Case Report

Extraction of foreign body from the urinary bladder using nephroscope: A case report of endoscopy treatment

Abdulhkam Aljarbou, Ahmed Jamal Abdo, Mohammed Ali Almosa, Albara Hariri

Department of Urology, King Saud Medical City, Riyadh, Saudi Arabia

Abstract Transurethral foreign bodies (FBs) in the urinary tract are rare findings in a clinical setting. The most common cases are reported for FBs in the urinary bladder. The present report similarly aimed to examine a whole pen as a FB with a discussion about symptoms and complexities. Here, we significantly reported the management of pen extraction from the bladder of a female patient using nephroscope and proposed success with possible recommendations for treatment in future operations.

Keywords: Foreign bodies, nephroscopy extraction, pen, urinary bladder

Address for correspondence: Dr. Abdulhkam Aljarbou, Department of Urology, King Saud Medical City, Riyadh, Saudi Arabia.
E-mail: abdulhkamaljarbou@gmail.com
Received: 30.07.2022, **Accepted:** 27.09.2022, **Published:** 17.01.2023.

INTRODUCTION

The foreign bodies (FBs) in the genitourinary tract are a rare finding in emergencies. Despite the rising significance of emergent cases, the urethra and bladder were the most common organs reporting intrusion with FBs. These intrusions are associated with self-insertion, iatrogenic procedures, or foreign body insertion from another organ through migration. The FBs can either be a needle, wooden sticks, scalpel, pellets, pen, fetal bones, wires, and so on.

Moreover, the cause of self-insertion is mainly a psychiatric disorder and driven by the purpose of eroticism and sexual stimulation. The diagnosis sometimes remains delayed because of self-embarrassment. However, the chief complaints emerge as hematuria and dysuria, as reported from the several evidence on case studies of bladder operation and foreign body extraction.[1] Many reports on female patients are also submitted in the literature showing the possible prevalence. However, the most profound intervention for the management of such complications is the cystoscopy extraction intervention. Hence, we reported the effective nephroscopy extraction of FB (a pen) from the bladder that can demonstrate skills and practices with the successful implication of the surgical procedure.

CASE REPORT

The patient was a 17-year-old female and was admitted from the emergency department to our urology ward with a complaint of dysuria. Her symptoms were distressing with pelvic pain, hematuria, and suprapubic pain, followed by the insertion of the pen in the urinary bladder. The patient's physical examination revealed suprapubic tenderness bladder. In addition, the pelvic examination showed an intact hymen and no major damage to the reproductive organs. Similarly, the laboratory findings were unremarkable, except the presence of red blood cells in the urine sample.

Access this article online	
Quick Response Code:	Website: www.urologyannals.com
	DOI: 10.4103/ua.ua_109_22

How to cite this article: Aljarbou A, Abdo AJ, Almosa MA, Hariri A. Extraction of foreign body from the urinary bladder using nephroscope: A case report of endoscopy treatment. Urol Ann 2023;15:95-7.

Furthermore, the computed tomography of the bladder confirmed the presence of a foreign body in the urinary bladder [Figure 1]. After obtaining confirmed consent, the patient was shifted to the operative room; general anesthesia was given to the patient, preceded by the initiation of the operating procedure. A nephroscope size 26 French was intruded into the bladder transurethrally, and the pen was extracted by a grasper in its whole length [Figures 2 and 3]. About half an hour (30 min) was allocated to the operating procedure, and the surgery was successful with no severe complications. The patient showed a good operative recovery at the end of the period of care.

DISCUSSION

The foreign body insertion in the bladder poses a significant health complication with challenges in urological management. FBs have an etiology of iatrogenic, trauma, and migration from adjacent organs. The purpose is for sexual gratification and because of the psychogenic influence. There are various treatments for bladder-related complications as a result of FB intrusion, including laparoscopy, endoscopy, and open surgery-based removal.[1] However, the type of treatment varies with the size and mobility of the instrument since these decide the viability of the process. At present, endoscopic interventions are a profound and suitable option in urological practices. It can be performed with an associated cystoscope that visualizes the careful extraction during incision. It uses a range of instruments and tools such as baskets, forceps, clamshells, and grasping forceps as the surgical incision for crushing FBs. Apart from the complicated procedures and instruments, the success rate of cystoscope extraction of FBs from the urinary bladder can range from 50% to <90% success efficiency. There is evidence reporting the removal of a glass syringe and cutting loop using forceps and, similarly, using rigid tools for thermometers.[2] One of the common causes of pen-related insertion complications is associated with a longer length and possible perforation with a pointed tip. Our study used the nephoscope and grasper as an operative instrument for the removal of a pen. The pen was successfully extracted in the present case study. Increase length of the foreign body enhance higher risk of perforations. The purpose of the present study was, however, dedicated to the successful extraction of the pen from the bladder, and the results were found anticipated.

