

# A rare case of pantaloona hernia accompanied by strangulated ileal segment: Inguinal herniation of the bladder

 Mehmet Sabri Çiftçi, M.D.,<sup>1</sup>  Mehmet Zeki Buldanlı, M.D.,<sup>1</sup>  Burak Uçaner, M.D.,<sup>1</sup>  
 Vahit Onur Gül, M.D.<sup>2</sup>

<sup>1</sup>Department of General Surgery, University of Health Sciences, Gülhane Training and Research Hospital, Ankara-Türkiye

<sup>2</sup>Department of General Surgery, Koru Ankara Hospital, Ankara-Türkiye

## ABSTRACT

Herniation of the bladder into the inguinal canal is a rare clinical entity and seen for approximately 1–4% of all inguinal hernias. It is usually seen in elderly male patients and on the right side. Since patients are mostly asymptomatic, they are diagnosed intraoperatively. Confirmation of the diagnosis in the pre-operative process is important to prevent possible bladder injuries. In this study, we aimed to present a rare case of pantaloona hernia accompanied by bladder herniation in a patient who presented to the emergency department with symptoms of acute mechanical intestinal obstruction and strangulation, in the light of the literature.

**Keywords:** Bladder herniation; inguinal hernia; pantaloona hernia; strangulation.

## INTRODUCTION

Inguinal herniation of the bladder was first described by Bernard Levine in 1951.<sup>[1]</sup> It is mostly seen in obese male patients over 50 years of age.<sup>[2]</sup> In etiology, factors that increase intravesical pressure such as obesity, weakness of the bladder and abdominal wall muscles, prostatic hypertrophy, and neurogenic bladder are thought to play a role.<sup>[3]</sup> Pre-operative diagnosis rates are <10% and patients are usually asymptomatic.<sup>[4]</sup> It presented rarely with the lower urinary tract symptoms such as dysuria, difficulty in micturition, double, or bifurcated urination. Spermatocele, epididymal cyst, and tumors should also be considered in the differential diagnosis. Therefore, it requires careful anamnesis, physical examination, and imaging.<sup>[4]</sup> In this study, we aimed to present a rare case of pantaloona hernia accompanied by bladder herniation in a patient who presented with symptoms of acute mechanical intestinal obstruction and strangulation, in the light of the literature.

## CASE REPORT

An 81-year-old male patient presented to the emergency department with complaints of swelling and pain in the right groin, nausea, and vomiting, and difficulty urinating. He had a history of hypertension, diabetes mellitus, amputation of the left big toe due to diabetic foot, and benign prostatic hypertrophy. The patient's height was 173 cm, weight was 86 kg, and body-mass index was 28.7 kg/m<sup>2</sup>. It was learned that he had swelling in the right groin that appeared with straining and regressed spontaneously for about 20 years, but the swelling did not regress in the last few hours, and he applied because of the increase in pain. In physical examination, the right hemiscrotum was swollen and painful on palpation, the abdomen was distended, and there was tenderness in the lower quadrants on palpation. In laboratory examinations; leukocytes: 15.9×10<sup>3</sup>/μL, blood urea nitrogen: 76 mg/dl, creatinine: 1.31 mg/dl, lactate dehydrogenase: 290 U/L, C-reactive protein: 17.4 mg/L, and lactate: 2.3 mg/dL.

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Address for correspondence: Mehmet Zeki Buldanlı, M.D.

Sağlık Bilimleri Üniversitesi Gülhane Eğitim ve Araştırma Hastanesi, Genel Cerrahi Kliniği, Ankara, Türkiye

Tel: +90 312 - 304 20 00 E-mail: buldanli87@hotmail.com

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**Figure 1.** Necrotic and aperistaltic segment of the ileum at laparotomy.

