INTRODUCTION

Inguinal hernia is a common disorder which requires surgical repair. Many organs can be detected in the inguinal hernia sac, but bladder involvement (inguino-scrotal urinary bladder herniation; IBH) is a rare condition which is encountered in 1-4% of all inguinal hernia cases. However, among obese men aged between 50 and 70 years, the frequency increases to about 10%.\(^1\) IBH complicated with bladder stone is an extremely rare condition; and only a few cases have been reported in the English-based literature.\(^2\)

Herein, we report and discuss a case of IBH complicated with a big bladder stone and contralateral indirect inguinal bowel hernia. To the best of the authors’ knowledge, this is the first reported case in the literature.

CASE REPORT

Written informed consent was obtained from the patient to report this case study. A 68-year male, with a body mass index of 29 kg/m\(^2\), presented to the outpatient urology department with a 4-year history of right inguino-scrotal pain and swelling, which was gradually increasing in size, and of intermittent swelling in the left groin. Physical examination revealed right irreducible inguino-scrotal hernia and reducible left inguinal hernia extending to the groin. Computerised Tomography (CT) revealed that the right side of urinary bladder was herniating through the inguinal canal into the right hemiscrotum along with a 22 mm urinary bladder stone. The patient underwent bilateral Lichtenstein tension-free mesh hernioplasty through inguinal incisions and transurethral laser cystolithotripsy in the same session. To the best of the authors’ knowledge, this is the first reported case of bilateral inguinal hernia with concomitant bladder stone in the literature.

**Key Words:** Bladder hernia, Bladder stone, Bowel hernia.
were 0.8 Joule and 12 Hertz to achieve effective dusting. Milimetric particles were washed out to achieve complete clearance. Total operation time was 110 minutes (bilateral hernioplasty: 80 minutes and cystolithotripsy: 30 minutes). The post-operative recovery period was uneventful. Post-operative cystography was performed on 10th post-operative day and did not reveal any extra-vasation. Thus, urethral catheter was removed. Patient was started on alpha blocker treatment (Tamsulosin, 0.4 mg, once daily) after catheter removal. International prostate symptom score (IPSS) score was 6 and uroflowmetry revealed a Qmax value of 18 ml/s, on 1st month follow-up.

DISCUSSION

Inguino-scrotal urinary bladder herniation is a very rare pathology and only 74 cases have been reported in the literature, in the last 10 years. Most IBH cases are asymptomatic and usually diagnosed incidentally during radiological evaluation or at the time of the surgery due to the small intermittent nature of these hernias. The preoperative identification of IBH can prevent iatrogenic bladder injuries and modify operative management of the inguinal hernia. IBH can be subdivided into three types (extraperitoneal, intraperitoneal, and paraperitoneal) according to their relationship with the parietal peritoneum. The paraperitoneal type, in which the extra-peritoneal portion of the bladder lies along the medial wall of the sac, is the most common type of IBH. The present case can be classified as the extraperitoneal type, because the bladder was herniated directly into the inguinal canal without any relationship with the peritoneum. Pathophysiology of IBH might be related to the presence of bladder outlet obstruction (e.g. due to benign prostatic hypertrophy (BPH), obesity, chronically over distended bladder, prior surgeries or local trauma and weakness of supporting structures in the pelvic region. The presence of bilateral hernia suggested the weakness of supporting structures as an etiological factor. The presence of mild BPH related symptoms and the achievement of relief with alpha-blocker treatment in this patient supported this causation.

Complications of IBH include urinary tract infection, sepsis, obstructive uropathology, vesicoureteral reflux, renal failure, strangulation of bladder wall, bladder rupture, and bladder stones. Oruc and colleagues reported that 11.2% of 190 cases of inguinal hernias were associated with urological findings such as herniation of bladder, ureter, and diverticulum. They also found that 11.2% of these hernias were associated with urological malignancies and 23.5% of these were associated with a variety of complications. These complications can be fatal, so, it is very important to confirm the IBH diagnosis at an early stage. The present case was complicated with a big bladder stone. Also, the patient had contralateral inguinal bowel hernia. This point was the distinctive feature of our case among other cases in the literature. However, due to the afore-mentioned underlying factors, bilateral hernia can also be encountered, and should be kept in mind in such patients.

In patients undergoing inguinal hernia repair, only less than 7% of IBH cases are diagnosed preoperatively. Thus, it is important to maintain a high index of suspicion in high-risk patients with inguinal hernias. High-risk groups include obese men with urologic symptoms, men with prior inguinal hernia repairs, and men older than 50 years. In these patient populations, some authors recommend performing a CT scan before inguinal hernia repair to evaluate the contents of the hernia. Standard treatment of bladder and bowel hernia is either reduction or resection of herniated bladder or bowel, followed by hemiorrhaphy. The Lichtenstein tension-free mesh...
hernioplasty technique seems to be best option in most patients. In IBH surgery, bladder resection should be performed only for cases with a bladder wall necrosis, a tight hernial neck, or presence of a tumor in the herniated bladder sac.\textsuperscript{7,8} If the patient has inguinal bladder hernia, inguinal bowel hernia and bladder stone, these three different pathologies can be managed in a single session.

In conclusion, it is important that urologists and general surgeons should be aware of the IBS diagnosis, and its complications and coexistent pathologies. Preoperative identification of IBH is crucial to prevent iatrogenic injuries or even more severe complications.

REFERENCES


