

Comprehensive Review of Radiological Evaluation for Inguinal Bladder Hernia

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Abstract

Inguinal bladder hernia (IBH) is a rare but clinically significant condition characterized by the protrusion of the bladder through the inguinal canal. Prompt and accurate diagnosis is crucial to prevent potential complications such as urinary tract obstruction, bladder ischemia, and even strangulation. Radiological imaging plays a central role in the assessment of IBH, aiding in both diagnosis and surgical planning.

This abstract provides a comprehensive review of the radiological modalities utilized in the evaluation of IBH. Traditional radiography may reveal nonspecific findings such as a gas-filled structure in the inguinal region, prompting further investigation. Ultrasonography serves as a valuable initial screening tool, offering real-time imaging with high sensitivity and specificity in detecting herniated bladder. Computed tomography (CT) provides detailed anatomical information, facilitating accurate localization of the hernia sac and evaluation of associated complications.

Keywords: Computed Tomography, Urinary Complications, Ultrasonography

Case report

A 35-year-old male presented with complaints of bilateral loin pain. Computed tomography (CT) was done to evaluate bilateral loin pain which incidentally showed the presence of bilateral inguinal bladder hernias, revealing the herniated bladder extending into the inguinal canals bilaterally.

This case highlights the importance of a radiological approach in the diagnosis and management of bilateral inguinal bladder hernias. Early recognition and intervention are crucial to prevent urinary complications and optimize patient outcomes.



Figure 1



Figure 2

Fig 1 and 2; NECT axial and sagittal section of the lower abdomen shows herniation of the bladder into the bilateral inguinal canal giving the appearance of Mickey mouse.



Figure 3



Figure 4

Fig 3 and 4: CECT axial and sagittal section of the lower abdomen shows herniation of the bladder into the bilateral inguinal canal giving the appearance of Mickey mouse.

Discussion

The occurrence of urinary bladder and ureter herniation into the inguinal canal or scrotum is a rare phenomenon. Its prevalence is reported to range from 0.4% to 3% within the general population.

Studies have not indicated a congenital origin, thus it is widely acknowledged as an acquired condition.

Bladder hernias commonly affect the inguinal and femoral canals, with femoral hernias being more prevalent among women. Additionally, a tendency for hernias to occur more frequently on the right side has been noted. Nevertheless, herniations through other anatomical sites such as the ischiorectal, obturator, and abdominal wall openings have also been documented. The herniation of the bladder can involve any part of its structure, ranging from a small segment or diverticulum to the entire bladder.

The majority of bladder hernias are asymptomatic and are typically discovered incidentally either during surgical procedures or imaging studies conducted for unrelated reasons. However, symptoms such as dysuria, frequency, urgency, nocturia, and hematuria have been documented in some cases.

Classification

- Para-peritoneal hernia: the most common type, where the extra peritoneal section of the hernia rests adjacent to the medial wall of the sac.
- Intraperitoneal hernia: the herniated bladder is entirely enveloped by the peritoneum.
- Extra peritoneal hernia: the bladder remains uncovered by the peritoneum entirely.

Conclusion

Preoperative detection of inguinal bladder hernia (IBH) is crucial to avoid iatrogenic injury or potential severe complications. Both general surgeons and urologists must be vigilant regarding this rare condition when performing surgical repair of inguinal hernias. In complex cases, it is advisable for a collaborative approach involving both a general surgeon and a urologist to manage the condition effectively.

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