

*Case report***Retractile Inguinal Herniation of Bladder - Case Report**Emrah Dogan¹ and Ugur Taylan Bilgilişoy²¹Mugla Sitki Kocman University, Faculty of Medicine, Department of Radiology, ²Mugla Education and Research Hospital, Department of Urology, Mugla, Turkey**Abstract**

The retractile organ is a term generally used for testis. It refers to the displacement of the organ over time in a specific route along the inguinal canal. The condition that we encounter in our case is similar. Hence, we define this event as a retractile bladder. The inguinal canal becomes a flabby pouch because of the weakening of its walls. The bladder moves within the inguinal canal without strangulation. The purpose of our paper draws attention to this situation. Herein, we present a case of an 84-year-old patient with a left inguinal retractile bladder hernia accompanied by computed tomography and ultrasonography findings.

Keywords: Inguinal hernia, Computed tomography, Bladder hernia, Retractable

Introduction

The urinary bladder is an extraperitoneal triangular-shaped organ located in the pelvis. Suspensor ligaments, ureters, and urethra provide to stand urinary bladder in its normal position. In other words, the bladder is a

hanging organ. This mobility protects to bladder from traumatic stress. However, especially in elders, the bladder herniation becomes possible resulting from high bladder pressure and weakness of pelvic muscles [1]. The bladder can join 4 % of inguinal hernias. Inguinal bladder herniation is usually asymptomatic. The first case report belongs to Levine and published in 1951. In this subject, most of the information based on case reports [2,3].

The retractile organ is a term generally used for testis. It refers to the displacement of the organ over time in a specific route along the inguinal canal. The condition that we encounter in our case is a synonym for this. Hence, we define this event as a retractile bladder. The inguinal canal becomes a flabby pouch because of the weakening of its walls. The bladder moves within the inguinal canal without strangulation. The purpose of our paper draws attention to this situation. Herein, we present a case of an 84-year-old patient with a left inguinal retractile bladder hernia accompanied by computed tomography (CT) and ultrasonography (USG) findings.

Case report

84-year-old patient presented at the urology outpatient

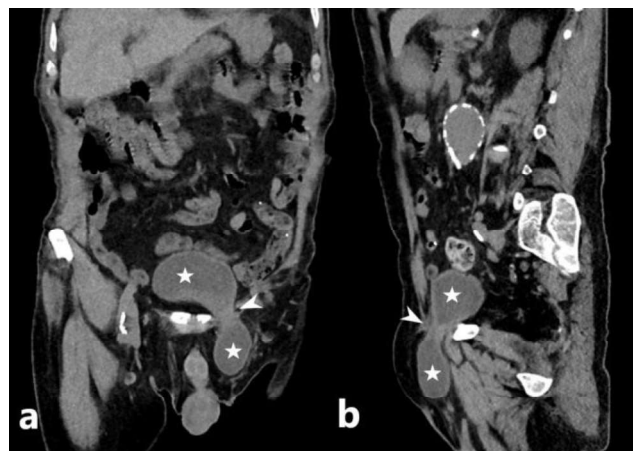


Fig. 1. Left inguinal bladder herniation and dumbbell sign in coronal (a) and sagittal (b) CT images. Bladder parts (stars) and trapped part in inguinal canal (arrowhead)

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clinic with complaints of difficulty in urination and swelling. The patient reported that his herniation is not stable and sometimes lost spontaneously. On the systemic physical exam, no remarkable feature. On the manual rectal examination, the anal tonus was normal. The prostate was large without palpable hard nodules. The patient was 1.74 cm in height and 86 kg in weight. Body mass index (BMI) was calculated in 28,4. He was in the overweighted group according to these values. Laboratory tests showed an elevated prostate-specific antigen (PSA) value of 15 ng/ml. USG was requested. Sonography showed a prostate of 117 gram. It was big in size. The urinary bladder was trabecular. The internal surface was irregular. Sonography after urination showed a high post-voiding residue of 132 cl. Bilaterally inguinal herniation was not observed in sonography. The patient was in control because of the history of old malignancy. Also, CT was requested.

In CT except for previously known aorta aneurism, it was verified that the prostate is big. The bladder herniated into the left inguinal canal and extended to the inferior ring [Figure 1]. There was no evidence of strangulation. In coronal and the sagittal image showed dumbbell-shaped bladder [Figure 2]. It was diagnosed as inguinal urinary bladder herniation.

