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Case Report

A rare case of bladder gangrene associated with inguinal hernia: case report

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ABSTRACT

Involvement of bladder in inguinal hernia is rare and occurs in less than 5% of the cases and strangulated inguinal hernia has an overall prevalence of 1.3% affecting mainly senile patients. Bladder gangrene associated with strangulated inguinal hernia is an extremely rare entity and only one case has been reported so far. We report a rare case of strangulated left inguinal hernia with bladder and bowel as content and with gangrene of both. A 42-year male presented with left inguinal irreducible swelling with features of obstruction for 2 days with no urological symptoms. Preoperative CT abdomen revealed obstructed left direct inguinal hernia with jejunum and omentum as content. Emergency laparotomy done and it revealed an indirect sac containing bladder with supratrigonal bladder gangrene and gangrenous ileum. Partial cystectomy and resection and anastomosis of ileum with herniorrhaphy was done.

Keywords: Strangulated hernia, Bladder gangrene, Inguinal hernia

INTRODUCTION

Inguinal bladder hernia is a rare clinical condition. Indeed, only 1-3% of all inguinal hernias are reported to involve the bladder.[1] The incidence may reach 10% among obese men older than 50 years of age.[2,3] Strangulated inguinal hernia (SIH) has an overall prevalence of 1.3% in adults, affecting mainly senile patients, with a high incidence of morbidity and mortality.[4] Gangrene of the urinary bladder itself is a very rare clinical entity with only 33 cases reported in the past 75 years due to gangrenous cystitis.[5] The rich collateral blood supply makes this an extremely rare event.[6] Strangulated inguinal hernia with bladder gangrene is an extremely rare entity and only one case has been reported so far.[7]

Here we report a case of strangulated left inguinal hernia with bladder and ileal gangrene probably the second ever reported in literature.

A 42-year-old male presented in emergency department with left inguinal swelling for 4 years which was manually reducible before and irreducible for past 2 days with complaints of pain, constipation and vomiting. There was no urological symptoms and no history of voiding by manual compression of hernia. He is known case of retroviral disease (HIV POSITIVE) on ART for 3 years and defaulter for past 6 months. And he is a known diabetic not on treatment.

On examination, erythematous, irreducible left inguinoscrotal swelling of size 10×4 cm with warmth and tenderness was found. Preoperative abdominal x-ray revealed dilated small bowel loops (Figure 1) and preoperative CT abdomen (Figure 2) revealed direct obstructed left inguinal hernia with jejunum and omentum as content. Patient was kept on nil per oral, catheterized with 16 Fr foleys and clear urine was drained.

Patient was immediately shifted to OR. Left inguinal incision made and proceeded, indirect sac with slider was identified and contents were irreducible hence midline laparotomy incision was made and contents reduced. Sac was opened and gangrenous ileum (Figure 3) was found to be the content along with sliding of bladder which was also gangrenous (Figure 4). Bladder was opened and supratrigonal part of bladder (Figure 5) was found to be completely gangrenous. We proceeded with resection of gangrenous ileum and anastomosis and partial cystectomy (Figure 6), neobladder was created and suprapubic catheterization with bilateral double J stenting (Figure 7) along with herniorrhaphy was done.

Postoperative period was uneventful and patient was started on orals on postoperative day 5. Antiretroviral drugs were started again. Patient's urine output was adequate and was continuously monitored and periodically reviewed with urology. Patient got discharged on postoperative day 10 after removal of sutures.

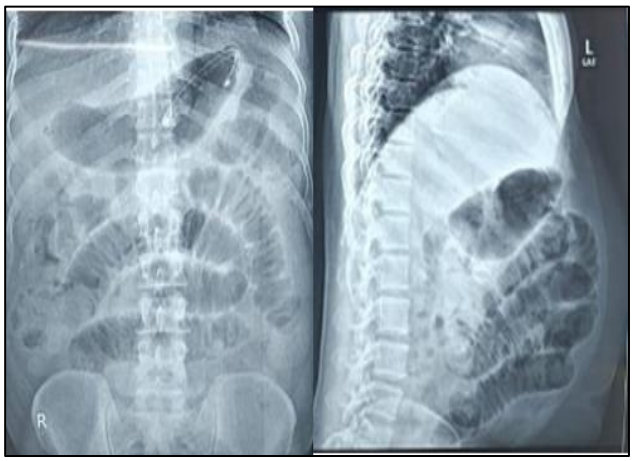

Figure 1: X-Ray abdomen showing dilated bowel loops.

