DOI: 10.4149/BLL_2013_137

Bratisl Lek Listy 2013; 114 (11)
642 – 644

CLINICAL STUDY

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

Nagy V[1], Kilar I[2]

Department of Urology, PJ Safarikiensis University, Medical Faculty and L Pasteur Teaching Hospital, Kosice, Slovakia. **vincent.nagy@upjs.sk**

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)*. Full Text in PDF *www.elis.sk*.
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-

[1]Department of Urology, PJ Safarikiensis University, Medical Faculty and L Pasteur Teaching Hospital, Kosice, Slovakia, and [2]1st Department of Surgery, PJ Safarikiensis University, Medical Faculty and L Pasteur Teaching Hospital, Kosice, Slovakia

Address for correspondence: V. Nagy, MD, PhD, Department of Urology, PJ Safarikiensis University, Medical Faculty and L Pasteur Teaching Hospital, Trieda SNP 1, SK-040 11 Kosice, Slovakia.
Phone: +421.55.6403589, Fax: +421.55.6403603

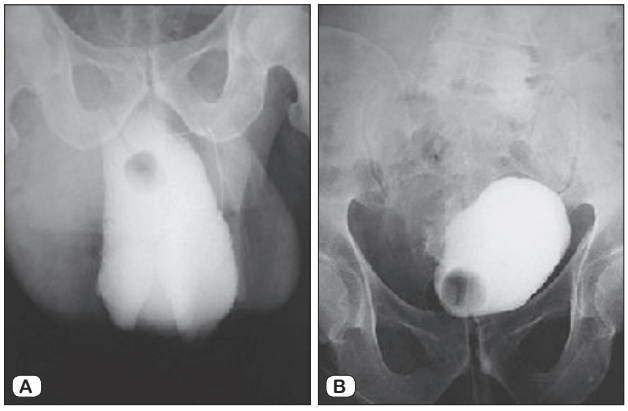

Fig. 1 A, B. Scrotal herniation of the bladder before (A) and after surgery (B): retrograde micturition cystography.

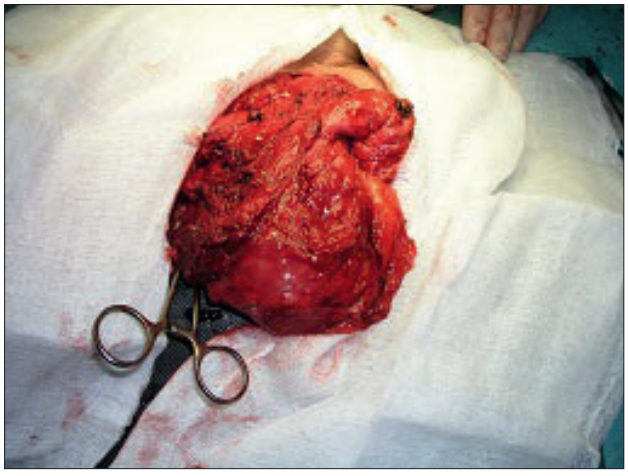

Fig. 2. Scrotal hernia of the bladder – Intraoperative findings.

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 to1986, 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 cystourethrograms 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; Farooqet 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 mid age 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

1. Bisharat M, O´Donnell ME, Thompson T et al. Complications of inguinoscrotal bladder hernias: a case series. Hernia 2009; 13 (1): 81–84.

2. Conde Sánchez JM, Espinosa Olmedo J, Salazar Murillo R et al. Giant inguino–scrotal hernia of the bladder. Clinical case and review of the literature. Actas Urol Esp 2001; 25 (4): 315–319.

3. Thompson JE Jr, Taylor JB, Nazarian N et al. Massive inguinal scrotal bladder hernias: a review of the literature with 2 new cases. J Urol 1986; 136 (6): 1299–1301.

4. Bertolaccini L, Giacomelli G, Bozzo RE et al. Inguino–scrotal hernia of a double district ureter: case report and literature review. Hernia 2005; 9 (3): 291–293.

5. Wagner AA, Arcand P, and Bamberger MH: Acute renal failure resulting from huge inguinal bladder hernia. Urology 2004; 64 (1): 156.e12–13.

