

Cystogram with dumbbell shaped urinary bladder in a sliding inguinal hernia

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ABSTRACT

Sliding inguinal hernias present with various symptoms and these are usually direct inguinal hernias containing various abdominal viscera. Case reports and series have been published with various organs and rare organs being part of the hernia. Urinary bladder is a known content of sliding hernias. This case report emphasizes this aspect in a picturesque manner and the importance of radiological investigations for pre-surgical evaluation.

CASE REPORT

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This report is of a 58 year old male patient who presented to the Urology clinic with voiding difficulty for 3 months duration. He also gave history of a right groin hernia gradually increasing in size to reach the right scrotum for several years. Upon careful history, he identified that he could empty his bladder completely if he lifted his hernia. There were no other complaints. There was no history of constipation. On examination, his general examination was unremarkable. His hernia was right sided, complete, direct inguinal, easily reducible, with no signs of inflammation (Fig 1). With the age and voiding difficulty in consideration, Benign Prostatic Hypertrophy (BPH) was a differential diagnosis. Also, BPH was thought to have caused the hernia. As the patient could void without difficulty after manipulation of the hernial sac, BPH was ruled out. Rectal examination and Prostate Specific Antigen (PSA) were normal.

A plain radiograph of the abdomen and pelvis showed enlargement of the right scrotal shadows. There was increased soft tissue density in the right inguinal and scrotal region with air lucencies in the right scrotal region possibly representing inguino-scrotal hernia with bowel loops in the hernial sac (Fig 2). A retrograde cystogram was performed using water

soluble contrast. It showed part of the urinary bladder in the pelvis and part in the hernial sac extending upto the base of scrotum (Fig 3). Patient was not subjected to any other diagnostic tests (like ultrasonogram, CT or MRI), as the cystogram was diagnostic of bladder herniation and the plain film indicated the presence of bowel in the hernia.

Operative procedure included a right inguinal incision. Small bowel, urinary bladder and the sigmoid colon formed the contents of the hernia (Fig 4 & 5). Small intestine, urinary bladder and the sigmoid colon were reduced. There were no intraoperative complications. No resection of the bladder was performed. A simple herniorrhaphy was performed.

The patient remained clinically asymptomatic, without voiding difficulty after surgery and recovered well.

DISCUSSION

Groin hernias may have very unusual sac contents. Various abdominal organs (vermiform appendix, colon, small intestine, ovary, fallopian tubes, urinary bladder) have been

described to be part of sliding inguinal hernias (1). The urinary bladder is involved in 1-3% of inguinal hernias (2). Herniation of the urinary bladder into the scrotum is a highly uncommon observation (3). Such hernias may present with no symptoms or may present with voiding problems, such as painful voiding or two stroke voiding, or manipulated voiding (3). A patient with incarcerated bladder diverticula in an indirect hernial sac has been documented (1). Urinary bladder hernia occurs with a similar incidence of tubo-ovarian hernia, however, it requires special attention because of a high risk of iatrogenic bladder injury during inguinal dissection (1). Hence, patients with such complaints should undergo diagnostic workup such as ultrasonogram, cystoscopy, endovenous urography, retrograde and voiding cystourethrography, urodynamic studies and computed tomography (4). One or more studies can be performed depending on a particular case. Ultrasonography picks up the contents of the sac, findings like an asymptomatic stone disease and post void residual urine if present. Ultrasonogram may be limited if the sac contains gas filled bowel. Endovenous urography may detect associated upper urinary tract obstruction and anomalies. Urography requires exposure to contrast material and is limited in patients allergic to these agents. Urodynamic studies help to diagnose a coexisting neurological bladder dysfunction and to assess problems with voiding and to distinguish between obstructive and neurological etiology. Cystoscopy is advised when co-existing bladder pathology is suspected. Computed tomography gives an insight to the contents of the hernial sac, associated pathology and the anatomical variations. However, patients are exposed to radiation and it is only performed when strongly indicated (5). Retrograde cystourethrogram in such cases is a simple test without potential harm to the patient and with good diagnostic outcome. Most urinary bladder herniations are diagnosed at the time of herniorrhaphy (6). This case report is important to appreciate the bladder herniating into the sac with a picturesque value.

