Case report

AN INGUINAL BLADDER HERNIA- A CASE REPORT

Abstract

Aims: Inguinal bladder hernia is a rare condition found in about 1–4% of inguinal hernias. The majority of cases are diagnosed intraoperatively, with only 7% of bladder hernias identified before surgery. Diagnosis is usually challenging as patients are often asymptomatic or have nonspecific symptoms. Surgical repair is currently the standard treatment either open or laparoscopic and careful surgical planningis necessary to avoid complications including bladder injury.

Presentation of case: A 56-year-old man presented with swelling in the left inguinal region which would reduce after voiding. Physical examination revealed an irreducible 7x 5 cm left inguinal swelling with mild tenderness to palpation and a feeling of urinary urgency on attempted reduction. USG showed an inguinal bladder hernia. The patient underwent open surgical reduction with closure of the defect with the mesh. Post-op recovery was uneventful.

Discussion: Inguinal bladder hernia most often presents in older, obese males and clinicians should havea high index of suspicion when assessing patients with inguinal hernia. Preoperative diagnosis based onhistory, physical, and radiologic imaging allows for careful surgical planning and prevention of any complications.

Conclusion: Clinicians seeing elderly obese male patients with inguinal hernia should be aware that patients may have inguinal bladder hernia, especially presenting with recent lower urinary tract symptoms.

1.Introduction

Inguinal bladder hernia(IBH) was first described in the literature by Levine in 1951 as a rare condition despite the bladder being very adjacent to the inguinal canal [1]. Herniation of the bladder is present in approximately 1-4% of all inguinal hernias, while the incidence in obese men aged ≥ 50 years may be as high as 10% [2]. The Hernia sac could contain any portion of the bladder (diverticulum,part of bladder, ureter, or entire bladder).Risk factors are male gender, advanced age, chronic urinary obstruction, weak pelvic musculature, and obesity [3]. The vast majority of IBHs are diagnosed intraoperatively while only 7% are diagnosed before surgery and 16% postoperatively due to complications including bladder injury and leakage [4].

Diagnosis of inguinal bladder is a big challenge as the majority of patients are asymptomatic and preoperative diagnosis depends on incidental discovery on radiography[5]. Symptomatic patients most often present with non-specific symptoms such as inguinal swelling and lower urinary tract symptoms(LUTS) such as dysuria, hematuria, and urinary urgency [6,7]. In advanced cases, patients give a history of manual compression of the scrotum after voiding to complete urination. [5]Associated conditions include benign prostatic hyperplasia(BPH),hydronephrosis, vesicoureteric reflux (VUR), and scrotal abscesses [3]. Currently, the standard treatment is surgical repair of the hernia after bladder reduction or less commonly resection of the bladder. [8]. If the diagnosis is known preoperatively, catheterization is recommended before surgery [9]. Early recognition of inguinal bladder herniation and appropriate imaging before surgery help in better planning and lessen postoperative complications.

2. Case presentation

A 56-year-old man presented with swelling in the left inguinal region for the last 03 months. Thepatient reported that the inguinal swelling would gradually increase in size and after voiding would reduce spontaneously. This was sometimes associated with pain in the suprapubic region. He was earlier diagnosed with BPH for which surgery was done 04 months back. Physical examination revealed an irreducible 7x 5 cm left inguinal swelling with mild tenderness to palpation and a feeling of urinary urgency on attempted reduction. All hematological and biochemical parameters were within normal limits. Ultrasonography (USG) left inguinal region showed approximately03 cm defect with the bladder as a content, with the diagnosis of left IBH. (Fig 1)
The patient was planned for open left inguinal hernia(IH) repair with mesh. Intra-operatively, a portion of the urinary bladder was found to be inside the inguinal hernia. (Fig 2) As the normal saline was infused into the bladder through the Foley catheter, a large bulge was observed confirming the diagnosis. The bladder was separated from the cord structures and then reduced into the abdomen followed by repair of the hernia defectwith a polypropylene mesh.There were no intra-operative complications. On the postoperative day (POD) 1, the patient complained of minimal pain at the surgical site.The patient was ambulant. Accepting and tolerating orally. His Foleycatheter was removed and therewere no urinary voiding symptoms.The incision was clean with no discharge or signs of infection and discharged to home on POD 3. On follow up surgical site was healthy with no evidence of recurrence and the patient had no urinary symptoms.