6. Bonani M, Fischer H, Schmid W et al. Subacute weakness of the lower limbs. Praxis (Bern 1994) 2007; 96 (33): 1215–1218.

7. HerranzFernández LM, Jiménez Gálvez M, Arellano Ganán R et al. Bilateral obstructive uropathy secondary to inguinoscrotal bladder hernia. ActasUrolEsp 2002; 26 (4): 306–309.

8. ErrandoSmet C, Batista Miranda JE, Artigas Raventós V et al. Vesico–scrotal hernia with hypocontractile detrusor. Arch Esp Urol 2001; 54 (5): 454–457.

9. Barea D, Tomasini P, Belliol E et al. Bladder herniation in a inguinal–scrotal hernia complicated by acute renal insufficiency. J Radiol 1998; 79 (3): 263–265.

10. Marquez Moreno AJ, Martin Diego A, Heras Joaquin P et al. Images in urology. Inguinoscrotal bladder hernia:multidetector CT scan. Arch Esp Urol 2010; 63 (7): 565–566.

11. Bjurlin MA, Delaurentis DA, Jordan MD et al. Clinical and radiographic findings of a sliding inguinoscrotal hernia containing the urinary bladder. Hernia 2010; 14 (6): 635–638.

12. Van Kerkhove F, Vanhoenacker FM, Vandenbroucke M. JBR–BTR 2008; 91 (4): 178.

13. Neulander EZ, Kaneti J, Klain J et al. Obstructive uropathy secondary to inguinal bladder hernia: case report and review ofthe literature. Can J Urol 2007; 14 (6): 3761–3763.

14. Juan Escudero JU, Ramos de Campos M, OrdonoDomínguez F et al. Inguinoscrotal bladder hernias. Arch Esp Urol 2007; 60 (3): 231–236.

15. Nicola M, De Luca F. Bladder hernia. Arch Ital Urol Androl 2006; 78 (2): 77–78.

16. Cruz Guerra NA, AlbarránFernández M, Porto Sierra M et al. Giant bladder hernia associated with bilateral incipient obstructive uropathy. Arch Esp Urol 2005; 58 (7): 669–671.

17. Herrero Riquelme S, Molinero Casares MM, Garcia Serrano J. Ultrasonographic diagnosis of massive bladder hernia at the inguinoscrotal level: report of a case. Actas Urol Esp 2000; 24 (10): 825–828.

18. Angus LD, Cardoza S. Scrotal cystocele: a surgical pitfall. Br J Hosp Med (Lond) 2000; 69 (10): 594.

19. Farooq O, Bashir–ur–Rehman. Reccurent inguinal hernia repair by open preperitoneal approach. J Coll Physicians Surg Pak 2005; 15 (5): 261–265.

20. Fumadó Ciutat L, Rodríguez Tolrá J, Pastor López S.et al. Massive bladder hernia. Arch Esp Urol 2005; 58 (10): 1078–1080.

21. Schuster F, Steinbach F. Scrotal diverticulum oft he urinary bladder – rare cause of an inguinal hernia. Akt Urol 2005; 36 (1): 55–57.

22. Gronau E, Panek J. Differential diagnosis of inguinal hernias in combination with bladder diverticulum. Urologe A 2005; 44 (3): 286–287.

23. Pastor Navarro H, Martínez Ruiz J, Carrión Lopez P et al. Tumor inside an inguinoscrotal bladder hernia. Arch Esp Urol 2010; 63 (6): 471–476.

24. Das CJ, Debnath J, Thulkar SP et al. Transitional cell carcinoma in a herniated vesical diverticulum. Br J Radiol 2007; 80 (957): e227–229.

25. Yao G, Yang QT, Zhang QF et al. Modified laparoscopic transabdominal preperitoneal repair of groin hernias. Nan Fang Yi Ke Da Xue Xue Bao 2008; 28 (12): 2272–2273.

26. Svach I, Gryga A, Herman J et al. Complications after laparoscopic surgery of inguinal hernias. Rozhl Chir 2003; 82 (12): 628–633.

Received December 21, 2011.
Accepted August 10 2012.