

## SELF-INSERTED FOREIGN BODY IN THE URINARY BLADDER IN AN ADOLESCENT: A CASE REPORT

### SAMOINICIRANA INSERCIJA STRANOG TELA U MOKRAČNU BEŠIKU KOD ADOLESCENTNA: PRIKAZ SLUČAJA

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**Summary Introduction:** Foreign bodies in the urinary bladder are an uncommon urological emergency. Most cases of foreign bodies in the urethra or bladder are self-inserted, with a wide variety of objects being described. Foreign bodies in the urinary bladder are most commonly managed with cystoscopic extraction due to its safety and low complication rates. Surgical exploration is reserved for cases in which endoscopic removal is unsuccessful or carries a high risk of injury.

**Case outline:** We present the case of a 17-year-old adolescent who reported self-inserting foreign body like a “rubber lace” into the bladder several hours before admission. Radiography of the urogenital tract revealed no signs of a foreign body in the bladder. Ultrasonography demonstrated a well-defined intraluminal structure measuring approximately 9 mm in diameter. The patient underwent explorative cystoscopy which revealed a foreign body resembling a rubber lace, measuring 25 cm in length and more than 1 cm in thickness. Attempted endoscopic extraction was unsuccessful, therefore open cystostomy was performed. During hospitalization, the patient underwent a psychological evaluation.

**Conclusion:** Foreign bodies in the urinary bladder require an individualized diagnostic and therapeutic approach. While cystoscopic extraction remains the preferred first-line treatment, cystostomy represents a safe and effective alternative when endoscopic removal is not possible. Psychological evaluation is essential in identifying underlying causes and preventing recurrence.

**Keywords:** foreign body, urinary bladder, cystoscopy, cystostomy, adolescent.

**Sažetak Uvod:** Strana tela u mokračnoj bešici su retka urološka hitna stanja. Većina slučajeva stranih tela u uretri ili bešici su samostalno umetnuta, pri čemu se opisuje širok spektar različitih objekata. Strana tela u mokračnoj bešici se najčešće leče cistoskopskom ekstrakcijom zbog njene bezbednosti i niske stope komplikacija. Hirurška eksploracija je rezervisana za slučajeve u kojima je endoskopsko uklanjanje neuspešno ili nosi visok rizik od povreda.

**Prikaz slučaja:** Prikazan je slučaj adolescenta uzrasta od 17 godina koji je prijavio da je samostalno insertovao strano telo poput „gumene pertle“ u bešiku nekoliko sati pre prijema. Radiografija urogenitalnog trakta nije otkrila znakove stranog tela u bešici. Ultrasonografija je pokazala dobro definisanu intraluminalnu strukturu prečnika približno 9 mm. Pacijent je podvrgnut eksplorativnoj cistoskopiji koja je otkrila strano telo koje podseća na gumenu pertlu, dužine 25 cm i debljine više od 1 cm. Pokušaj endoskopske ekstrakcije nije bio uspešan, pa je izvršena otvorena cistostomija. Tokom hospitalizacije, pacijent je podvrgnut psihološkoj proceni.

**Zaključak:** Strana tela u mokračnoj bešici zahtevaju individualizovani dijagnostički i terapijski pristup. Dok cistoskopska ekstrakcija ostaje preferirani tretman prve linije, cistostomija predstavlja bezbednu i efikasnu alternativu kada endoskopsko uklanjanje nije moguće. Psihološka procena je neophodna u identifikovanju osnovnih uzroka i sprečavanju recidiva.

**Ključne reči:** strano telo, mokračna bešika, cistoskopija, cistostomija, adolescent.

## INTRODUCTION

Foreign bodies in the bladder are uncommon, most often reported in the literature as individual case reports (1,2). Most cases of foreign bodies in the urethra or bladder are self-inflicted and are mainly associated with autoerotism, psychiatric disorders, and drug intoxication (3,4). Previous reports have described a wide variety of foreign bodies in the urinary bladder, including self-inserted objects such as pins, electrical wires, screws, olive seeds, ballpoint pens, mobile phone chargers and their cables, thermometers, eyelid pencils, light bulbs, household batteries, hairballs, and chicken and fish bones, as well as iatrogenic or retained items including fragments of Foley catheters, intrauterine contraceptive devices, retained surgical gauze, orthopedic screws, and broken parts of endoscopic instruments (4-6).

Foreign objects in the bladder are often associated with urinary tract infection, hematuria, dysuria, increased urinary frequency, stricture, fistula, and pain (1,4,7). Foreign bodies in the urinary bladder are most commonly managed using

minimally invasive techniques, with cystoscopic extraction being the preferred first-line approach due to its safety and low complication rates (1,8,9). Surgical exploration is reserved for cases in which endoscopic removal is unsuccessful or carries a high risk of injury (1,5).

We report a case of an adolescent boy with a self-inserted foreign body in the urinary bladder that could not be managed with cystoscopic extraction and therefore required surgical intervention.

## CASE PRESENTATION

A 17-year-old adolescent boy was admitted to the University Children's Hospital in Belgrade as an emergency case due to a suspected foreign body in the urinary bladder. He reported self-insertion of the foreign body like “rubber lace” approximately 15-20 cm in length into his urethra several hours before admission.