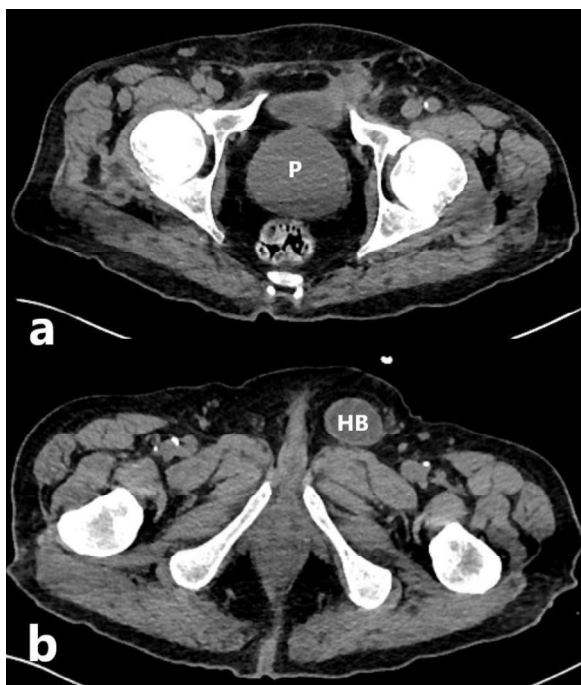


Fig. 2. As a triggered factor big prostate (a), and left inguinal herniation (b) in axial CT image. Abbreviations; P: Prostate HB: Herniated bladder

Surgery was recommended to the patient for the hernia. However, the patient refused the operation, saying that the hernia has been present for a long time. He discharged with medical treatment (α 1-blockers) and

was recommended control. He signed consent form on 20.01.2021 before preparing this case report.

Discussion

Bladder hernia is more common in males. Its frequency increases after the age of 50 [4]. It can be the inguinal, femoral, obturator, or scrotal type [5]. In the literature, incarcerated and complicated cases are usually reported. The self-reduced or retractile bladder is very uncommon. This condition indicated in this paper.

Many factors can trigger bladder herniation. Chronic bladder distension, loss of bladder tonus, large pelvic masses, and obesity are the main reasons. In other words, the reasons that increase the pressure of the intraabdominal region or bladder are predisposing factors. Our patient had a large prostate obstructing the bladder outflow tract. Also, He was elder [6]. Predisposing factors were present. Inguinal bladder hernia is usually asymptomatic. Expected clinical signs are dysuria, frequency of urination, urinary urgency, nocturia, and haematuria [7]. Our patient was asymptomatic. He presented to the hospital for his benign prostatic hyperplasia and routine control.

Any part of the bladder (diverticulum, part of the bladder, ureter, or the whole bladder) can be located in the hernia sac. If it descends into the scrotum, it is defined as a scrotal cystocele [8]. Only 7% of inguinal bladder hernias can be detected before surgery [4]. 16% of hernias cannot be noticed even during the operation. If postoperative urine leakage or bladder injury is detected, the presence of herniation can be understood [3]. The diagnosis can rarely be determined incidentally by USG, cystography or CT [6]. CT is accepted is the most useful method among radiological method. Most of the cases are noticed on CT. According to Branchu et al., CT can detect hernia at the rate of 47,9% [2]. Herniated and non-herniated part together with narrowed inguinal canal passage form a specific appearance. This appearance called dump-bell sign or dog ears sign seen in our case on CT is typical. If it is bilaterally, it called Micky-mouse in CT [9].

If the ureter is joined to the herniation, it can lead to hydronephrosis. CT is the best method to show hydronephrosis. CT should be requested before urinary disorders associated with inguinal hernia (Mery's Sign) [10]. Renal failure, urinary tract infections and bladder infarctions may occur as more serious complications resulting from obstructive uropathy and strangulation. In this case, open surgical repair is preferred [4].

A study in 2004 showed that 11.2% of inguinal bladder hernias were associated with urological malignancies and 23.5% with various complications [3].

Open surgical repair is the preferred treatment. Surgical approach technique varies according to the patient's condition and the presence of strangulation. Following

herniorrhaphy, either reduction or resection of the hernia is performed.

