Perforating urinary bladder foreign body managed with minimally invasive surgery

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ABSTRACT

Foreign bodies are occasionally reported in the urinary bladder, especially in females. The consequences and clinical impact depend on the route of insertion and the patient's hemodynamic condition, and their removal may include minimally invasive procedures to open cystostomy. In most cases, foreign bodies are removed through transurethral approach. Here, we report one such case of a foreign body in the urinary bladder, which was self-inserted and had perforated through the bladder wall, yet could be successfully managed by cystoscopic removal without any complications.

Key words: *Urinary bladder, Foreign body, Cystoscopy*

A foreign body in the urinary bladder is a rare occasion witnessed by both the surgeons and urologists. Intravesical or intraurethral foreign bodies are usually found as a result of iatrogenic injuries, self-insertion, sexual abuse, assault, and migration from adjacent sites, although migration from adjacent sites is rare [1]. A wide range of foreign bodies has been reported in the urinary bladder, including wooden sticks, thermometers, bullets, intrauterine contraceptive devices, encrusted sutures, surgical staples with stones, needles, pencils, gauze, screws, pessaries, ribbon gauze, parts of Foley catheters, broken parts of endoscopic instruments, and knotted suprapubic catheters [2]. Most of these patients may present with both irritative and obstructive lower urinary tract symptoms (urinary frequency, urgency, and urinary retention), hematuria, urinary incontinence, and chronic pelvic pain. Radiopaque foreign bodies will be seen on plain radiographs while ultrasonography will identify others. Urethrocystoscopy will visualize the object and its position in the urinary bladder [3]. The primary goal includes careful removal of the foreign body, causing minimal trauma to patients, and has to be individualized based on the nature, location, size of the foreign body, and the age of the patient. With the advancement of endoscopic procedures, open surgery is seldom required. The perceived benefits of minimally invasive surgery include less postoperative pain, shorter hospitalization, reduced morbidity, and better cosmesis while maintaining diagnostic accuracy and therapeutic outcome [4].

CASE REPORT

A 25-year-old female attended the emergency department with lower abdominal pain for 3 days and dysuria. There was no history of hematuria, recent instrumentation, or lithuria. No changes in bladder and bowel habits were noted. There was no history of any psychiatric illness or history of any medications in the past. General examination showed that the patient was dyspneic. Physical examination revealed no local rise of temperature and the abdomen was soft; however, suprapubic tenderness was present with a linear mass felt anterior to the vaginal vault. On systemic examination, there was a pan-systolic murmur. During further enquiry, she revealed a 2-month-old history of self-insertion of a foreign body (eyelid pencil) per urethra due to severe itching around the introitus followed by its disappearance. She had earlier disclosed the incident to family members, but her complaint was dismissed as she was asymptomatic. Further, the patient revealed that she had some congenital heart disease for which she was advised surgery at age 5 years.

She was admitted, intravenous fluids were administered, and baseline blood investigations were done, which revealed normal hemoglobin, total leukocyte count, and renal function tests. A microscopic urinalysis revealed 20–22 pus cells/hpf (high-power field), though urine culture was sterile. Transabdominal ultrasound was done which suggested one hyperechoic linear structure in urinary bladder, with upper end out of the bladder wall. Contrast-enhanced computed tomography (CECT) of whole abdomen with rectal contrast suggested a long linear foreign body of 11.5 cm length seen in the lumen of urinary bladder with tip penetrating the right lateral wall near the dome, with its tip being surrounded by inflamed mesentery, omentum, and thick-walled bowel (Figs. 1 and 2). 2D-Echocardiography revealed a 9 mm ventricular septal defect with the development of Eisenmenger's syndrome and severe pulmonary arterial hypertension.

In consultation with anesthetist, she was not deemed fit for general anesthesia with endotracheal intubation and cystoscopy under appropriate local anesthesia was done. A linear foreign body perforating the right posterolateral wall of the bladder was noted with major portion of foreign body inside the bladder (Figs. 3 and 4). The foreign body was removed (Fig. 5) with a grasper and a 20 Fr Foley's catheter was placed to drain the bladder. No repair of the perforation was carried out during the procedure.

The post-operative period was uneventful. There were no features of peritonitis or sepsis in post-operative period. The patient was allowed diet from the 2nd post-operative day. Repeat CECT of the abdomen and pelvis was done on the 5th post-operative day, which revealed an ill-defined conglomerated thickened bowel and omentum in the RIF and right side of the pelvis suspected to be inflammatory in nature. She was discharged on the 6th post-operative day in a hemodynamically stable condition with a catheter *in situ*. Foley's catheter was removed after 2 weeks on an outdoor visit. Total leukocyte count and urine analysis did not show any abnormality. She again followed up after 3 months without any fresh complaints.

Figure 1: Coronal view of contrast-enhanced computed tomography showing foreign body in urinary bladder

Figure 2: Reconstructed image of the previous view

DISCUSSION

Presenting complaints in patients with a foreign body in urinary bladder are urinary retention, dysuria, frequent urination, decreased urine volume, nocturia, hematuria, painful erection, as well as pain in the urethra and pelvis [5]. Urethral self-insertion of a foreign body in adults is usually done for erotic stimulation or by the mentally retarded. Going by the literature which shows male preponderance [6]; here, we have got a female with one such case in a tertiary care hospital in East India in 2 years.

