



## Dog Ear-Like Bladder Herniation

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### Abstract

The hernia content involving a bladder segment occurs in 1-4 % of cases of the inguinal hernias. Inguinoscrotal bladder hernias are usually found incidentally on radiological examinations or at the time of herniorrhaphy. We present an adult case that has a left inguinal bladder hernia detected and evaluated by sonography, intravenous pyelography (IVP), and computerized tomography (CT).

**Key words:** Bladder hernia, cystocele, inguinoscrotal hernia

### Introduction

Scrotal cystocele and urinary bladder hernia (UBH) are the most common terms used to describe inguinoscrotal herniation of the bladder [1]. Most of the UBHs are asymptomatic and are being diagnosed during the operation. UBHs had a male predominance and an increasing prevalence by age. Early and accurate diagnosis is very important to plan the surgery and to avoid the complications during the surgery.

### Case Report

A 55-year-old male presented with intermittent left groin swelling and pain for 2 years. Concerning the patient's complaint, we needed to compress the inguinal canal to complete voiding. The abdomen was soft on physical examination, but a reducible left inguinal hernia extending into the left hemiscrotum was palpated. Urinary and superficial Ultrasonography (US) were planned for probable prostate hyperplasia

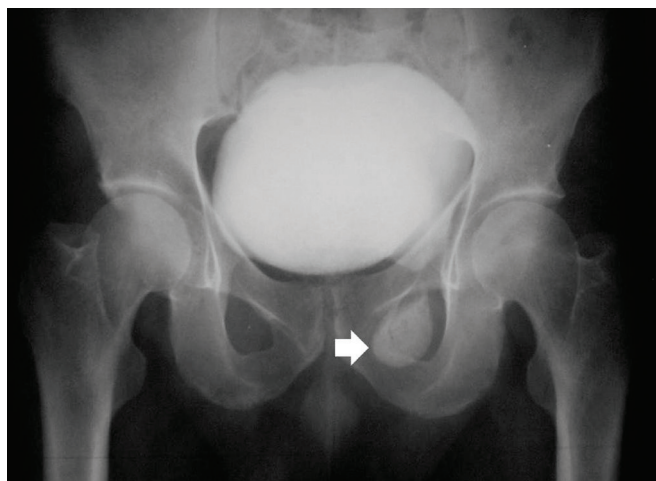
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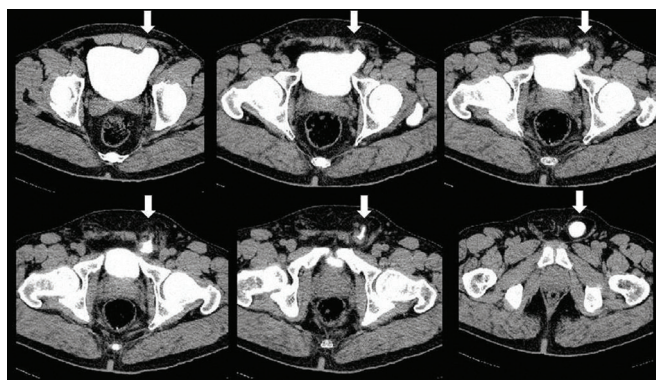
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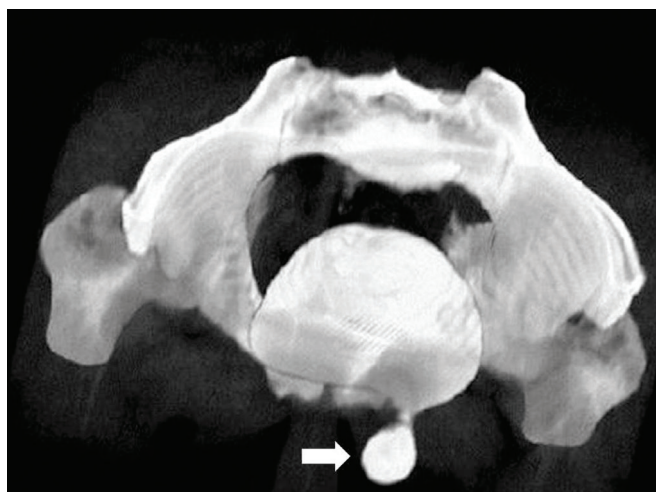
and inguinal hernia. US images showed that the left side of the bladder wall was extending into the suprapubic left parietal zone and that there was also an anechoic cystic mass surrounded by a half-thick wall in the inguinal canal. In the latest phase of IVP, contrast mate-



**Figure 1.** Contrast-filled bladder in IVP demonstrates elongation of the bladder base to the left side, and contrast medium is being superposed to left inguinal region (arrow).



