



# A rare cause of inguinal hernia: scrotal cystocele

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## ABSTRACT

Herniation of the urinary bladder into the inguinal canal is rare. It constitutes 1-3% of all inguinal hernias. Bladder herniation is usually asymptomatic, and it is usually diagnosed during surgery or as a result of intra-operative bladder injury. Male patients with lower urinary tract symptoms or with a history of previous hernia surgery are at increased risk of bladder herniation. Typically, patients complain of inguinal or scrotal swelling, dysuria and shrinkage of scrotal swelling after voiding. Early diagnosis with radiological imaging is important to prevent complications during surgery. Intravenous pyelography, retrograde cystography, pelvic ultrasound, computed tomography and magnetic resonance imaging can be used for preoperative diagnosis. In this report, a patient is presented who presented to our clinic with scrotal swelling and was diagnosed with scrotal bladder herniation by retrograde cystography, taken due to clinical suspicion based on his history.

**Key Words:** Bladder, inguinal hernia, herniation

## INTRODUCTION

Inguinal hernias occur in about 3-8% of the population (1). 75-85% of hernias is observed in men. Inguinal hernias constitute 80-83% of all hernias (50% indirect inguinal, 25% direct inguinal, and 5% femoral). The herniation of the bladder into the inguinal canal is not a common condition (2). Its incidence varies from 1-3% in men over the age of fifty (3, 4). A large part of the bladder may herniate as well as herniation of only a diverticulum. The herniation of the bladder to the scrotum was defined as scrotal cystocele for the first time by Levine in 1951 (5). The etiology includes urinary tract obstruction, chronic bladder distension, loss of bladder tone, peritonitis, protrusion of perivesical fat, obesity, pelvic mass, and previous hernia operation (6). Bladder herniation generally remains asymptomatic and determined incidentally, however, it may rarely present with urinary obstruction symptoms. The diagnosis is usually made during hernia surgery. Early diagnosis with the help of a thorough history and radiologic imaging is important to prevent complications during surgical repair. This case report presents an incidentally diagnosed scrotal bladder hernia in a patient who was being prepared for a scrotal hernia operation.

## CASE PRESENTATION

A 68-year-old male patient presented to our clinic with complaints of right scrotal swelling, dysuria, and decrease in the swelling size after micturition for the last 2 years. He had a giant right inguinoscrotal hernia on physical examination. The right testicle was palpable and of normal size. The patient's laboratory results were within normal limits. The patient had no known co-morbidity or history of previous surgery. The retrograde cystography, which was obtained based on the information on decrease in scrotal swelling after voiding, showed that the bladder was herniated into the scrotum through the inguinal canal (Figures 1, 2).

The patient was planned for surgery with a diagnosis of scrotal cystocele, was given information about the surgical technique and a written informed consent form was obtained. The bladder was separated from the hernia sac with a pre-peritoneal approach by the Stoppa method and a prolene mesh reinforcement was applied. The patient was discharged on postoperative day two. The control cystogram obtained 1 month later revealed the bladder in its normal localization with normal contours, and there was no inguinoscrotal hernia (Figure 3).

## DISCUSSION

1-3% of all inguinal hernias involve the bladder (3, 4). The herniation is often through the inguinal and femoral canal but can originate from the ischio-rectal, obturator canal or abdominal wall. The herniation of the bladder into the scrotum was defined as scrotal cystocele by Levine for the first time in 1951 (5). The majority of these hernias are direct hernias on the right side, as in our case. Bladder hernias are divided into three classes according to their relationship with the peritoneum. The most common type

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Figure 1. Scrotal cystocele extending to the scrotum on oblique cystogram



Figure 2. Scrotal cystocele appearance on lateral cystogram

is para-peritoneal hernia, in which the extra-peritoneal part of the hernia courses through the medial wall of the hernia sac. Less common types are intra-peritoneal and extra-peritoneal hernias.

Structural defects or aging-related atrophy in the supporting tissues of the abdominal wall, urinary outlet obstruction, peri-



Figure 3. The bladder in its normal location in postoperative cystogram

vesical fat protrusion, loss of bladder tone with weakness in supporting tissues, and obesity are predisposing factors for bladder herniation (7).

Small sized bladder hernia often remains asymptomatic, symptoms occur as the hernia enlarges. Patients experience symptoms such as dysuria, nocturia, hematuria, and may require manual evacuation of the herniated bladder by compressing the hernia sac after voiding. In our case, the most specific finding was the reduction of scrotal swelling after voiding (8). Rarely, symptoms of urinary obstruction may occur. The diagnosis is usually made during hernia surgery. Early diagnosis with the help of a good history and radiologic imaging is important to prevent complications during surgical repair. Imaging options for herniation of the bladder include intravenous urography and retrograde cystography, as well as ultrasound. Computed tomography is an imaging method preferred to evaluate the content and the location of the hernia, and its relationship with abdominopelvic structures. Cystography is considered as the gold standard method for diagnosis (9). In our case, retrograde cystography was used for preoperative diagnosis.

#### CONCLUSION

Inguinal hernia is common in the adult population and the hernia usually contains the peritoneum that surrounds the abdominal organs. Bowel loops, omentum, or extraperitoneal fat can be detected within the hernia sac in the inguinal canal. However, as in this case, the bladder can also be present within the hernia sac. Bladder hernia is determined incidentally. Its preoperative diagnosis is important to avoid complications such as bladder and ureter injury during inguinal hernia operation. Bladder hernia should be kept in mind in patients older than 50 years who will be operated on for scrotal hernia with urinary symptoms, and retrograde cystography, which is a cheap and easily applicable technique, should be performed to prevent intraoperative complications.

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