In the superficial ultrasonography examination performed for the right inguinoscrotal region; it was stated that the neck of the defect could not be evaluated clearly, small bowel loops herniated into the hernia sac and free fluid were observed, and no signal could be obtained with colored Doppler ultrasonography in herniated bowel loops. Emergency operation was decided, and the scrotal hernia sac was explored with the right inguinal anterior approach. The urinary catheter balloon was palpated in the hernia sac, but no strangulated ileum was observed. However, considering the spontaneous reduction of the strangulated ileum with the induction of anesthesia, midline laparotomy was decided. At laparotomy, approximately 40 cm segment of the terminal ileum was found to be necrotic and aperistaltic (Fig. 1). The segment was resected with the appropriate surgical margin and a side-to-side anastomosis was performed. The bladder was extraperitonized and the primary repair of the inguinal defect was performed with polypropylene sutures. The patient was taken to the surgical intensive care unit and transferred to the general surgery clinic 2 days later. The patient, whose diet was started on the 3rd post-operative day, was discharged on the 9th day with recovery.

## DISCUSSION

Due to its rarity, there is limited literature on inguinal herniation of the bladder, and most of the studies consist of case reports or series. It can herniate directly or indirectly into the inguinal canal due to reasons such as increased intravesical or

intra-abdominal pressure, weakness detrusor muscle in the bladder or abdominal wall muscles, and it is usually seen on the right side in elderly male and overweight patients.<sup>[5]</sup> In accordance with the literature, our case was over 50 years old, male, overweight, and laterally on the right side.

Although it is usually asymptomatic, patients rarely present with the lower urinary tract symptoms. However, in severe cases, it can progress to hydronephrosis and acute renal failure.<sup>[6]</sup> In our case, the complaint of difficulty in micturition, which was among the symptoms at presentation, was misleading in the differential diagnosis because the patient was diagnosed with comorbidity of benign prostatic hypertrophy. In ultrasonography, the suspicion of strangulation of the intestinal loops and free fluid was mentioned. Thus, an emergency surgery decision was made without additional imaging. It was concluded that bladder herniation was accompanied by palpation of the urinary catheter intraoperatively.

Although imaging is not required for the diagnosis of inguinal hernia in clinical practice, there are studies suggesting imaging for the confirmation of bladder herniation in patients with inguinal hernia over 50 years of age with symptoms of prostatism.<sup>[5,7]</sup> The importance of this situation will be understood more clearly when considering studies that could not be diagnosed preoperatively and that reported up to 12% intraoperative bladder injuries.<sup>[2,8,9]</sup> Although cystography is accepted as the gold standard in diagnosis, it should be known that contrast-enhanced computed tomography (CT) also has high sensitivity and should be used to confirm the preoperative diagnosis when clinical suspicion is required.<sup>[5,9,10]</sup> In our case, only superficial ultrasonographic imaging was used.

In incarcerated hernia cases, especially acute phase reactants and lactate levels can be used as a predictor for strangulation. In the study of Şahin et al.,<sup>[11]</sup> it was stated that the lactate level was  $\geq 1.46$  mg/dL which may be alerting for small bowel resection and high levels of White Blood Count (WBC) was also a possible predictor. In this study, it was observed that WBC counts, and lactate levels were elevated and consistent with the literature.

In treatment, repair can be made with open or laparoscopic techniques. The basic principle of treatment is the repair of the inguinal defect after reduction or resection of the bladder (bladder tumor, bladder diverticulum, necrosis in the bladder, etc.) if necessary. In our case, the bladder was reduced by extraperitonization, and an inguinal hernia repair was performed with an open technique. In the literature, there are studies reporting successful results with bladder repair and urinary catheter follow-up in case of intraoperative bladder injury.<sup>[4,5]</sup>

## Conclusion

Consequently, in elderly male patients with inguinal hernia who also have lower urinary tract symptoms, it should always

be kept in mind that a bladder may be present in the hernia sac, and the necessary preoperative imaging (cystography, ultrasonography, and CT) should not be avoided to prevent possible bladder injuries. It should also be kept in mind that viscus pathologies may accompany.

