

CASE REPORT

Cystoscopic extraction of an unusual intravesical foreign body: A case report

Mohannad N. AbuHaweeleh¹ | Majd Alkabbani² | Yaser M. Ata² | Ahmad Itani² | Abdulqadir Alobaidy²

¹College of Medicine, Qatar University, Doha, Qatar

²Department of Urology, Hamad Medical Corporation, Doha, Qatar

Correspondence

Mohannad N. AbuHaweeleh
Email: ma1908120@qu.edu.qa

Abstract

Background: Foreign bodies (FBs) in the urogenital tract are considered surgical emergencies due to the risk of complications such as perforation, infection, and obstruction. FBs can be introduced into the urethra and migrate into the bladder. Various FBs, including pens, jump ropes, magnetic ball chains, and needles have been reported in the literature. This case report aims to discuss the management of an older adult who self-inserted a FB into his urethra, which subsequently broke and lodged in the bladder.

Case Presentation: A 71-year-old man with a history of urethral stricture following transurethral resection of the prostate (TURP) presented to the emergency department after attempting self-catheterization using a silicone rubber rod. His medical history included stone formation, benign prostatic hyperplasia, and coronary artery disease managed with aspirin. He had undergone percutaneous cystolithotripsy, coronary artery bypass grafting, and TURP. Physical examination was unremarkable. Laboratory results showed hemoconcentration, elevated inflammatory markers, and a urinary tract infection caused by extended-spectrum beta-lactamase *Escherichia coli*. Computed tomography (CT) scan confirmed the presence of the FB in the bladder. The FB was successfully extracted using cystoscopy, a minimally invasive procedure, where it was crushed into smaller pieces with a Myomayer and removed with Crocodile forceps.

Conclusion: This case illustrates the successful use of minimally invasive cystoscopy for the extraction of a FB from the urinary bladder. The approach emphasized the importance of tailored surgical interventions and advanced imaging to ensure effective preoperative planning and minimize complications.

KEYWORDS

cystoscopic extraction, foreign body, intravesical foreign body, urinary bladder

1 | INTRODUCTION

Foreign bodies (FBs) are objects originating outside the body that are introduced into it, either accidentally or intentionally, and are not naturally found in the body. FBs in the urogenital tract are considered surgical

emergencies^[1] due to their potential to cause complications such as perforation, infection, and obstruction. These objects can be introduced into the urethra and migrate into the bladder (intravesical). Recent literature had reported several different types of foreign bodies inserted into the urethra, including pen^[2], jump rope^[3],

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magnetic balls chain^[4], needle^[1], plastic brush^[5], and others. The purpose behind inserting foreign objects into the urethra could be due to sexual satisfaction, psychological factors^[6], or simply out of curiosity. Here, we present our way of management of a case of an elderly adult who has inserted a silicone rubber rod into the urethra where it broke and dislodged intravesically.

2 | CASE PRESENTATION

A 71-year-old man with a history of acute urinary retention (AUR) presented to the emergency department with a foreign body lodged in the urethra following an attempt at self-catheterization using a silicone rubber rod. The patient presented with ongoing AUR, which may be attributable to a history of benign prostatic hyperplasia (BPH) previously managed with transurethral resection of the prostate (TURP). He was admitted to the urology ward for further evaluation and preparation for cystoscopic removal of the object. His medical history, apart from BPH, included nephrolithiasis and coronary artery disease managed with aspirin. Past surgical interventions included percutaneous cystolithotripsy 12 years ago, coronary artery bypass grafting three years ago, and TURP one year ago. The patient is an active smoker and consumes alcohol occasionally. Family history was non-contributory. Physical examination revealed stable vital signs with no abdominal tenderness or palpable masses.

Laboratory investigations are summarized in Table 1. X-ray pelvis showed no evidence of radiodense foreign body in the region of interest. Computed tomography (CT) scan of the pelvis showed a 5.24 cm × 1.15 cm rectangular foreign body in the anterior part of the bladder with air entrapment (Figure 1). No foreign bodies were seen along the course of the urethra. This suggests the silicone rod migrated from the urethra to the bladder after breaking during self-catheterization. The patient started on ertapenem since antimicrobial resistance testing showed that the organism was susceptible to ertapenem. Cystoscopy was chosen as it serves both diagnostic and therapeutic purposes, allowing direct visualization and potential removal of the FB.

3 | SURGICAL TECHNIQUE

Patient underwent cystoscopic extraction of the foreign body using a 22 French cystoscope which was introduced into the urethra, reaching the urinary bladder. The bladder showed multiple diverticula. The urethra was normal upon removal of scope. After identifying the foreign body (Supporting Information S1 and S2: Video 1), a 25 French stone punch Myomayer was introduced, and it crushed the foreign

TABLE 1 Laboratory investigations on admission.

