CLINICAL STUDY

Complete scrotal urinary bladder hernia with both ureters and small intestine presenting as dysuria, bilateral ureterohydronephrosis, and acute renal insufficiency

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Abstract: We report a case of a complete scrotal bladder hernia with both ureters presenting as dysuria, bilateral ureterohydronephrosis, and acute renal insufficiency. A 37-year-old man with a recurrent large scrotal mass after two surgeries, suffering with small urinary symptoms as a dysuria and nocturia, was examined before the third surgery on an outpatient basis. Urological examination revealed a negative urine, bilateral large ureterohydronephrosis on USG, and serum creatinine 231–250 μmol/l. CT displayed the urinary bladder completely herniated into the scrotum with distal parts of both ureters and small intestine, and bilateral large ureterohydronephrosis. After admission to urological department on retrograde cystography a completely herniation of the urinary bladder with residual urine more than 250 ml was confirmed. A permanent catheter was indwelled. The hernia was explored with urinary bladder repositioning. Because bilateral ureteral obstruction on USG did not retreat, a bilateral percutaneous nephrostomy was done. The patient’s serum creatinine markedly improved, also hernia and ureterohydronephrosis was repaired with normally moisten without residual urine (Fig. 2, Ref. 26).

Key words: scrotal hernia, urinary bladder, ureterohydronephrosis, acute renal insufficiency.

Bladder association with inguinal hernia usually involves a small portion of the urinary bladder. Bilateral ureteral obstruction from a complete bladder scrotal hernia with a renal insufficiency is a very rare event and usually presents with irritative voiding symptoms and a large scrotal mass. We present a case with a complete inguinal bladder herniation after two unsuccessful inguinal surgeries.

Case report

A 37-year-old man presented with six month’s history of a recurrent large scrotal mass after the second inguinal surgery on the right side. He also suffered with small urinary symptoms such as dysuria and nocturia, and feeling of residual urine. Because the third surgery was planned, he was examined on outpatient basis. Urological examination revealed a bilateral large ureterohydronephrosis without urinary bladder on your normal position on USG, and serum creatinine 231–250 μmol/l. The normally prostate was without displacement. CT displayed the urinary bladder completely herniated into the scrotum with both distal parts of the ureters and small intestine with bilateral large ureterohydronephrosis. After admission to urological department a retrograde cystography confirmed a completely herniation of the urinary bladder with residual urine more than 250 ml (Fig. 1A). A permanent catheter was indwelled. The hernia was explored using a right inguinal incision extended medially to the pubis (Fig. 2). The bladder was dissected off the spermatic cord and testicle and replaced into its native position in small pelvis without a polypropylene mesh. Normal urinary bladder position was controlled by a retrograde cystography (Fig. 1B). Postoperative course was complicated by a secondary healing of a wound. Because bilateral ureteral obstruction on USG not retreat, a bilateral percutaneous nephrostomy was doing. The patient’s serum creatinine then markedly improved, also hernia and ureterohydronephrosis was repaired with normally moisten without residual urine.

Discussion

Bladder involvement in an inguinal hernia is not uncommon, occurring in as many as 1–4 % hernias, reaching the 10 % among patients older than 50 years. Most small asymptomatic bladder hernias are commonly encountered and reduced successfully via the same incision during the elective inguinal hernia repair. However, larger bladder herniations can be associated with bladder infarction or obstruction, which require an urgent intervention to preserve renal function and reduce morbidity and mortality (Bis-
harat et al, 2009; Conde Sánchez et al, 2001). Massive inguinal–scrotal herniation of the bladder is much less common. The review by Thompson et al (1986) revealed 73 published case reports up to 1986, but from this time to June 2011 there are in Pubmed another 87 articles with this topic. Finally, as of July 2004, 139 cases of ureteral hernia had been described in literature (Bertolaccini et al, 2005). At last, Wagner et al (2004) presented only the fifth case with an acute renal failure, which required an immediate nephrostomy tube decompression and admission to the intensive care unit. The similar situation was in our patient with a huge scrotal hernia in which despite repositioning both ureters and urinary bladder, the ureteral obstruction did not retreat, and bilateral puncture nephrostomy must have been done. Bilateral obstructive uropathy secondary to inguinoscrotal bladder hernia, and an acute renal failure secondary to ureteral obstruction sometimes with hypocontractile detrusor were also known in previous reports (Bonani et al, 2007; Herranz Fernández et al, 2002; Errando Smet et al, 2001; Barea et al, 1998).

Diagnosis is established commonly by history, physical examination, local findings, and from diagnostic procedures by USG, CT, IVP. Retrograde and voiding cystourethrogram are the radiological diagnostic tests of choice to evaluate this disease. Voiding symptoms can be examined by urodynamics (Marquez Moreno et al, 2010; Bjurlin et al, 2010; Van Kerkhove et al, 2008; Neulander et al, 2007; Juan Escudero et al, 2007; Nicola et al, 2006; Cruz Guerra et al, 2005; Herrero Riquelme et al, 2000).

Bladder hernia can be intraperitoneal, extraperitoneal or paraperitoneal. Surgery proved to be successful in the management of the inguinal-scrotal hernia and voiding dysfunction. The patients underwent an inguinal herniorraphy and replacement of the bladder in the retroperitoneal spaces with some surgical pitfall (Angus and Cardoza, 2008; Farooq et al, 2005). Sometimes the treatment consisted in bladder resection and repair of the inguinal hernia with a marlex or polypropylene mesh (Fumadó Ciutat et al, 2005). In patients with scrotal diverticulum of the urinary bladder as a rare cause of an inguinal hernia, treatment consisted of inguinal resection of the bladder diverticulum, the peritoneal sack and closure of the hernia (Schuster and Steinbach, 2005; Gronau and Panek, 2005). Few reports of tumour in the herniated bladder have been reported (Pastor Navarro et al, 2010; Das et al, 2007). Laparoscopy is a new tool in hernias treatment (Yao et al, 2008, Svach et al, 2003).

Conclusion

Urinary bladder hernia in middle aged males is a rare pathology often presenting with a huge inguinal-scrotal mass, voiding disturbances, acute renal insufficiency, ureterohydronephrosis. It should be suspected in every male with lower tract obstructive symptoms and associated inguinal hernia. USG, CT and retrograde cystogram are the diagnostic tools of choice to evaluate this disease. The surgical treatment is that of the hernia and bladder outlet obstruction.

References


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