CASE REPORT

Obstructive uropathy secondary to inguinal bladder hernia: case report and review of the literature

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We report a case of a large inguino-scrotal bladder hernia presenting with obstructive lower urinary symptoms and causing massive unilateral uretero-hydronephrosis with ipsilateral renal function deterioration. Careful anamnesis and computer tomography (CT) scan of the abdomen and pelvis were important for the diagnosis. Open surgery with mesh hernia repair was successful. The obstructive lower tract symptoms subsided following surgery while the deteriorated renal unit regained only part of its function.

Key Words: inguinal, bladder, hernia, hydronephrosis

Introduction

Bladder association with inguinal hernias usually involves a small portion of the bladder in a sliding fashion and occurs in up to 4% of the cases with inguinal hernia. Involvement of a large part of the bladder is infrequent and usually presents with voiding symptoms and a large scrotal mass. Secondary ureteral obstruction and renal failure are rare.[1-3]

We report the case of a patient with inguino-scrotal hernia involving a large part of his bladder and left ureter, causing severe hydronephrosis and lower obstructive urinary symptoms.

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Case report

A 69-year-old patient presented at an elective outpatient visit with obstructive lower urinary tract symptoms. Physical examination revealed a large left inguino-scrotal hernia, non tender and non reducible. Rectal examination showed a slightly enlarged prostate, benign on palpation. Urinalysis, PSA and serum creatinine were normal. Ultrasonography showed severe left hydronephrosis. There was also a mild dilatation of the right upper collector system. During anamnesis the patient reported that exercising manual pressure on the left hemiscrotum during micturition augments the urinary stream and aids bladder emptying. Consequently, bladder involvement in the inguino-scrotal hernia was suspected.

Computer tomography (CT) scan of the abdomen and pelvis was performed in order to confirm the suspicion based on the clinical examination and

Figure 1. CT Scan of the scrotal area demonstrates left inguinal hernia containing urinary bladder (crossed arrows) and the left ureter (arrow).

anamnesis. CT scan showed that the left inguino scrotal hernia contains a large part of the bladder, left hemi-trigone and left ureter sliding into the left hemiscrotum, Figures 1 and 2, causing severe secondary uretero hydronephrosis and poorly functioning left kidney, Figure 3.

Surgical consult was obtained and the patient was scheduled for repair of the inguino-scrotal hernia. Stoppa inguinal hernia mesh repair was performed through a Pfannenstiel incision.[4] During surgery there was need for the opening of the left external inguinal ring in order to be able to achieve satisfactory reduction of the bladder and left ureter into the pelvis. After surgery, the patient recovered uneventfully.

After recovery, most of the obstructive lower urinary symptoms subsided.

Figure 2. CT Scan of the pelvis demonstrates the left ureter protruding into the right inguinal hernia sac (crossed arrows) while the right hemi trigone follows the right ureter (arrow)

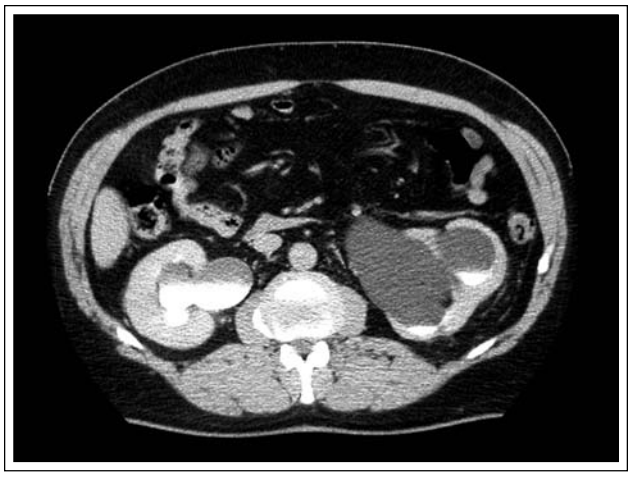

Figure 3. Massive left hydronephrosis demonstrated on the abdominal CT Scan with poorly functioning left kidney. There is mild to moderate hydronephrosis on the right side as well, with good kidney function though.

Four months after surgery, the patient voids without a postvoiding residue the right upper collector system is normal. The left kidney regained function but the collector system remained severely dilated.

Discussion

Bladder involvement in an inguinal hernia is not uncommon, occurring in 4% of hernias. Massive inguinal-scrotal herniation of the bladder is much less common.[1,3-5] In the presented case the hernia contained a large part of the bladder and the distal part of the left ureter.

The presentation of severe bladder herniation is variable and can be confusing. Patients may describe the need to compress the scrotum to complete voiding (two-stage micturition as the presented patient) and a decreased scrotal size after voiding or catheterization.[2-4]

Nonspecific symptoms such as frequency, hematuria, and nocturia can also occur. Many smaller hernias, however, have no symptoms aside from the scrotal mass.

In the presented case, CT revealed clearly that the massive bladder and left ureteral herniation caused the obstruction of the left ureter. To our knowledge it is the first case in the literature where associated ureteral herniation was also encountered.

Although both cystography and CT would show bladder herniation, CT gives additional information on associated bowel and ureteral involvement.[6]

We did not consider that previous decompression of the left collector system was necessary since the

surgery was done forthright and the serum renal function tests were normal.

Performing the surgery through a Pfannenstiel incision proved to be justified since there was a certain difficulty involved in the reduction of the bladder and ureter into the pelvis. In addition, the incision of the external inguinal orifice, made possible a relative non traumatic manual reposition of the bladder into the pelvis.

The relevant literature mentions cases where partial cystectomy was performed during the repair. We agree with other authors that partial bladder resection may be justified only in the case of necrosis of the bladder part involved in the hernia.[3]

Conclusion

Ureteral obstruction caused by bladder hernia is rare. Direct trigone and ureteral involvement – descent into the scrotal hernia with secondary obstruction and upper tract dilation is even rarer.

Good anamnesis and subsequent CT scan of the abdomen and pelvis are the keys for a prompt and detailed diagnosis.

Tension free hernia repair has to be performed, however in some cases difficulty in the reduction of the hernia contents into the pelvis may be encountered and additional maneuvers may be necessary. □

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