Parameter	Value	Reference range
Blood work up		
WBC	$9.0 \times 10^3/\mu\text{L}$	$4.0\text{--}10.0 \times 10^3/\mu\text{L}$
Hgb	14.7 gm/dL	13.0–17 gm/dL
CRP	7.3 mg/L	≤ 5 mg/L
Creatinine	100 $\mu\text{mol/L}$	62–106 $\mu\text{mol/L}$
Urine microscopy		
RBC	364 μL	≤ 9 μL
WBC	1196 μL	≤ 9 μL
Urine culture	Extended-spectrum beta-lactamase <i>E. coli</i>	

Abbreviations: CRP, c-reactive protein; Hgb, hemoglobin; RBC, red blood cells; WBC, white blood cells.



FIGURE 1 Computed tomography scan of the pelvis showing a rectangular foreign body in the anterior bladder (arrow) with air entrapment (arrowhead).

body (Supporting Information S1 and S3: Video 2). Afterward, the Myomayer was removed, and a crocodile forceps was introduced to clamp and extract the foreign body through the urethra (Supporting Information S1 and S4: Video 3). The bladder was inspected again; small fragments were evacuated through the sheath. There were no further fragments left inside the bladder. Foley catheter size 16 French was inserted afterwards. Minimally invasive surgery successfully achieved complete foreign body removal without complications (Figure 2). Post-operatively, the patient was stable with no signs of infection or urinary complications and reported psychological relief from the removal of the foreign object. A follow-up visit was scheduled in one week to assess bladder function.



FIGURE 2 Gross image of the silicone rod and its fragments after removal.

4 | DISCUSSION

Over the years, foreign bodies have been increasingly reported^[3]. The condition is usually approximately twice as common in males as in females^[1], which could be explained by the length of the urethra which is longer in males than in females^[5]. The extended length and segmented structure of the male urethra provide a pathway that can accommodate various objects, facilitating practices like urethral sounding for sexual stimulation. Foreign bodies in the urinary bladder may remain asymptomatic^[7] or present with urinary symptoms including frequency, dysuria, hematuria, incontinence, external genitalia swelling or acute urinary retention^[5]. Bansal et al. reported some complications, including recurrent urinary tract infections, bladder wall tear, urethral mucosal injury, urine leakage from the suprapubic site, vesicovaginal fistula, and urethral stricture, according to the Clavien-Dindo classification system^[7].

Different diagnostic modalities can be used to diagnose foreign body presence in the urinary bladder. Pelvic X-ray can be used to detect radiopaque intravesical foreign bodies. Ultrasonography and CT scans can be used for assessing the size, shape, and exact location of the foreign bodies. Cystoscopy is also essential for the diagnosis and management of intravesical foreign bodies^[3].

With the development of minimally invasive endoscopic procedures, open approach became unnecessary unless endoscopic intervention fails to remove the foreign body^[8]. Nevertheless, the most suitable approach depends on several factors, including the patient's overall health, any accompanying urinary tract injuries, as well as the size, shape, and material of the foreign body^[3]. Using a cystoscope enables visualization and extraction of foreign bodies with the help of surgical instruments, including

baskets, forceps, clamshells, and grasping tools. Success rates vary widely, typically ranging from 50% to 90%, depending on the case^[1].

5 | CONCLUSION

We report a case of a 71-year-old male who has self-inserted a silicone rubber rod into his urethra, reaching the bladder. CT scan confirmed the rod's presence intravesically. Surgical extraction via cystoscopy and forceps was successful. This case highlights the importance of early detection and minimally invasive management to reduce the risk of complications. This case underscores the effectiveness of minimally invasive techniques, such as cystoscopic extraction, in reducing morbidity associated with open surgical approaches.

AUTHOR CONTRIBUTIONS

The authors confirm their contributions to this paper as follows: Mohannad N. AbuHaweeleh, Majd Alkabbani, Yaser M. Ata, Ahmad Itani, and Abdulqadir Alobaidy were involved in the study conception and design, data collection, and analysis and interpretation of results, with the draft manuscript prepared by Mohannad N. AbuHaweeleh. All authors reviewed the results and approved the final version of the manuscript.

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The authors have nothing to report.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

All data generated or analyzed during this study are included in this article. Further enquiries can be directed to the corresponding author.

ETHICS STATEMENT

This case has been reviewed and approved by the Institutional Review Board (IRB) under approval number MRC-04-25-758, ensuring adherence to ethical guidelines and participant safety protocols. Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

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SUPPORTING INFORMATION

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