Inguinoscrotal herniation of bladder and ureter: A case report

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ABSTRACT

Simultaneous herniation of the bladder and ureter into the scrotum is a rare condition. In this study, we present a 60-year-old man who has been suffering from pain and swelling in the right hemi-scrotum. The patient needed to squeeze his scrotum for urination and he had difficulty in emptying his bladder. Ultrasound and Computed Tomography (CT) was performed for the patient, which confirmed the diagnosis. The patient underwent herniorrhaphy and partial cystectomy. His urinary problems were completely eliminated with surgery.

1. Introduction

Inguinal herniorrhaphy surgery is a routine procedure that more than 800,000 inguinal hernia surgeries are performed annually in the United States. However, sometimes it can be very difficult and accompanied by special and rare events. Bladder herniation inside the scrotum is one of these rare events. It used to be called the scrotal cystocele. 4 This type of hernia is a sliding hernia in which the contents of one part enter another cavity, including the scrotum. Most bladder hernias are asymptomatic, and only about 7% of these patients will have symptoms such as difficulty urinating or pain and swelling of the scrotum, and a decrease in the size of the scrotum after voiding. 5 The incidence of scrotal bladder hernia is about 1–4% and the most common risk factors are Body Mass Index (BMI) > 30, previous pelvic surgery, bladder outlet obstruction. It is common in men over 50 and on the right side. 6 When the bladder is completely herniated into the inguinal canal and scrotum, it can block urination or it can cause hydrenephrosis, bladder necrosis, and even renal failure. Open surgical repair is the treatment of choice in these patients. 7

This case was a rare anatomical variant. The hernia contains both the bladder and the ureter. We report a patient who presents with swelling of the scrotum and requires squeezing of the scrotum to empty the urine. He was diagnosed with bladder and ureteral hernia at the same time, which is a rare anatomical variant.

2. Case report

A 60-year-old man with a BMI of 32 has been suffering from pain and swelling in the right hemi-scrotum for about a year, which has gradually intensified. The patient needed to squeeze his scrotum for urination and he had difficulty in emptying his bladder. After urinating, the size of the patient’s scrotum shrinks (Mery’s sign). The patient was referred to the urology clinic with an ultrasound result. He was admitted to the urology department.

During the physical examination, the patient had scrotal discomfort and swelling on the right side with no signs of hydrocele. The abdomen was soft and fatty and non-distended. The patient had a history of Diabetes Mellitus (DM) and Asthma. The blood test showed hemoglobin 13.4 g/dl, platelet count 410,000, and creatinin level 1.2 mg/dl.

Ultrasonography showed a cystic accumulation of fluid measuring approximately 134 × 83 mm from the right inguinal area adjacent to the scrotum separately from the right testicle, which was in favor of bladder herniation into the scrotum. Residual urine volume was about 170 mL (Fig. 1).

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Fig. 1. Ultrasonography showed herniation of bladder.

Fig. 2. Contrast enhancement in CT Cystography.

Fig. 3. Herniation Complex (A–B), Components of Hernia include: Bladder, Right testis with Spermatic cord, Lipoma and Right Ureter (C), Partial Cystectomy (D).
Computed Tomography Cystography (CT Cystography) was done and showed a contrast agent in the scrotum, indicating a bladder hernia. There wasn’t any sign of hydronephrosis (Fig. 2).

An extended Pfannenstiel incision was done. A large collection of hernia components was delivered (Fig. 3-A, B). After releasing the layers, the bladder, large lipoma, the right ureter, and spermatic cord along with the right testis appeared (Fig. 3-C). The bladder part inside the scrotum was not diverticula, but the bladder itself was herniated. Lipoma was removed. The testicle was returned to its normal position anatomically. The patient’s bladder underwent a partial cystectomy due to its very large size (Fig. 3-D). The bladder was returned to its normal position and the hernia was repaired with nylon sutures.

The patient’s urinary problems were completely eliminated with surgery.

3. Discussion

Bladder hernias into the inguinal canal and scrotum are rare. This hernia can be direct or indirect, the direct type of which is more common. Ureteral hernia with bladder is very rare and is usually asymptomatic. It is most often diagnosed accidently during inguinal hernia repair. There are various paraclinical methods to diagnose it, including ultrasound, cystography, intravenous CT scan, and MRI.

In this case, the diagnosis was made by ultrasound and CT scan. Contrast enhancement in the scrotum on CT scan confirmed the diagnosis.

The part of the bladder that has been herniated into the scrotum can be resected or reduced. Resection usually occurs when either the herniated area is necrotic or incarcerated, or when the bladder is very large.

In our patient, due to the large volume of the bladder, a partial cystectomy was performed and the herniated part was resected (Fig. 3-D).

Due to the rarity of these patients in the articles, we can not make any recommendations about the indications and the amount of extra bladder tissue removal. More studies will definitely be needed in this area.

The results of the surgery mentioned in the previous reports are satisfactory and, like our patient, the symptoms have improved after the surgery. Very few cases of bladder cancer with bladder hernia have been reported, so if bladder hernia is suspected, preoperative radiology should be performed.

4. Conclusion

Although bladder and ureter herniation is rare, the radiological examination is required before inguinal hernia surgery, especially when the scrotum is swollen and the patient has concomitant urinary symptoms. Preoperative diagnosis can prevent possible injuries to the bladder and ureter during surgery. In patients with an inguinal hernia who have unexplained hydronephrosis or renal failure, ureteral hernia into the inguinal canal or scrotum should be considered.

Ethics

Patient informed consent was obtained to publish his information. The patient’s private information remained confidential with the researchers.

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Roles

Farzad Allameh: Conceptualization, Methodology, Software.
Maryam Garousi: Data curation, Writing- Original draft preparation, Visualization, Investigation.
Saba Faraji: Supervision, Software, Validation.
Seyyed Ali Hojjati: Writing- Reviewing and Editing.

Declaration of competing interest

The authors report no conflicts of interest in this work.

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