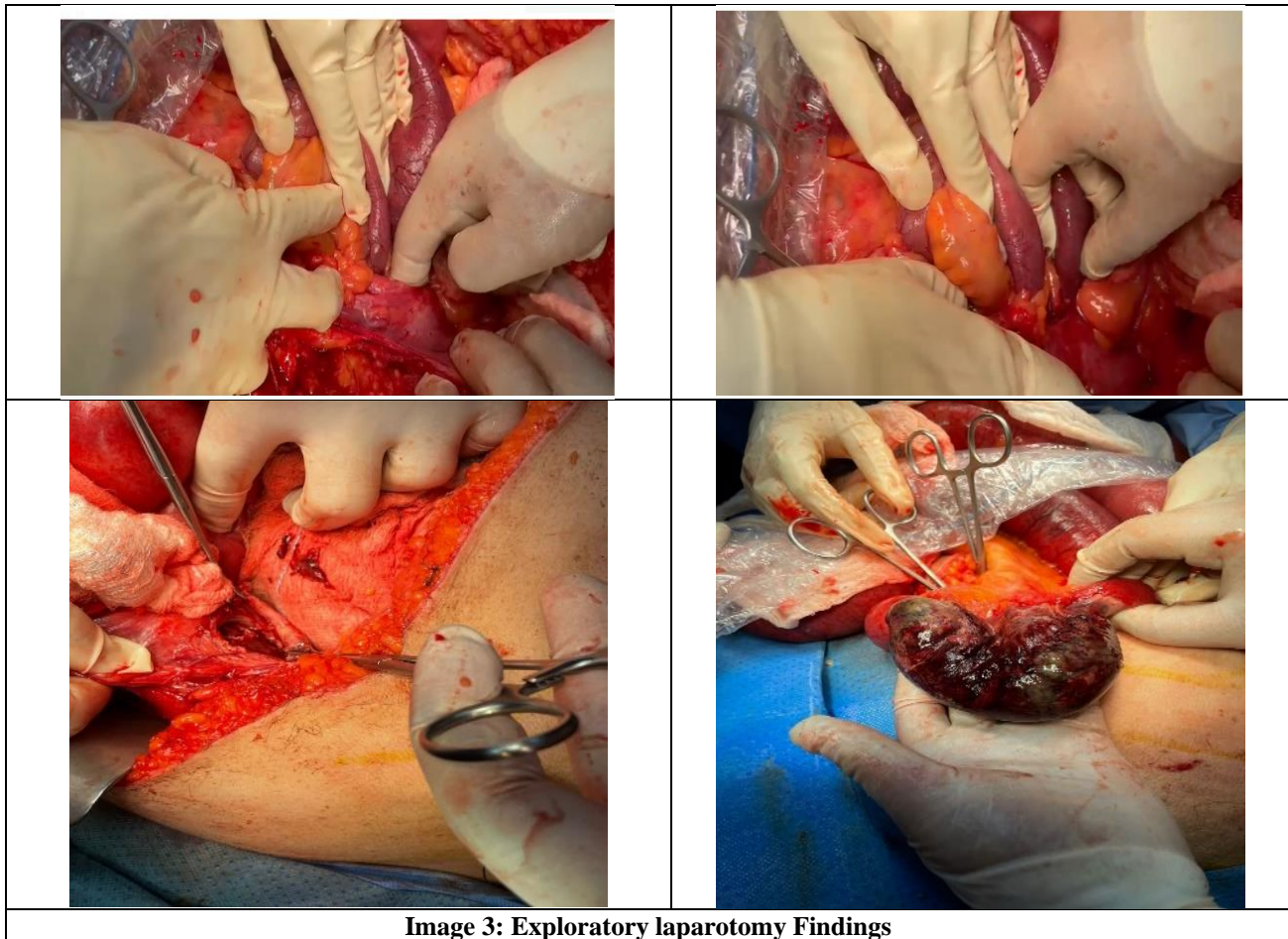
Laboratory examinations showed normal leucocyte count of 7,000/mm<sup>2</sup> and haemoglobin 13 gm/dl. All laboratory test was within normal except for lactic acid was 2 mmol/L and blood urea 18 mg/dL. Abdominal X-ray revealed dilated small bowel loops (image 1A & 1B). A provisional diagnosis of small bowel obstruction was made.

