

## CASE REPORT

# Inguinal hernia with complete urinary bladder herniation: a case report and review of the literature

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## Abstract

Although inguinal hernias are common, inguinal herniation of the urinary bladder wall is rare. Moreover, the complete migration of the urinary bladder into the scrotum is considered less frequent. The majority of patients with bladder hernias are asymptomatic and diagnosis is made intraoperatively; however, difficulties in urination may lead to the correct diagnosis. We report about a case of a large right-sided scrotal hernia with complete bladder herniation presenting without urological symptoms.

## INTRODUCTION

Although inguinal hernias are common, herniation of the urinary bladder into the hernia sac is rare, being observed in 0.5–5% of inguinal hernia cases [1, 2]. Bladder herniation occurs predominantly in obese males, aged  $\geq 50$  years [2] and in right-sided hernias [3]. Until 2018, approximately 120 cases have been described [1–10]. The majority of patients with bladder hernias are asymptomatic and diagnosis is made intraoperatively. In patients with complete herniation of the urinary bladder, difficulties in urination may lead to the correct diagnosis. However, less than 7% of cases are diagnosed preoperatively [9]. Due to impaired emptying of the bladder, inguinoscrotal bladder hernias may be associated with significant urological complications such as obstructive uropathy with consecutive renal failure [6], urinary tract infections and bladder infarctions [5]. Open surgical repair is preferred [2]. We report about a patient, who presented with an incarcerated right-sided inguinal hernia with complete bladder herniation.

## CASE REPORT

A 75-year-old man with known right-sided inguinal hernia presented to the emergency department due to strong right-sided groin pain. There was no abdominal pain. There was no history of nausea or vomiting. There were no urinary symptoms. He had no medications and no known allergies. (ASA: 1). Laboratory values showed no signs of infection and normal renal function.

On clinical examination, a large right-sided incarcerated inguinoscrotal and a smaller left-sided not incarcerated inguinal hernia were found. His abdomen was otherwise soft, without pain on palpation.

The CT scan showed a large liquid-filled right-sided inguinal hernia. The liquid formation in the hernia sac was identified as a complete urinary bladder herniation.

The patient was taken to the operating theater for hernia repair. Intraoperative findings revealed a huge direct right inguinoscrotal hernia with complete herniation of the bladder

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into the scrotum. The bladder appeared normal, with no signs of injury and could be repositioned to its normal anatomical position. The hernia was repaired with a mesh by the Lichtenstein technique.

The patient recovered postoperatively without complications. He was discharged from the hospital 7 days after the operation.

## DISCUSSION

We report about a case of a large right-sided scrotal hernia with complete bladder herniation presenting without urological complications. Inguinal bladder hernia was first described by (Levine in 1951) [11] as a scrotal cystocele, which is a rare clinical finding. This condition has been reported in literature, primarily in the form of case reports and case series. Inguinal bladder hernias mostly occur in patients beyond the fifth decade [9]. Weakening of the bladder tone and supporting structures has been hypothesized to contribute to bladder herniation. Conditions like bladder-outlet obstruction (benign prostate hyperplasia, bladder neck strictures), direct inguinal hernia, male gender, obesity and weakened abdominopelvic wall are the most known etiopathological factors. In the context of bladder hernias, obstructive renal failure due to ureteric involvement is also a rare finding. The typical symptom of two-stage micturition (double micturition: manual compression of the scrotal swelling to void) is pathognomonic.

A correct preoperative diagnosis may be helpful to avoid iatrogenic bladder injury. CT scan should be recommended for patients with inguinoscrotal hernia associated with urinary disorders (Mery's sign) [10]. A CT scan of the case presented above was sufficient to make a prompt diagnosis.

The standard treatment of inguinal bladder hernias is the surgical repair with a mesh to prevent recurrence.

Inguinal hernias with complete urinary bladder herniation are rare. They are often difficult to diagnose and remain a surgical challenge. Preoperative imaging is essential to prevent iatrogenic injury. An open surgical repair with mesh by the Lichtenstein technique is the standard management. Partial resection of the herniated bladder is only recommended, if there is evidence of bladder wall necrosis or bladder diverticuli.

## CONFLICTS OF INTEREST

There are no conflicts of interest relevant to this article.

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