Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Emergency Radiology

An Incisional Bladder Hernia Following Inguinal Bowel Hernia Reduction Surgery

AMSIGINE Najwa[1*], EL HOUSS Salma[1], HALFI Mohamed Ismail[1], Amrani Fatima Zahra[1]

[1]Department of Emergency Radiology, Hospital Ibn Sina, Faculty of medicine, Rabat, Morocco

DOI: 10.36347/sjmcr.2021.v09i12.026 | **Received:** 22.11.2021 | **Accepted:** 25.12.2021 | **Published:** 30.12.2021

***Corresponding author:** AMSIGINE Najwa

Abstract **Case Report**

An incisional hernia is an iatrogenic condition where an abdominal organ protrudes from its normal location via a defect of the abdominal fascia. The factors involved in it pathogenesis include one related with the patient and his medical history , others with his surgical history in addition to postoperative complications .The incidence of an incisional hernia is estimated to be about 4 % following abdominal operations even less after scarpa or inguinal related operations. Moreover, usually the small intestines are the most frequently herniated organs. The present report describes a case of incisional bladder hernia following an bowel hernia reduction, and also provides a review of the pertinent recent literature.

Keywords: Incisional bladder hernia, inguinal hernia reduction, surgery, CT scan.

INTRODUCTION

Inguinal bladder hernia is a rare condition despite the anatomical proximity of the bladder to the inguinal canal. If the diagnosis is known, catheterization is recommended prior to surgery hence the pivotal role of intervention radiology. In our case, the bladder herniates in the same surgical abort of a bowel hernia reduction realized few days ago. Prompt recognition of an incisional inguinal bladder herniation appropriate imaging prior to surgery can aid in planning for a modified surgical approach and lessen the reoccurrence of further organ herniation in such sites.

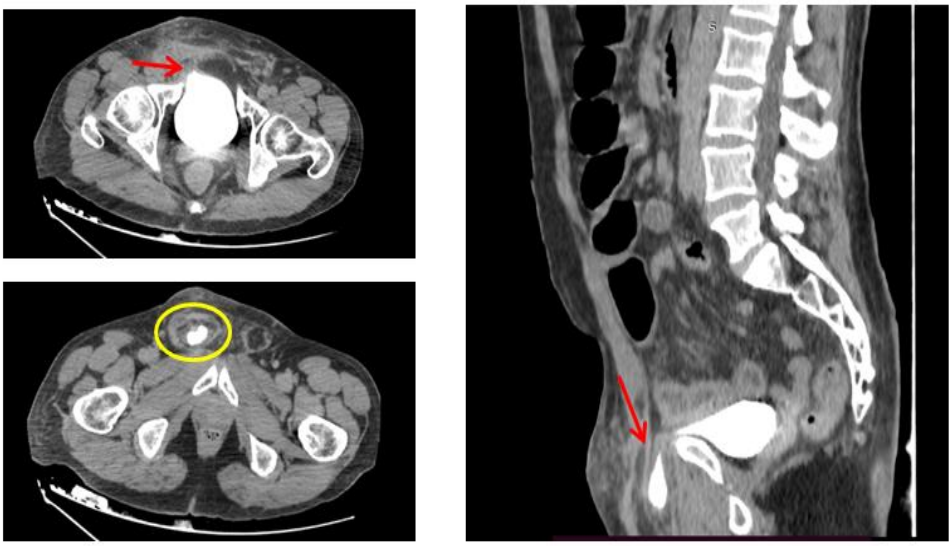
CASE REPORT

We report the case of a 68-year-old male with Parkinson's disease who has recently been subject to inguinal hernia reductions. He reports swelling at the scar of the incision, which he had undergone nearly 1week prior, and which was associated with radiating pain towards the penis when he pushed on the swelling. The scar was located at the inguinal region on the right side. Symptoms has evolved acutely with diffuse abdominal pain and frequent vomiting .The patient reported signs of dysuria.

Comorbidities included hypertension and Class 2 obesity with body mass index of 38. Physical exam was significant for obvious 7 cm right inguinal hernia bulge with tenderness to palpation. On attempt to reduce the hernia, the patient reported urinary urgency. Laboratory studies and urinalysis were within normal range.