The defect can be repaired with or without mesh. Before the operation, every anatomical structure within the hernia sac should be clearly defined. In the past, resection of the herniated part of the bladder was preferred. Currently, bladder damage, neck necrosis, bladder tumours, diverticula and neck hernia smaller than 5 mm are indications for bladder resection. The bladder damaging is common during hernia surgery. It occurs in approximately 12% of operations [3,11].

Conclusion

Bladder hernia occurs resulting from the weakness of the bladder floor and increasing pressure of bladder. The detection rate before the operation is 7%. It is remarkable that this situation, which is anatomically and easily visualized, cannot be detected radiologically. Herein, we presented a bladder hernia in two different scans in 3 days. It was observed in CT but not in sonography. There was no evidence of strangulation. The bladder was retractile depend on the bladder fullness. Also, the patient's anamnesis was in this direction. This clinical picture was considered a retractile bladder.

Conflict of interest statement. None declared.

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*Case report***Rhabdomyolysis and Acute Kidney Injury in a Patient with Severe Form of Covid-19 Pneumonia - A Case Report**

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Abstract

Introduction. The ongoing pandemic with the novel Corona virus poses unprecedented challenges for the medical professionals worldwide. Acute kidney injury is frequently seen in patients infected with corona virus and often associated with a poor patient outcome. Rhabdomyolysis has been recognized as one of the possible contributing mechanisms.

Case. A 68-year-old man was referred to the emergency department complaining of a dry cough, myalgia, general weakness with devastated energy feeling, chest pain and difficulties in breathing, symptoms he experienced in the past five days. He also noticed that his urine was dark and in reduced amount. Quick antigen test for SARS CoV2 was performed, and the patient found Covid-19 positive. He was admitted at the hospital ward in a covid-designated unit. Laboratory findings revealed elevation of the inflammatory markers and electrolyte disbalance. Metabolic degradation products were markedly increased, serum urea was 44mmol/L (RF=2.7-7.8 mmol/L) and serum creatinine 689umol/L (RF=45-109umol/L), when deterioration of the kidney function was diagnosed. Urgent intermittent hemodialysis treatment was initiated. Patient suffered from a severe form of covid-19 pneumonia and was continuously on high flow oxygen mask. Duration of the patient hospitalization was 30 days, and thereafter, he was transferred to the rehabilitation center for 28 days. Complete restoration of the physical motion and activity was accomplished, oxygen support was no longer needed, since he maintained blood oxygen saturation above 95%. Renal function has also been recovered with degradation products maintained within normal ranges.

Conclusion. Rhabdomyolysis in covid-19 patients should be always kept in mind. Sometimes it can be an initial clinical manifestation in covid-19 patients [15], but on the other hand it can be presented as a late complication sometimes caused by the therapy itself. Multidisciplinary and comprehensive approach in the diagnosis, treat-

ment and follow up of the patients can only guarantee timely detection and wide range of therapeutical modality, leading to a better prognosis and outcome.

Keywords: Covid-19 infection, acute kidney injury, rhabdomyolysis, renal replacement therapy

Introduction

The ongoing pandemic with the novel Corona virus poses unprecedented challenges for the medical professionals worldwide. According to World Health Organization statistics, so far more than 186 million cases, and more than 4 million deaths were registered as a result of infection with SARS CoV-2 [1]. Corona virus infection has a wide range of symptoms, and the clinical manifestation can vary from asymptomatic and mild cases to severe forms of disease with severe pneumonia, acute respiratory distress syndrome (ARDS), respiratory and multiorgan failure [2,3]. What was initially considered an isolated respiratory issue affecting the airways, lungs and its blood vessels, was shortly thereafter proven wrong. Numerous extrapulmonary manifestations had been seen, including neurological, gastrointestinal, endocrinologic, cardiovascular, dermatologic, renal and many others [2,3].

Acute kidney injury is frequently seen in patients infected with corona virus and often associated with a poor patient outcome. Studies were conducted to establish whether it was result of a direct effect of the virus (renal tropism and replication of the virus in kidney epithelial cells), or a consequence of numerous indirect factors such as the inflammatory process itself (cytokine mediated injury), nephrotoxin exposure, hemodynamic disorders and other factors [4,5]. Rhabdomyolysis has been recognized as one of the possible contributing mechanisms [6]. It is a condition characterized by muscle injury that leads to necrosis of the myocytes and release of intracellular contents into the circulation. Often seen