**Figure 2.** In the late phase of the contrast-enhanced pelvic CT images, a bladder with lumen-filled contrast medium extending inferiorly to the left inguinal canal (arrow).



**Figure 3.** The 3D CT reconstruction image shows a dog left ear-like, left-sided inguinal bladder hernia (arrow).

rial extended beyond the left side of the bladder corpus and a contrast enhancement was superposed at the left obturator foramen, but we could not visualize the relationship between them (Figure 1). The cross-sectional CT images demonstrated elongation of the bladder to the left inguinal canal with contrast-filled lumen; in reconstruction images, this was like a dog ear (Figure 2,3).

### Discussion

UBH is a rare pathology that has been reported in 1 to 4 % of cases of inguinal hernias, whereas digestive or omental hernias are frequently observed [1-6].

The main factor for the herniation mechanism is bladder outlet obstruction (benign prostate hyperplasia, prostatitis, and urethral stricture). The other factors are obesity (especially in elderly males) and loss of bladder tonus with weakness of the surrounding supporting structures [1-3]. The unidentified reason for UBH is much more common in the right side; on the contrary, our patient's hernia is left-sided [3].

The clinical presentation of UBH is variable, and nonspecific symptoms like dysuria, urinary frequency, urgency, and recurrent urinary tract infection were accompanied by a scrotal mass. The important complaint casting doubt in an elderly patient with scrotal mass is two-phased voiding: after a normal spontaneous urination, the patient evacuates the bladder with manual compression and it is defined as the second phase of urination [1-5].

In patients suffering from groin swelling with two-phase urination, US is preferred as the first-line diagnostic choice; it is cost-effective, easy to access, and atraumatic - safety is achieved [2]. In bladder inguinoscrotal herniation, a hypoechoic cystic mass from the bladder through the inguinal canal can be seen. The US can evaluate a bladder hernia according to its relationship with the inferior epigastric artery (generally direct as medial to vessel) and bladder outlet obstruction, such as an enlarged prostate or any subtle sign on IVP [1,2,4]. Being medial to the inferior epigastric artery, our patient's herniation was an extraperitoneal direct type. In differential diagnosis, US can differentiate the herniated bladder from cystic scrotal mass as hydrocele, spermatocele, and epididymal cyst [4].

The second radiological investigation in exhibiting a bladder hernia is IVP and cystography. Both of them

have low-level sensitivity [1,2]. During IVP, the patient position is supine and contrast material may not fill the hernia sac because of this position. Post-voiding, prone or erect radiographies must be obtained [1]. The diagnostic triad-suggested bladder hernia in IVP consists of a small bladder, incomplete visualization of the bladder base, and an ipsilateral distal third of ureter displacement to the hernia side [1-3].

Other radiological techniques are cystography and CT. CT has a radiation disadvantage, but it gives more detailed information about a hernia than cystography. Extension of the lesion can be easily revealed by multi-slice CT. This can be important information about scheduling a surgery technique. For example, a bladder diverticulum mimics UBH, which is treated with an abdominal approach to resect [4], whereas surgical repair of bladder herniation is generally done via an inguinal incision, and resection of an uncomplicated UBH gets additional risks in the postoperative period [1,4,7].

### Conclusion

We have underlined that inguinoscrotal hernia content is rarely vesical. The clinical suspicion is raised if there is a large groin hernia with double-phase voiding symptoms. US should be the first radiological investigation, but CT clearly assesses and distinguishes the bladder from other entities before surgery.

### Conflict of interest statement

The authors have no conflicts of interest to declare.

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