Abdominal sonography and a computed tomography (CT) scan revealed right incisional inguinal hernia containing a portion of the urinary bladder, and surgery was performed. The herniated bladder was successfully replaced into the preperitoneal space, and the orifice was covered with a polypropylene mesh.

Postoperatively, the patient appeared well with minimal inguinal pain. His Foley catheter was removed and the patient was able to urinate without pain or difficulty. The incision was clean, dry, and with no signs of infection. Patient was able to ambulate and tolerate diet. Patient was discharged to home a couple days later.



Axial and sagittal contrast enhanced CT scan images revealing a complete herniation of the bladder (red arrows) with tunics thickening due to inflammation (yellow circle)

DISCUSSION

An incisional hernia is an iatrogenic condition where an abdominal organ protrudes from its normal anatomical whereabouts through an abnormality or a weakening of the abdominal fascia [1, 2].

It is usually considered that 1–3% of all inguinal hernias involve the bladder .it was reported an incidence of 10% in men older than 50 years. Most bladder hernias involve the inguinal (70%) and femoral canals (27 %), with the latter more frequent in women, and a predilection for the right side has been noticed [1]. In postsurgical related bladder hernias the incidence is estimated to be about 4 % following abdominal operations. Furthermore, a Japanese case study summarized 71 cases with bladder hernias, and reported that 66 (93.0%), three (4.2 %) and two (2.8 %) out of the 71 cases concerned the inguinal, femoral and perineal regions, respectively [2]

The pathophysiology of an inguinal bladder herniation involves such as the increase of pressure on the urinary organs with extrinsic forces such as the presence of a pelvic masse or intrinsic one such as the existence of urinary outlet obstruction causing chronic bladder distention and contact of the bladder wall with the hernia orifices , pulling of the bladder and a sheath of peritoneum that forms its sac through a weak point in the abdominal fascia , weakness of the bladder supporting structuresand pelvic musculature , obesity, and the presence of space-occupying pelvic masses [1-6].

In our case we can divide them into patient related factors such as poor healing of the wound due to obesity, the use of steroids, chronic illnesses like diabetes mellitus, chronic obstructive pulmonary disease,; surgery related factors : inappropriate technical procedure used for wound closure during previous operations and postoperative complications : wound infections, postoperative ileus, etc. Classically, bladder hernias are classified into three types; extra peritoneal, Para peritoneal and intraperitoneal, The Para peritoneal type is the most common. Our case was an extra peritoneal type, because the peritoneum was not involved [2].

Patients with large hernias may have specific symptoms, such as reduction in size of the hernia mass after micturition and two-stage micturition, a situation in which initially the patient empties the normally located bladder, then voids again after manual compression of the hernia sac [1]. Because the chief complaint of our case was swelling at the scar from an the bowel hernia reduction abdominal sonography and a CT scan were promptly applied, and the incisional bladder hernia was easily diagnosed. However, most cases of bladder hernia are not diagnosed preoperatively [2].

The differentiation between cystocele and bladder hernia is based on location of the protrusion on the bladder wall and on its direction; cystoceles are triangular and along the midline, whereas bladder hernias protrude laterally and inferiorly, and this can be easily seen on oblique [1, 2]. Thus, radiological imaging plays a crucial role as an accurate diagnostical tool. Only CT and US were used in our case ,since the acute status of the patient's symptoms, to identify the anatomical involvement of the bladder in the inguinal .

In massive scrotal hernia cases, bladder can protrude with the ureter causing hydronephrosis on the affected side can herniate with the bladder or independently, and can cause ureterovesicular obstruction with hydronephrosis on the involved side. In our case, no hydronephrosis was found, reflected by his normal raged blood creatine and urea [3].

Ultrasound may bring some indications to the diagnosis as showed in a study infesissizing the imput of the use dynamic US evaluation in athletic patients with complaints of persistent activity-related groin pain and who had a higher prevalence of inguinal hernia than an asymptomatic control population [4]. It is also the most accessible and cost-effective method, showing a hypoechoic mass protruding from the bladder to the inguinal canal [5].