**Informed Consent:** Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

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**Conflict of Interest:** None declared.

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## REFERENCES

1. Levine B. Scrotal cystocele. *J Am Med Assoc* 1951;147:1439–41. [CrossRef]
2. Oruç MT, Akbulut Z, Ozozan O, Coşkun F. Urological findings in inguinal

- hernias: A case report and review of the literature. *Hernia* 2004;8:76–9.
3. Bolton DM, Joyce G. Vesical diverticulum extending into an inguinal hernia. *Br J Urol* 1994;73:323–4. [CrossRef]
4. Sarr A, Ondo CZ, Sow Y, Fall B, Thiam A, Sine B, et al. Inguinal hernia of the bladder: About 8 cases. *Pan Afr Med J* 2015;22:7. [CrossRef]
5. Branchu B, Renard Y, Larre S, Leon P. Diagnosis and treatment of inguinal hernia of the bladder: A systematic review of the past 10 years. *Turk J Urol* 2018;44:384–8. [CrossRef]
6. Güner E, Arıkan Y, İnal G, Özdemir O, Şeker KG, Sözen U, et al. Massive inguinoscrotal bladder hernia: 3 Cases and review of literature. *N J Urol* 2019;14:60–4.
7. Atalar MH, Eğılmez H, Ayan S. Radiologic findings at massive inguinoscrotal bladder herniation. *Turk Klin J Med Sci* 2008;28:223–6.
8. Catalano O. US evaluation of inguinoscrotal bladder hernias: Report of three cases. *Clin Imaging* 1997;21:126–8. [CrossRef]
9. Gomella LG, Spires SM, Burton JM, Ram MD, Flanigan RC. The surgical implications of herniation of the urinary bladder. *Arch Surg* 1985;120:964–7. [CrossRef]
10. Riquelme SH, Casares MM, Serrano JG. Ultrasonographic diagnosis of massive bladder hernia at the inguinoscrotal level: Report of a case. *Actas Urol Esp* 2000;24:825–8. [CrossRef]
11. Şahin M, Buluş H, Yavuz A, Türhan VB, Öztürk B, Kılıç NA, et al. The role of the lactate level in determining the risk rates of small bowel resection in incarcerated hernias. *Ulus Travma Acil Cerrahi Derg* 2020;26:593–9. [CrossRef]

## OLGU SUNUMU - ÖZ

### Strangüle ileum ansının eşlik ettiği nadir bir pantolon herni olgusu: Mesanenin inguinal herniasyonu

Dr. Mehmet Sabri Çiftçi,<sup>1</sup> Dr. Mehmet Zeki Buldanlı,<sup>1</sup> Dr. Burak Uçaner,<sup>1</sup> Dr. Vahit Onur Gül<sup>2</sup>

<sup>1</sup>Sağlık Bilimleri Üniversitesi Gülhane Eğitim ve Araştırma Hastanesi, Genel Cerrahi Kliniği, Ankara  
<sup>2</sup>Koru Ankara Hastanesi, Genel Cerrahi Kliniği, Ankara

Mesanenin inguinal kanal içine herniasyonu nadir görülen bir klinik antitedir ve tüm inguinal hernilerin yaklaşık %1–4'ünü oluşturmaktadır. Genellikle yaşlı erkek hastalarda ve sağ tarafta sık görülmektedir. Hastalar çoğunlukla asemptomatik olduğundan, intraoperatif olarak tanı almaktadır. Preoperatif süreçte tanının doğrulanması, olası mesane yaralanmalarının önüne geçebilmek adına önem teşkil etmektedir. Biz de bu çalışmamızda; akut mekanik intestinal obstrüksiyon ve strangülasyon semptomlarıyla acil servise başvuran hastada, mesane herniasyonunun eşlik ettiği nadir bir pantolon herni olgusunu literatür eşliğinde sunmayı amaçladık.

**Anahtar sözcükler:** İnguinal herni; mesane herniasyonu; pantolon herni; strangülasyon.

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