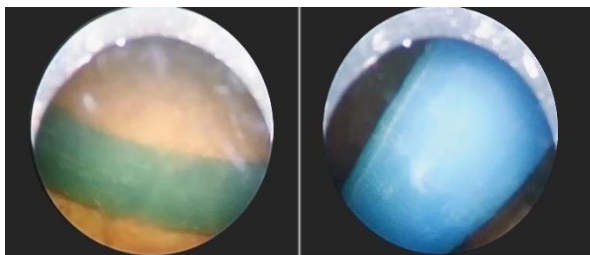
### Clinical and diagnostic examination

At admission, he complained of urinary retention, and the urinary catheter was inserted. Physical and local examination was unremarkable, and the foreign body was not visualized in the urethra. For further evaluation imaging methods were performed. Radiography of the urogenital tract revealed no signs of a foreign body in the bladder. Ultrasonography demonstrated echogenic intravesical content with a well-defined intraluminal structure measuring approximately 9 mm in diameter, consistent with the reported foreign body. Both kidneys were normal in size, position, and morphology, without dilatation of the pelvicalyceal systems.

Based on the patient's history, clinical findings, and imaging findings, surgical treatment was indicated.

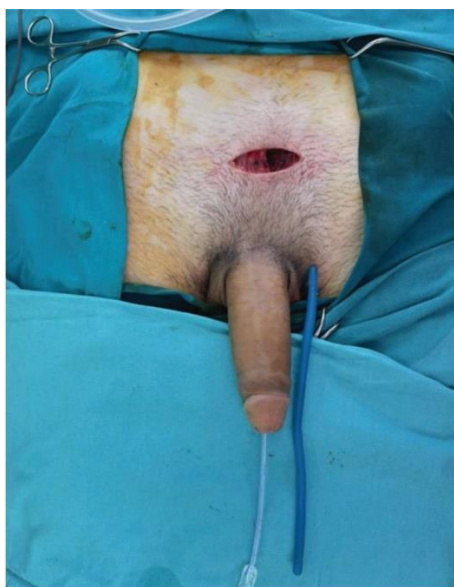
### Surgical treatment

Following appropriate preoperative preparation, the patient underwent exploratory cystoscopy which revealed a foreign body resembling a rubber lace, measuring 25 cm in length and more than 1 cm in thickness (Figure 1). Attempted endoscopic extraction was unsuccessful, therefore open cystostomy was performed. With this procedure, the foreign body was successfully extracted with the placement of a 14 Fr urinary catheter (Figure 2). The bladder and abdominal wall were reconstructed in anatomical layers.



**Figure 1** Cystoscopic visualization of the intravesical foreign body resembling a rubber lace.

**Slika 1.** Cistoskopski prikaz stranog tela u mokraćnoj bešici nalik gumenoj pertli.



**Figure 2** Intraoperative view following cystostomy showing the extracted foreign body and urinary catheter in place.

**Slika 2.** Intraoperativni prikaz nakon cistostomije sa uklonjenim stranim telom i postavljenim urinarnim kateterom.

### Postoperative course

The postoperative period was uneventful and without complications. The patient received intravenous fluids, analgesics and antibiotic therapy (Ceftriaxone and Amikacin), followed by oral antibiotics. The urinary catheter was maintained for three weeks, after which it was removed and the patient established a regular voiding pattern.

During hospitalization, a psychological evaluation was performed. The patient was a high school student with excellent academic performance, no prior psychiatric history, and appropriate social and family functioning. He demonstrated generally adequate socio-emotional adaptation, although a tendency toward impulsive behavior was noted. The patient described the incident as an experiment that got out of control. Psychoeducation was provided, and further outpatient psychiatric evaluation was recommended after discharge.

### DISCUSSION

Foreign bodies in the urinary bladder represent a rare urological condition (10). Available literature indicates that such cases are more common in the adult male population, although they can occur at any age (7). The etiology is frequently associated with autoerotic behavior, psychiatric disorders, impulsivity, or substance abuse (3,4). Fotovat et al. (7) reported that approximately one-third of these patients had a positive history of severe mental illness. In children, curiosity and inquisitiveness are considered the main reasons for self-insertion of foreign bodies into the urethra (11). Further psychiatric evaluation of these patients is important in preventing recurrence (1).

The clinical presentation of intravesical foreign body is variable and depends on the type of the foreign body and the time elapsed from insertion to admission (12). Previously reported cases often describe delayed presentation due to embarrassment or until the onset of symptoms (1,12-14). Presenting complaints in patients with a foreign body may include urinary retention, dysuria, frequent urination, decreased urine volume, nocturia, hematuria, painful erection, as well as urethral and pelvic pain (11,14). In the present case, acute urinary retention was the leading symptom, which prompted urgent medical evaluation.

Plain radiography and ultrasonography of the pelvis are mostly used for diagnosis (13,14). Our case demonstrates the limitations of radiography in detecting radiolucent foreign bodies in the urinary bladder. In our patient, ultrasonography was essential in confirming the presence of the foreign body after negative radiographic findings.

The choice of treatment depends on the nature of the foreign body, as well as its size and mobility (2,12). Cystoscopic extraction is considered the method of choice in most cases (2,5,13). Venkataramani et al. (2) reported variable success rates of this approach, exceeding 50% in published studies. In our case, due to the size of the foreign body, endoscopic extraction was not possible, and cystostomy was performed. After endoscopic evaluation, transvesical approaches such as suprapubic cystostomy should be favored in cases of difficult transurethral extraction or suspected bladder injury, as they represent a safe and effective method for foreign body removal (13,14).

## CONCLUSION

Foreign bodies in the urinary bladder, although rare, require a careful and individualized diagnostic and therapeutic approach. While cystoscopic extraction remains the preferred first-line treatment, open surgical approaches such as cystostomy represent a safe and effective alternative when endoscopic removal is not possible. In addition, psychological evaluation plays a crucial role in identifying underlying causes and preventing recurrence.

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