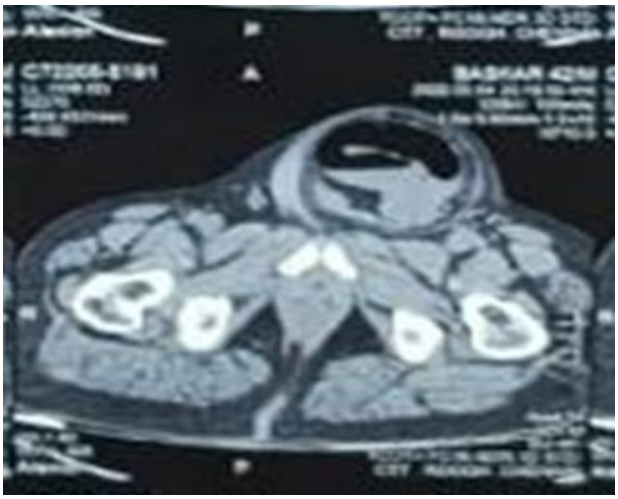

Figure 2: CT Abdomen showing obstructed inguinal hernia.

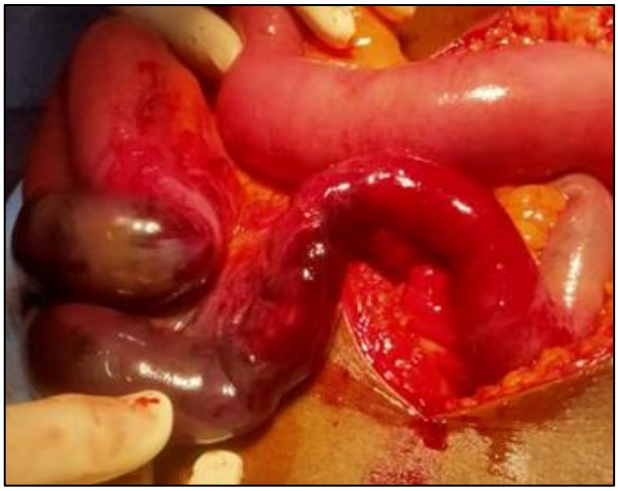

Figure 3: Ileal gangrene.

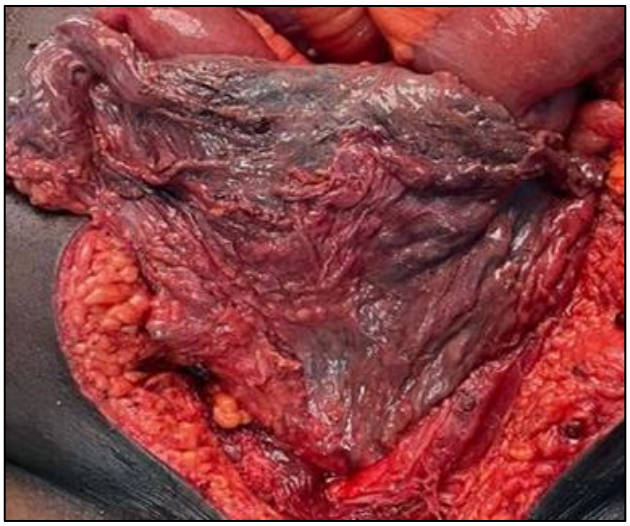

Figure 4: Bladder gangrene.

Figure 5: Supratrigonal bladder gangrene.

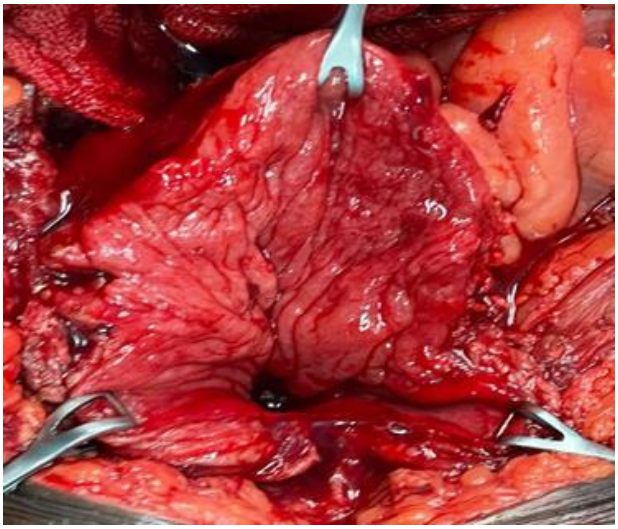

Figure 6: Partial cystectomy.