Voiding cysto-urethrography revealing a "dumbbell" or "dog-ear" shape of the bladder is the most sensitive test for diagnosis of inguinal bladder hernia, and can confirm a diagnosis without additional need for CT .We recommend voiding cysto-urethrography in cases where the suspicion for inguinal bladder hernia is high, or in cases where initial imaging with ultrasound or CT is inconclusive [6].

CT scan is indicated in cases of obesity, males more than 50 years of age and presence of lower urinary tract symptoms. In case of bilateral bladder hernia, 'pelvic micky mouse sign' is demonstrated in CT scan [5].

It also relevant to high light the role of interventional radiology in such case where we can fluoroscopically reposition the urinary catheter, which resolved the patient's pain. The catheter will be at first situated at the base of the bladder with tight narrowing of the bladder as it extended into the inguinal canal. The catheter will be advanced into the distended herniated portion, decompressing the bladder within the right inguinal hernia [7].

Standard treatment of inguinal bladder hernia, whether it is incidental or not , involves bladder reduction or on rare occasion partial resection followed by hernia repair, which historically was done with a midline laparotomy but more recently has been done with an open inguinal incision or with a laparoscopic approach. Full bladder resection is only justified only in cases with bladder wall necrosis, a tight hernia neck, or tumor in the herniated bladder. Patients can also be treated conservatively with urethral catheterization to decompress and reduce the bladder. In our case, the surgical approach was adopted using normal saline was used to distend and better visualize the bladder and an open reduction and hernia repair with mesh was performed. Postoperatively, the patient recovered well without complications [6].

CONCLUSION

In conclusion, incisional bladder hernias are rare findings that often are secondary to fascia weakness or inappropriate technical procedure used for wound closure. To this day, reports of an incisional bladder hernia following abdominal surgery count for a little than hand full reports worldwide. In cases of high suspicion, preoperative imaging is crucial in order to avoid intraoperative iatrogenic damage of the bladder.

Conflict of Interests: The authors declare that there is no conflict of interests regarding the publication of this paper.

REERENCES

1. Bacigalupo, L. E., Bertolotto, M., Barbiera, F., Pavlica, P., Lagalla, R., Mucelli, R. S. P., & Derchi, L. E. (2005). Imaging of urinary bladder hernias. *American Journal of Roentgenology*, *184*(2), 546-551.
2. Sasaki, S., Miura, E., Nakayama, H., & Watanabe, T. (2014). An incisional bladder hernia following appendectomy: report of a case. *Surgery today*, *44*(10), 1953-1956.
3. Aras, B., Zeren, S., Ucar, B. I., Sanal, B., Bayhan, Z., Korkmaz, M., ... & Yucel, M. (2015). Massive inguinoscrotal bladder hernia causing hydronephrosis: Two cases. *International journal of surgery case reports*, *12*, 146-150.
4. Vasileff, W. K., Nekhline, M., Kolowich, P. A., Talpos, G. B., Eyler, W. R., & van Holsbeeck, M. (2017). Inguinal hernia in athletes: role of dynamic ultrasound. *Sports health*, *9*(5), 414-421.
5. Karanikas, M., Kofina, K., Foutzitzi, S., Deftereos, S., Effraemidou, E., Lyratzopoulos, N., & Polychronidis, A. (2020). Urinary bladder-containing incarcerated inguinoscrotal hernia: a case report. *Journal of Surgical Case Reports*, *2020*(11), rjaa092.
6. Elkbuli, A., Narvel, R. I., McKenney, M., & Boneva, D. (2019). Inguinal bladder hernia: a case report and literature review. *International journal of surgery case reports*, *58*, 208-211.
7. Tome, J., Neidert, N., & Szostek, J. (2021, January). Inguinoscrotal Bladder Hernia Causing Hydroureteronephrosis and Acute Kidney Injury. In *Mayo Clinic Proceedings* (Vol. 96, No. 1, pp. 18-19). Elsevier.