The main mechanism was the insertion through urethra and the foreign body ascending up to reach the bladder. There is a

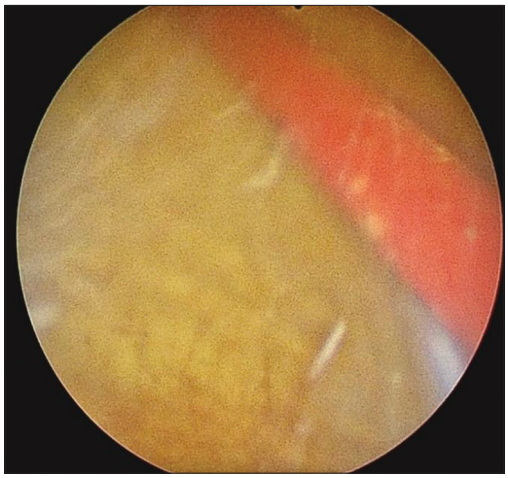

Figure 3: Cystoscopic view of the foreign body

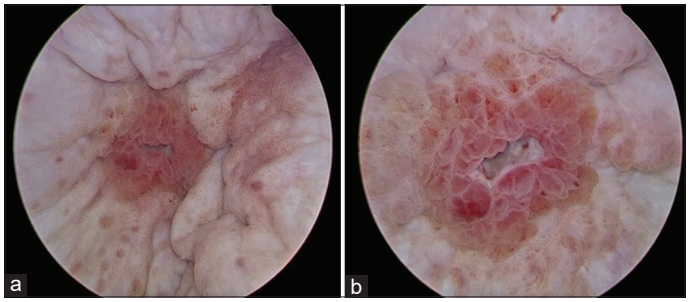

Figure 4: (a and b) Bladder wall perforation in the right posterolateral wall

Figure 5: Extracted foreign body

study conducted in females stating urethra being short provides an easy access for foreign body to ascend up and reach the bladder without causing much difficulty. Furthermore, due to low visibility of the urethra, a foreign body can be inserted in the urethra accidentally during masturbation [7].

Most intravesical foreign bodies can be removed transurethrally and with minimum access. The main aim of removal of foreign bodies from the bladder should be complete clearance with minimal damage rather than the type of procedure. Now in our case, one should ideally have gone for an open access to bladder, removal of foreign body, and check for any bowel perforation. We could not go for this as our patient was with ventricular septal defect with Eisenmenger syndrome, who otherwise would not have survived the general anesthesia. The fistula healed up after removing the foreign body with catheter *in situ* due to high vascularity of the bladder and dense fibrosis that was caused by the foreign body itself. Depending on the presumed size of the bladder defect, the bladder should be drained for 10–14 days and then assessed for healing through cystogram. Approximately 85% of such injuries will heal within 7–10 days, at which point, the catheter can be removed and a trial of voiding completed [8]. To avoid recurrence of such cases, a psychiatric evaluation of such patients must be done and patients must be counseled of such acts, if repeated, may be life threatening, leading to sepsis or even gangrene of the external genitalia.

CONCLUSION

Foreign bodies in the urinary bladder still remain a great challenge to the urologist. In almost all cases, the aim and objective of the intervention should be to remove the foreign body in toto, as retained parts of the foreign body can further complicate the situation. This can be done by either endoscopic or open procedure. Moreover, patients should be counseled about the complications associated with such acts and not to repeat such incidences in future.

ETHICAL STANDARDS

Informed consent has been obtained from the patient before discussing her case as a report.

AUTHORS' CONTRIBUTIONS

All authors have made a significant contribution to the findings and methods in the paper and have read and approved the final draft.

REFERENCES

1. Sukkarieh T, Smaldone M, Shah B. Multiple foreign bodies in the anterior andposterior urethra. Int Braz J Urol 2004;30:219-20.
2. Bansal A, Yadav P, Kumar M, *et al*. Foreign bodies in the urinary bladder and their management: A single-centre experience from North India. Int Neurourol J 2016;20:260-9.
3. Kesri G, Gupta P, Gupta HL, Sadasukhi TC, Dangayachi KK. An unusual self inflicted foreign body in the urinary bladder. Int J Med Pharm Case Rep 2015;4:68-71.
4. Rajan P, Turna B. New trends in minimally invasive urological surgery. Int Braz J Urol 2009;35:514-20.
5. Trehan RK, Haroon A, Memon S, Turner D. Successful removal of a telephone cable, a foreign body through the urethra into the bladder: A case report. J Med Case Rep 2007;1:153.
6. Shimokihar K, Kawahara T, Hayashi Y, *et al*. Foreign body in the bladder: A case report. Int J Surg Case Rep 2017;32:22-4.
7. Kochakarn W, Pummanagura W. Foreign bodies in the female urinary bladder: 20-year experience in Ramathibodi hospital. Asian J Surg 2008;31:130-3.
8. Cass AS, Luxenburg M. Management of extraperitoneal ruptures of bladder caused by external trauma. Urology 1989;33:179-83.

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