



A Rare Presentation of Aninguinal Hernia

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ABSTRACT

Herniation of the urinary bladder into the scrotum is a highly uncommon observation. It constitutes 1–3% of all inguinal hernias^{1,2}. Such hernias are termed as scrotal cystocele may be asymptomatic or may present with voiding problems such as painful voiding or double stroke voiding, or manipulated voiding, inguinal or scrotal swelling and dysuria. Emptying of a scrotal cystocele with voiding is an important diagnostic feature in a patient with incarcerated bladder diverticula but it is usually diagnosed during surgery or as a result of intra-operative bladder injury. Early diagnosis with radiological imaging is important to prevent complications during surgery. Intravenous pyelography, retrograde cystography, pelvic ultrasound, computed tomography and magnetic resonance imaging can be used for preoperative diagnosis. We report a case of scrotal cystocele in a patient who presented to our hospital with acute retention of urine, irreducible inguino-scrotal swelling and lower urinary tract symptoms who was found to have bladder herniation in to the scrotum by computerized tomography (CT) of the Kidney, Ureter and Bladder(KUB) region and a diagnosis of scrotal cystocele was made. On further evaluation he was found to have post obstructive renal failure with uremic encephalopathy due to bladder herniation which is a rare presentation of inguinal bladder hernia.

Keywords: Bladder herniation, scrotal cystocele, post obstructive renal failure, uremic encephalopathy.

INTRODUCTION

Inguinal bladder hernia is an uncommon condition that was first described by Levine in 1951 as scrotal cystocele³. These large sliding inguinal hernias involving the urinary bladder are rare with an incidence rate of 1-4% and if left untreated it

can lead to devastating effects like infarction& perforation of the bladder, obstructive uropathy, epididymitis, UTIs and malignancy. The causes include urinary tract obstruction, chronic distension of the urinary bladder, loss of bladder tone, perivesical fat protrusion, obesity, pelvic

mass, and previous hernia surgery⁴. Literature reveals that large scrotal cystoceles are very rare, occurring in less than 1% of cases and are diagnosed preoperatively in less than 7% of cases.⁵ Most patients are diagnosed incidentally on imaging or at the time of herniorrhaphy due to the sliding nature of these hernias. An ultrasound and CT of the scrotum and pelvis can aid in the evaluation of a scrotal cystocele. When identified, the patient should have prompt surgical intervention to prevent complications that include haematuria, fistulas, sepsis, bladder infarction and hydronephrosis.

CASE REPORT

80 year old male patient presented with the complaints of acute retention of urine with difficulty in initiating micturition. He also had severe pain in the lower abdomen for the past 1 week. He had noticed swelling in left groin region 5 years back which has been progressively increasing in size to involve the scrotum. A clinical diagnosis of left inguinoscrotal hernia was made and he was advised for surgical repair but the patient was not willing for surgery. He also had lower urinary tract symptoms (LUTS) like dysuria and urinary urgency for 2 years and a history of reduced urine output for 2 months. Local examination revealed an irreducible inguinoscrotal swelling. Urinary bladder catheterisation was done immediately but he had persistent pain. Henceforth patient was sent for CT of the KUB region directly suspecting urinary tract outlet obstruction considering his age and clinical history.

CT of the KUB region showed thickened urinary bladder which appeared irregular and was seen to herniate into the scrotum through a defect in the anterior abdominal wall and the root of scrotum (Figure 1 & 2). The defect measured 2.7 x 3 cm. The bladder extension was noted till the base of scrotum (Figure 1 & 2). Both testes were seen separately and were displaced inferiorly (Figure 2 & 3). Minimal fat stranding was seen surrounding the bladder wall. Multiple calculi were seen

within the bladder in both herniated and non-herniated segments.

Omentum and also a small segment of sigmoid colon (Figure 2, 3 & 4) were seen to be herniating along with the bladder. Foley's bulb and catheter were noted in the non-herniated segment. Both ureters appeared tortuous and dilated. Bilateral pelvicalyceal systems were dilated with significant bilateral perinephric fat stranding. Midpole of right kidney showed a calculus. Prostate size was within normal limits.

A diagnosis of scrotal cystocele was made from the CT of the KUB region and the cause for LUTS and acute retention of urine is because of the bladder herniation to the inguinoscrotal region.