CT Abdomen with oral and IV contrast (image 2 A-E) showed diffusely dilated small bowel loops down to the distal Ilium with maximum diameter about 50 mm. Proximal to terminal ilium there was a U-shaped loop at the about 33 mm which was fluid filled with multiple

small air foci arranged peripherally. Site of obstruction was likely at the right side of the loop with mural thickening. Small bowel loops were observed to be dilated with mural thinning and interrupted enhancement in the right lateral wall mainly. Mild fluid was seen at the canal opening with marked fat stranding and inflammatory changes seen around the loop. Findings suggested closed loop obstruction due to internal hernia. Urinary Bladder was seen compressed and stretched to the right anterior side from this loop with marked surrounding inflammatory changes. Small metallic density seen at the right inguinal region likely due to previous intervention.



**Image 2 (A-E) CT imaging showing closed loop obstruction due to internal hernia**



**Image 3: Exploratory laparotomy Findings**

Nasogastric tube decompression was done and Foley's catheter was inserted. Exploratory laparotomy was performed through midline incision after adequate fluid resuscitation. On laparotomy (image 3 A & B), small bowel were found to be markedly dilated, running through all the bowel from duodenojejunal junction until ilium revealed a loop of ileum herniating through a pouch in the supra-vesical fossa, a defect measuring about 2x2 cm in the pre-vesical fascia in the lower abdomen above and posterior to the urinary bladder, compressing the bladder inferiorly and anteriorly. The Digital exploration of defect was done with reduction of incarcerated bowel. The gangrenous ilium was resected and side to side anastomosis was performed. The defect was examined and dissected from the bladder. Injection of methylene blue through the foley's catheter show no leakage from the defect. Urology team examined and ruled that the bladder was intact. The defect edges were resected and sent for histopathology examination then the defect was closed on 2 layers; an internal layer with vicryl 2-0 continuous and external layer with 1-0 PDS interrupted stitches. Histopathology examination from defect edges revealed inflamed necrotic fibro-collagenous tissue.

## DISCUSSION

Internal hernias occur when abdominal organs, typically the intestines, protrude through the mesentery

or peritoneum, but remains within the abdominal cavity [1]. They are a rare cause of acute abdominal pain, found on autopsies of suspected patients <1% of the time, and being found as the cause of small bowel obstruction (SBO) <6% of the time [2]. Supra-vesical hernia is considered as internal hernia [3]. Supra-vesical hernia is an unusual type of hernia. The supra-vesical fossa is a triangular area bounded laterally and superiorly by the median (remnant of urachus) and medial (remnant of left or right umbilical artery) umbilical ligaments and inferiorly by the peritoneal reflection passing from the anterior abdominal wall to the dome of the bladder [4, 5]

Although the preoperative diagnosis remains unusual, some authors had reported cases where the diagnosis was already evoked by abdominal CT scan before surgery as was in our case [3, 5]. Simple suturing of the hernia sac has been reported to be sufficient with prevention of future recurrence [5]. CT scan may possibly diagnose this condition [6]. Cystoscopy may show a tunnel shaped deformity in the bladder wall [7].

Release of the obstruction and closure of the defect constitutes the primary treatment. It has been recommended by majority of the guidelines to observe due precaution not to attempt to excise the hernial sac [6, 7]. Furthermore, freshening the edges of the ring with closure of the defect using continuous or interrupted

stitches with non-absorbable sutures has been reported to be optimum intervention [6, 7].

## DECLARATIONS

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