3. Discussion

An inguinal bladder herniation involvesherniation of the bladder along with a sheath of the peritoneum which forms its sac through a weak point in the abdominal fascia [10]. Risk factorsinclude male gender, advanced age, and BPH [9]. Complications of IBH include VUR, bladder rupture,hydronephrosis, and strangulation,which may result in ischemiaand bladder infarction[5].Chronically distended bladder or rare involvement of the ureterin the content sac can predispose to VUR.Patientswith small IBH areusually asymptomatic with only nonspecific urinary symptoms [7]. Large IBH patients usually presentwith swelling in the groin or scrotum and LUTS. In rare and advanced cases, patients may describe two-stage micturition in whichthey had to compress the scrotum tocomplete the urination [7]. In our case, patient presented with inguinal

swelling which used to increase in size with the bladder getting distended with the urine. Careful history,and physical examination supported by radiological investigations includingUSG, Cystography, and CT are utilized to confirm the diagnosis [5]. As the IBHs are diagnosed preoperatively in a minimal number of cases, there should be a high index of suspicion in older and obese male populations in whom incidence can be as high as 10% of all IH [2]. CT scan followed by cystoscopy may be beneficial in obesemales >50 who present with inguinal swelling and LUTS, to confirm diagnosis and rule outadditional pathology of the bladder [10]. The US is the first and most accessible diagnostic modalitythat may demonstrate a hypoechogenic masslesion protruding from the bladder through the inguinal canal intothe scrotum. Voiding cystourethrography is the most sensitive test for diagnosis of IBH which reveals a “dumbbell” or “dog-ear” shape of the bladder[11]. In our case USG left inguinal region showed IBH, as a result, no other imaging like CT/ Voiding cystourethrography was warranted. Standard treatment of IBH involves bladderreduction or on rare occasions partial resection followed by hernia repair, done with an open inguinal incisionor with a laparoscopic approach, as was done in our case[12]. Defects can be repaired with or without mesh. Bladder resectionis recommended only in cases with bladder wall necrosis, trueherniated bladder diverticulum, a tight hernia neck, or a tumor inthe herniated bladder [5]. Conservative treatment can also be opted in some patients with urethral catheterization to decompress and reduce thebladder [4]. In our case, normal saline was used to distend the bladder for better visualization, followed by an open reduction and hernia repairwith mesh. There is datathat in about 12% of IBH, the bladder is damaged during hernioplasty[5,10] and the rate dropswhen IBH is diagnosed preoperatively [5]. In our case preoperative diagnosis allowed carefulplanning of the procedure, and the patient recovered well withoutcomplications.

4. Conclusion

IBH is a rare condition that requires a high index of suspicion. It should be considered in obese males,aged ≥ 50 years with LUTS. Preoperative diagnosis helps the clinician witha cautious approach to prevent any injury to the bladder. Standard treatment involves the reduction of the bladder with the repair of the defect. Any damage to the bladder diagnosed intraoperatively should be repaired.

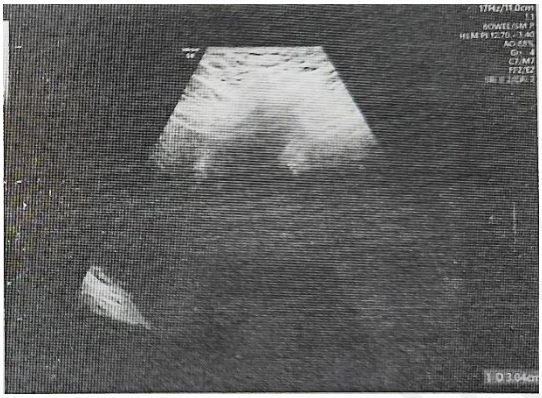

Fig 1 – Approx 03 cm defect with bladder as a content

Fig 2 – Left Inguinal incision with cord structures separated from the bladder shown by the instrument

Ethical approval - NA

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