Patient was planned up for surgery with a diagnosis of scrotal cystocele but he started to develop altered level of consciousness the following day with impaired response to oral commands. Investigations revealed elevated blood urea nitrogen and serum creatinine suggesting the diagnosis of post obstructive renal failure. Also patient started to manifest symptoms of uremia and went in for encephalopathy and dyselectrolytemia (hyponatremia and hyperkalaemia). So he was planned for renal replacement therapy but his condition progressively deteriorated and ultimately he succumbed to the complications of renal failure.

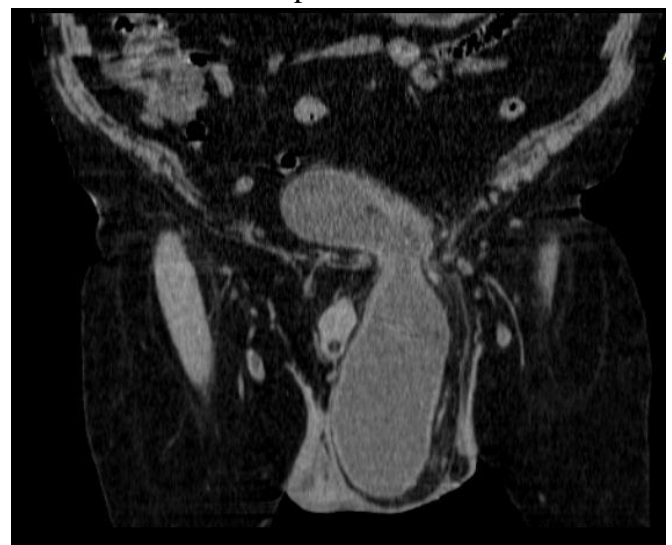


Figure 1 : CT coronal reformation showing defect in the left anterior abdominal wall through which the bladder is herniating and reaching till the base of scrotum.



Figure 2: CT sagittal reformation showing bladder herniation into the scrotum. Vesical calculi can be seen in both herniated and non-herniated segments. Sigmoid colon and omentum are seen herniating anterior to the bladder. The left testis is seen separately.



Figure 3 : CT coronal reformation shows the sigmoid colon and omentum herniating through the defect. Right testis is seen separately.



Figure 4 : CT axial sections show the bladder (with a calculus), omentum and the sigmoid colon herniating through a defect in the left side of the abdominal wall.

DISCUSSION

1–3% of inguinal hernias involve the bladder. Patients with bladder herniation into or through the inguinal canal usually presents with swelling in the scrotum or groin that increases as the bladder fills and gets reduced as the patient voids. But in our case the hernia was incarcerated and did not get reduced. The bladder may also herniate through the femoral canal, ischio-rectal, obturator canal abdominal wall and through various incisional hernias. Bladder hernias are divided into three types in accordance to their relationship with the peritoneum. The most common type is the para-peritoneal hernia where the extra-peritoneal part of the hernia courses through the medial wall of hernia sac. Other less common types are extra-peritoneal hernias and intra-peritoneal hernias.

Age related atrophy in the supporting tissues of the abdominal wall, structural defects, obesity, urinary outlet obstruction, loss of bladder tone are predisposing factors for bladder herniation

Small sized bladder hernias are usually asymptomatic, but when they enlarge patients experience symptoms such as dysuria, nocturia, haematuria, and may require manual evacuation of the herniated bladder by compressing the hernia sac after voiding. Very rarely, symptoms of urinary obstruction may occur as in our case where the patient has gone in for post obstructive renal failure and uremic encephalopathy. Multiple calculi within the bladder may be due to the presence of urinary stasis because of the obstruction.

The diagnosis of bladder herniation is usually made during the intraoperative period where it usually leads to bladder and ureter injury. Early diagnosis with the help of good history and radiologic imaging is necessary to prevent these complications during the surgical repair. Radiological imaging techniques include retrograde cystography, ultrasound, and computed tomography. Computed tomography is the imaging method of choice to evaluate the location and content of the hernia, and also its relationship with abdominopelvic structures.

CONCLUSION

Large bladder hernias are rare and the herniated segment reaching till the base of scrotum is even more uncommon with complications like post obstructive renal failure because of the bladder herniation. Bladder hernia should be kept in mind in patients older than 50 years who are operated for inguino-scrotal hernia with LUTS. Preoperative imaging like ultra-sonogram, cystography or computed tomography, should be performed to prevent intraoperative complications.

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