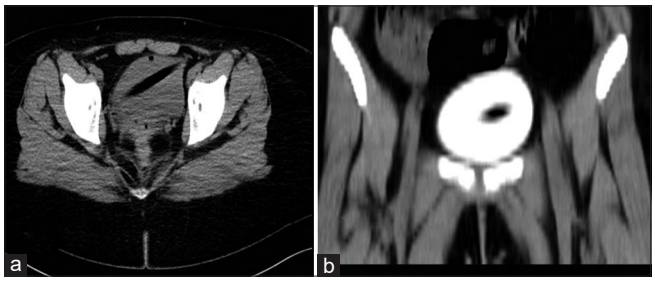

Figure 1: (a) Computed tomography showing the pen inside the urinary bladder, (b) Computed tomography cystogram integrity of urinary bladder without perforation

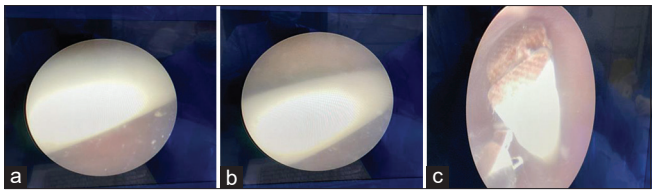

Figure 2: The steps of cystoscopy pen extraction from the bladder (a and b) demostrate the pen, (c) demonstrare removal of a forgin body

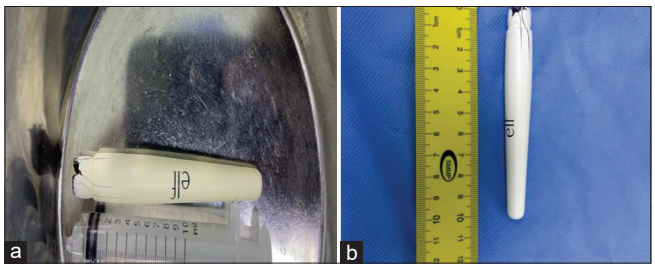

Figure 3: (a) The whole pen after cystoscopy extraction, (b) Length about 10 cm

Treatment interventions for foreign bodies in the bladder

The main purpose of endoscopy-based operating intervention is to reduce the complexity of open surgical incisions. On the other hand, some combined treatment options included percutaneous and urethral cystoscopy interventions. The procedure used the nephrolithotomy and forceps and was used for removing needle insertions. According to Younesi *et al*., the percutaneous suprapubic approach can be used to remove a foreign body using a nephroscope.[3] A nephroscope differs in its structure since it utilizes the magnifying glass, unlike the cystoscope, which is more invasive and envisages a clear illustration.

The development of the endoscope procedure was facilitated by identifying challenges during the surgical management of FB. The urologist found it difficult to remove the foreign objects because of a lack of competitive skills to prevent the harm and adverse effects of surgery. In addition, the surgical procedures themselves require additional resources and the availability of instruments and may impose an excessive cost burden. The inherent procedure of percutaneous suprapubic cystostomy is also anticipated if the management with endoscopy becomes difficult.[4] Besides, the laparoscopic procedures are also inclusive of managing the urinary bladder. Reddy and Daniel (2004) reported the use of the laparoscopy

technique as an innovative intervention with carbon dioxide insufflation to remove Blu-Tack™. The study was performed on a teenager, which led to no complications since the insufflation with carbon dioxide enabled the retrograde flow. Hence, the peri- and postoperative complications were avoided.[5] This type of approach is well suited for the present case management in terms of improvement. The insufflation technique during cystoscopy extraction can ease the removal of an object with a wider diameter and longer length.

Endoscopic retrieval is the best option for removing FBs with an appropriate diagnosis. The challenges are few compared to surgery-based techniques. Conclusively, nephroscope extraction can be used as an effective endoscopy procedure to overcome bladder severity and FBs' removal.

CONCLUSION

The present case report discussed an important case of FB insertion in the urinary bladder and the assisted management intervention. The successful procedure outcomes were established, and the need for surgical incision was avoided. There might be a few complexities during treatment. However, the report also suggested some other treatment options to better analyze the use of these procedures in reducing complexities.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published, and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Saputra HM, Kloping YP, Renaldo J, Hakim L. An earphone wire inside the urinary bladder: A case report and comprehensive literature review of genitourinary polyembolokoilamania. Radiol Case Rep 2022;17:1457-63.
2. Rahman NU, Elliott SP, McAninch JW. Self-inflicted male urethral foreign body insertion: Endoscopic management and complications. BJU Int 2004;94:1051-3.
3. Younesi M, Ahmadnia H, Asl Zare M. An unusual foreign body in the bladder and percutaneous removal. Urol J 2004;1:126-7.
4. Prasad S, Smith AM, Uson A, Melicow M, Lattimer JK. Foreign bodies in urinary bladder. Urology 1973;2:258-64.
5. Reddy BS, Daniel RD. A novel laparoscopic technique for removal of foreign bodies from the urinary bladder using carbon dioxide insufflation. Surg Laparosc Endosc Percutan Tech 2004;14:238-9.