Bladder incarceration with perforation in scrotal herniation: A case report

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Abstract

Inguinoscrotal hernias containing urinary bladder are very rare. There are only a few cases described with perforation in the scrotum. This illness is a severe and should be kept in mind with any patient complaining of a scrotal hernia. We report a case of bladder perforation caused by inguinoscrotal hernia with incarceration and severe sepsis in a 93-year-old male. A computed tomography scan with excretory phase was used to diagnose the disease. A laparotomy with partial bladder resection and herniotomy were performed. Our patient recovered well from surgery. Ten days after surgery, a cystography was performed showing no extravasation.

Background

Inguinoscrotal hernia containing the urinary bladder is rare. The incidence may reach 10% among obese men over 50.[1,2] To the best of our knowledge, only a few cases have been published with bladder perforation in the scrotal hernia. Small bladder hernia is usually asymptomatic, whereas large hernias present with intermittent inguinal or scrotal bulking. Some patients complain of double voiding. The diagnosis is confirmed with cystography;[3] however, a computer tomography (CT) with contrast of the urinary tract can be done. We report the case of right scrotal bladder hernia with perforation and sever sepsis.

Case presentation

A 93-year-old man presented to the emergency unit with inguinal pain, a huge inguinal mass and fever. The patient was in a very good condition considering his age. He was on no medication and lived alone at home. He had a transurethral catheter due to prostatic enlargement; moreover, for years he had an inguinal hernia treated with a hernia bandage. The clinical examination revealed a right inguinoscrotal hernia with signs of incarceration and fever (Fig. 1). For this reason the general surgeon decided to do a CT scan and blood tests. The patient's serum chemistry showed highly elevated polymerase chain reaction (PCR) and leukocytosis. The CT scan showed a scrotal herniation of the bladder without bowel involvement (Fig. 2. Fig. 3). In the excretory phase of the CT scan, a bladder perforation was seen as the contrast passed over to the scrotum. The patient then was scheduled to the urology department for surgery. Under general anesthesia, the patient underwent a laparotomy. Most of the bladder seemed to be herniating in the scrotum. It was impossible to pull the bladder in the anatomic position. After this, an inguinoscrotal incision was made and the reposition of the bladder was possible. In the scrotum, massive inflammation with a lot of pus was found and drained. However, the testicles were not involved in the inflammatory disease. In exploration of the bladder, a 5-mm perforation was found so a part of the bladder was resected and closed with 3 layers (Fig. 4, Fig. 5). In the end, a hernioplasty was performed without using a mash because of massive inflammation. The patient remained under close postoperative medical observation and antibiotic treatment for 10 days. A cystography was performed showing no extravasation (Fig. 6). For further treatment of the patient's mild heart insufficiency, he was admitted to cardiology.

Discussion

Bladder involvement is seen in less than 4% of inguinal hernias. Bladder herniation occurs in an acquired direct inguinal hernia with the bladder pulled into the hernia, together with a sheath of peritoneum, which forms the sac. The pathogenic factors for bladder herniation include bladder outlet obstruction, sliding direct inguinal hernia, obesity and weakness of the pelvic musculature.[5] Most hernias are asymptomatic. In large hernias the classical symptom is a 2-stage urination in which the first stage is spontaneous and the second one is facilitated by manual compression of the scrotal mass.[6] In

Fig. 1. Right inguinoscrotal hernia with signs of inflammation.

some cases, only a large diverticle is herniated. In contrast in our case, most of the whole bladder was in the scrotum and, during the pathological examination of the resected part, the bladder muscle was found. Urinary tract infections are also typical among these patients.[7] Voiding cystography is the standard diagnostic tool for bladder herniation. However, a CT provides important information regarding concurrent hydronephrosis or bowel involvement.[8] Cystoscopy should be performed to exclude pathologic features in the bladder. Catherization before surgery should be done in any case. Similar to our case, Minordi and colleagues[9] reported a case with massive scrotal hernia complicated by bladder rupture. In such cases, bladder resection is performed. Repair an inguinoscrotal hernia containing the bladder and choosing the right type of surgical technique are great challenges for surgeons. The Lichtenstein open tension-free hernioplasty with a mesh seems to have good outcomes. The mesh is positioned in the pre-peritoneal space and decreases the tension on the weakened abdominal wall.[10] On the other hand, a mesh cannot be used in patients with acute inflammatory as in our case. In our case, we decided to do a direct hernia repair by suturing the abdominal wall.

Fig. 3. A computed tomography scan showing contrast in the scrotum.

Fig. 2. A computed tomography scan at the excretory phase showing contrast in the scrotum.

Conclusion

Bladder hernia, especially with bladder rupture, is rare. The clinical examination and cystography can be done to confirm the diagnosis. Surgical treatment is the standard treatment in these patients.

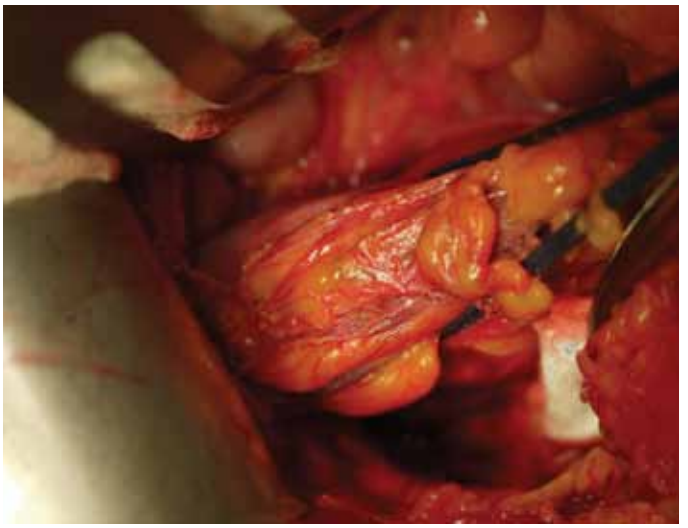

Fig. 4. Intra-operative view showing the bladder perforation.

Fig. 5. Perforation part of the bladder which was resected.

Competing interests: Dr. Kunit, Dr. Hruby, Dr. Schaetz, Dr. Janetschek and Dr. Lusuardi all declare no competing financial or personal interests.

This paper has been peer-reviewed.

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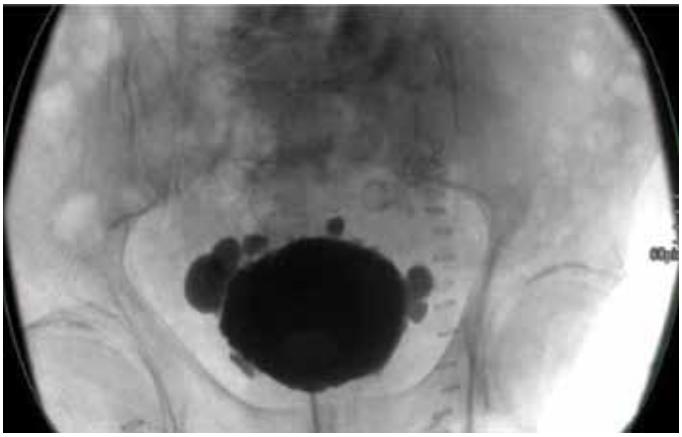

Fig. 6. Cystography without extravasation 10 days after surgery.

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