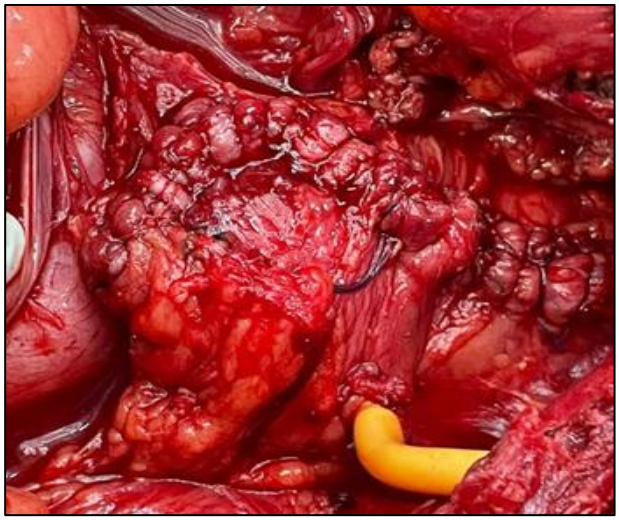

Figure 7: Neobladder with SPC.

DISCUSSION

Inguinal hernias are relatively common in the elderly with an estimated prevalence 6%.[8] Incarceration of inguinal hernia occurs in approximately 10% of cases which in turn can lead to intestinal obstruction, strangulation and infarction.[9] Among these complications, strangulation is the most serious with potentially lethal sequelae.[10] Involvement of bladder in inguinal hernia is rare and right direct inguinal bladder hernia is more common.[11] Most IBHs (77%) are diagnosed intraoperatively, 7% preoperatively and 16% postoperatively due to complications.[12]

Most cases are asymptomatic and are usually found incidentally on radiographic imaging or at the time of herniorrhaphy due to the small intermittent nature of the hernia.[13,14] The clinical history should mention the presence of urinary symptoms, such as dysuria, urgency, and frequency of voiding. Symptoms depend on the size and contents of the hernia. Advanced cases may be associated with two-stage urination in which the first stage is spontaneous and the second is facilitated by manual compression of the herniated bladder or a decrease in scrotal size after voiding.[15]

However, we reported a case of strangulated inguinal bladder hernia in a middle-aged person and it occurred on the left side which being an uncommon entity. The patient did not give history of lower urinary tract symptoms of two stage voiding which decreased the suspicion of bladder involvement.

A similar case of strangulated right inguinal hernia with bowel and bladder necrosis have been reported by Doğan et al.[7] It was a case of elderly male with right IBH with multiple perforation of bowel and double barrel ileostomy and partial cystectomy was done and patient expired on postoperative day 5. In contrast, our patient being middle aged male with left sided strangulated hernia we did resection and anastomosis of gangrenous ileum with partial cystectomy. The patient even with HIV infection recovered well despite being immune-compromised.

Atypical presentations should always to be kept in mind and early preoperative diagnosis of inguinal bladder hernia should be promptly made which could prevent complications of strangulation and gangrene. Even though radiographic imaging is not routinely performed in the workup of inguinal hernias, patients having lower urinary tract symptoms, history of two stage voiding and obese male should be subjected to radiographic imaging which could pick-up uncommon contents of hernial sac in which early elective surgery could prevent complications. Cystography is the gold standard in diagnosis with the highest diagnostic value showing indentation of the bladder wall.[15,16] High-resolution ultrasound with 5-, 7.5-, or 10-MHz transducers allows better anatomic depiction and higher sensitivity for detection of scrotal abnormalities.[15]

CONCLUSION

Strangulated inguinal hernia with bladder gangrene is a rare entity. Surgeons should be aware of atypical presentations in hernial sac and its complications. A detailed history taking, thorough physical examination, meticulous inspection of radiological films and awareness of complications can enhance early preoperative diagnosis and elective surgery which could decrease the morbidity and mortality of the patient.

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