Bladder hernia is a rare pathology often presenting in mid age males (4). It should be suspected in every male patient with obstructive urinary symptoms and associated hernia. Retrograde and voiding cystourethrogram are the radiological diagnostic tests of choice in such cases (4). Such patients with voiding difficulty need a work up for Benign Prostatic hypertrophy. Also, BPH is a common cause of direct inguinal hernia in adult males. This patient upon manipulation of the hernial sac could void without effort, and therefore BPH was ruled out clinically. Simple reduction of the bladder into the abdomen followed by inguinal herniorrhaphy is the treatment of choice (7).

TEACHING POINT

Bladder hernia is a rare pathology but should be suspected in every male patient with obstructive symptoms and associated hernia. Retrograde and voiding cystourethrogram are the radiological diagnostic tests of choice in such cases. Urinary bladder hernia occurs with a similar incidence of tubo-ovarian hernia, however, it requires special attention because of a high risk of iatrogenic bladder injury during inguinal dissection.

ABBREVIATIONS

BPH = Benign Prostatic Hypertrophy
 PSH = Prostate Specific Antigen
 CT = Computed tomography
 MRI = Magnetic resonance imaging

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FIGURES



Figure 1: 58 year old male with dumbbell shaped urinary bladder in a sliding inguinal hernia. Preoperative picture shows enlargement of the right scrotum extending up to the base. The penis is shifted to the left.



Figure 2: 58 year old male with dumbbell shaped urinary bladder in a sliding inguinal hernia. AP radiograph of the pelvic region showing enlargement of the right scrotal shadows (left white arrows). There is increased soft tissue density in the right inguinal and scrotal region with air lucencies in the right scrotal region representing inguino-scrotal hernia with bowel loops in the hernial sac.



Figure 3: 58 year old male with dumbbell shaped urinary bladder in a sliding inguinal hernia. Retrograde cystogram shows the bladder being filled with contrast. Part of it is in the pelvis and the rest in the right inguinal hernia which appears like a 'Dumbbell' (arrow).

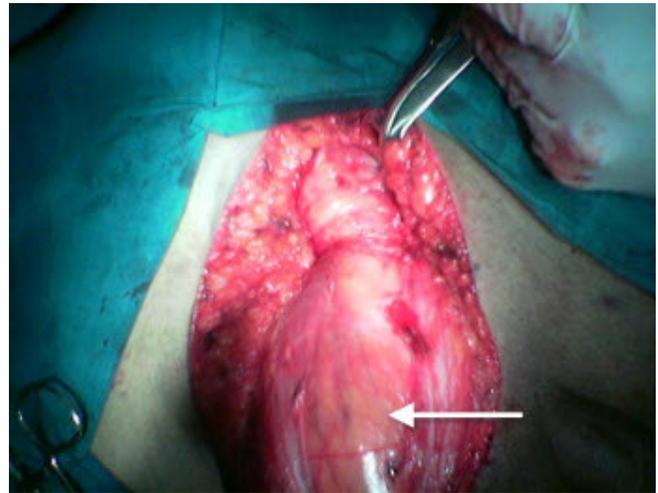


Figure 4: 58 year old male with dumbbell shaped urinary bladder (arrow) in a sliding inguinal hernia. Intraoperative picture shows the hernia after the incision is made.

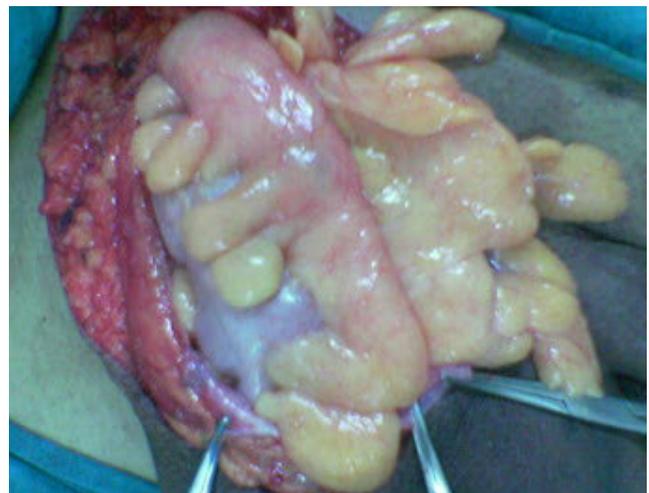


Figure 5: 58 year old male with dumbbell shaped urinary bladder in a sliding inguinal hernia. Intraoperative image. The small intestine and the urinary bladder are reduced. The sigmoid colon is seen.

KEYWORDS

Sliding hernia, Prostatic hypertrophy, Inguinal hernia, Bladder herniation, Cystogram

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