

# Scrotal Herniation of Bladder: A Case Report

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## Abstract

Inguinal bladder hernia is a rare clinical condition, with 1–3% of all inguinal hernias involving the bladder. Any portion of the bladder may herniate, from a small portion or a diverticulum to most of the bladder. We present a 55-year-old male with an intermittent right scrotal mass of 6 months' duration. The mass lesion protruded through the right inguinal canal before voiding and reduced after that. Scrotal sonography revealed a hypoechoic lesion in the scrotum that stretched cranially to the intra-abdominal portion of the bladder. Excretory urography showed a duplicated system in the left kidney and deviation of the left orifice to the right side of the trigon. Finally, cystography illustrated herniation of the bladder to the right scrotum. Surgical repair of the hernia was done with mesh. Follow-up cystography one month postoperatively revealed no herniation.

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**Keywords** • Inguinal hernia • Bladder • Scrotal

## Introduction

Inguinal bladder hernia is a rare clinical condition. Indeed, only 1-3% of all inguinal hernias are reported to involve the bladder.<sup>1</sup> The incidence may reach 10% among obese men older than 50 years of age, however.<sup>2,3</sup> Massive inguinoscrotal bladder hernia, also known as scrotal cystocele, is a very rare condition.<sup>1</sup> In this condition, one portion of the bladder or a diverticulum forms all or a part of the scrotal hernia. Even more uncommon is inguinal bladder hernia descending into the scrotum. Small bladder hernia is usually asymptomatic, whereas large scrotal bladder hernia presents with intermittent scrotal or inguinal bulging and lower urinary tract symptoms and occasionally patients complain of double voiding. Diagnosis is confirmed with cystography and ultrasonography. Surgical repair of hernia is the best choice for treatment.<sup>4</sup>

Here we report a case of right inguinoscrotal bladder hernia with deviation of the left orifice to the right side of the trigon in the presence of a duplicated system in the left kidney.

## Case Report

A 55-year-old obese male presented with an intermittent right scrotal mass of 6 years' duration. The mass lesion protruded through the right inguinal canal before voiding and reduced in size thereafter. The patient complained of a reduction in the force, caliber, intermittency, and frequency of urination.

Scrotal examination revealed a soft scrotal mass with size variation related to voiding. A digital rectal examination revealed only mild prostatic enlargement. There was no underline disease in the patient's past medical history, and his surgical history was

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negative. Urinalysis and renal function test and serum chemistry parameters were normal.

Scrotal sonography, conducted to characterize the nature of the mass, demonstrated a hypoechoic lesion in the scrotum which stretched proximally to the intra-abdominal portion of the bladder. Change in the volume of the lesion during micturition was a diagnostic clue. Excretory urography was performed and showed a duplicated system in the left kidney with deviation of the left orifice to the right side of the trigon (figure 1), and cystography illustrated herniation of the bladder to the right scrotum (figure 2).

The patient was scheduled for the surgical repair of the hernia under spinal anesthesia and in supine position. After placement of a urethral catheter, right inguinal incision was made. Next, the herniated bladder was dissected and reduced to the pelvic cavity. The floor of the right inguinal canal was thereafter reinforced with Prolene mesh. Finally, the urethral catheter was removed the day after surgery, and the patient was discharged after successful voiding. Follow-up cystography was done one month later and revealed no herniation (figure 3). The patient's urinary complaints were significantly reduced after surgery.

### Discussion

Bladder hernia is usually asymptomatic, often occurs on the right side, and is direct in type. Small bladder hernia is usually asymptomatic, whereas large bladder hernia presents with intermittent swelling in the groin or the scrotum and lower urinary tract symptoms such as frequency, nocturia, and urgency, which may secondary to bladder outlet obstruction or secondary infection that is often superimposed.<sup>2</sup> Large scrotal bladder hernia presents with two-stage

micturition involving natural bladder emptying with a second-stage voiding by manual compression of the hernia.<sup>5</sup> Change in the size of the hernia is correlated with the degree of bladder filling. Other common bladder diseases that occur in the inguinal region such as herniated intestine or omentum, cord lipoma, testicular hydrocele, and spermatocele tend to interfere with the physical examination of bladder herniation.<sup>5</sup>

Pathophysiology of bladder hernia maybe related to bladder outlet obstruction, chronically overdistended bladder, decreased bladder tone, obesity, and weakness of the supporting structure in the pelvis, which occurs with advanced age.<sup>2,5,6</sup>

The ureter can herniate with the bladder or independently. Sometimes, it can cause ureterovesical obstruction with hydronephrosis of the unilateral side.<sup>4,7,8</sup> Severe cases of bladder



Figure 2: Cystogram, demonstrating herniation of the bladder to the right scrotum.



Figure 1: An intravenous urogram, showing a duplicated system in the left kidney and the fusion of both ureters in the distal portion with deviation of the left orifice to the right side of the trigon.



**Figure 3:** Follow-up cystography after surgery, revealing no herniation.

and ureteral herniation may be associated with renal failure.<sup>9-11</sup>

Voiding cystourethrography is one of the best diagnostic imaging modalities in bladder herniation. This modality may reveal a dog-ear shape of the bladder in the scrotum. Cystoscopy should be performed for the assessment of bladder outlet obstruction.<sup>5</sup> Ultrasonography may demonstrate a hypoechoic mass lesion from the bladder through the inguinal canal or the scrotum.<sup>5</sup> Nonetheless, the main role of sonography is the screening of the upper urinary tract, and it is particularly drawn upon in older patients with bladder outlet obstruction with a clinical suspicion of bladder hernia.<sup>4</sup>

Catheterization before surgery is preferred. Bladder hernia is repaired through the right inguinal incision, the herniated bladder is resected or reduced, and the inguinal floor is repaired with or without mesh. Bladder reduction is preferred to the resection of the herniated portion insofar as the former not only does not necessitate the incision of the bladder wall, obviating the need to suture the bladder and preventing contamination of the surgical field, but also reduces the bladder without resection and preserves the bladder volume while decreasing the risk of ureteral damage.<sup>5</sup> Bladder resection is performed in cases with bladder necrosis, a hernia neck of less than 0.5 cm in diameter, and bladder diverticulum or tumor.<sup>2,5</sup> If a significant simultaneous bladder outlet obstruction is present, the correction of this condition is recommended followed by reduction of the herniated bladder and repair of the inguinal floor.<sup>4</sup>

## Conclusion

Bladder hernia is a rare condition. It is a diagnosis of exclusion which needs surgical repair. Especially, it should be considered in old obese male presenting with intermittent bulging of the inguinal or scrotal region with lower urinary tract symptoms.

**Conflict of interest:** None declared

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