Foreign body remained in urethra for 12 years: a rare presentation of a common problem with a short review of the literature

12 yıl uretrada kalmış yabancı cisim: literatürün kısa bir derlemesi ile birlikte yaygın bir problemin ender sunumu

Saurabh Sudhir Chipde, Manas Ranjan Pradhan, Abhishek Yadav, Rohit Kapoor, Rakesh Kapoor

ABSTRACT

Although there are many case reports of foreign bodies in the urethra, the literature represents the tip of the iceberg. Patients usually do not seek medical advice due to embarrassment and present to physicians after several days. We report a case in which a young patient reported to us with periurethral abscess and acute urinary retention. History revealed the insertion of the ink cartridge of a sketch pen into the urethra during masturbation, 12 years before. X-ray and retrograde urethrogram showed multiple radio-opaque foreign bodies in the urethra. We performed incision and drainage, suprapubic catheterization and urethrostomy as an emergency procedure, followed by two-stage urethroplasty. A variety of the objects have been found in the urethra. Self-insertion of foreign bodies into the urethra is usually associated with autoerotic gratification, psychiatric disorders or intoxication. A high degree of suspicion and proper patient history are required to diagnose the condition. The main therapeutic approach is endoscopic, but extensive surgeries are sometimes required. We reviewed the literature thoroughly using PubMed and summarized the causes, diagnoses and management options for this condition. We found our case to be one of the longest standing foreign bodies in the male urethra reported to date.

Key words: Foreign body; urethral stones; urethroplasty

ÖZET

Uretrada yabancı cisime ilişkin birçok olgu raporu bulunmasına rağmen, literatür sadece buz dağının tepesini yansıtmaktadır. Hastalar utanmaları nedeniyle genellikle tıbbi yardım aramaz ve doktorlara günler sonra giderler. Periüretral apse ve akut idrar retansiyonu bildiren genç bir hasta olgusunu sunmaktayız. Öykü 12 yıl önce masturbasyon sırasında bir çizim kaleminin mürekkep ucunun üretraya kendisi tarafından sokulduğunu ortaya koydu. Röntgen ve retrograd uretrogram uretrada çok sayıda radyo-opak yabancı cisim gösterdi. Acil işlem olarak kesi ve drenaj, supra pubik kateterizasyon ve uretrostomi ve daha sonra iki aşamalı uretroplasti yaptık. Uretrada çeşitli nesneler bulunmaktadır. Kişinin kendisi tarafından üretraya yabancı cisim sokulması genellikle kendi kendini tatmin, psikiyatrik hastalıklar veya intoksikasyon ile ilişkilidir. Bu durumun tanısı için yüksek düzeyde şüphelenme ve uygun öykü alınması gerekmektedir. Başlıca tedavi yaklaşımı endoskopiktir, fakat bazen geniş cerrahiler gerekmektedir. Literatürü Pubmed'de etraflıca gözden geçirdik ve bu durumun nedenlerini, tanısını ve yanı sıra tedavi seçeneklerini özetledik. Olgumuzun şu ana kadar rapor edilmiş erkek üretrasında en uzun süre kalan yabancı cisim olgularından biri olduğunu bulduk.

Anahtar sözcükler: Uretroplasti; üretra taşları; yabancı cisim

Department of Urology and Kidney Transplant, Sanjay Gandhi Post Graduate Institute of Medical Sciences Lucknow, India

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Correspondence:
Rakesh Kapoor
Department of Urology and Renal Transplantation, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Raibarelly Road 226014 Lucknow, India
Phone: 91-9415410130
E-mail: rkapoor@sgpgi.ac.in

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Introduction

Numerous cases of foreign bodies in the urethra have been reported in the literature. Patients often present with dysuria, hematuria, pyuria, urinary frequency, urinary retention, penile swelling and urethral fistulas.[1,2] They usually do not seek medical advice initially due to embarrassment and present to medical practitioners after several days. We report a case of a very long-standing foreign body in the urethra, which was present for a period of 12 years and was calcified in that time.

Case report

A 30-year-old man presented to us with complaints of a high-grade fever, scrotal swelling

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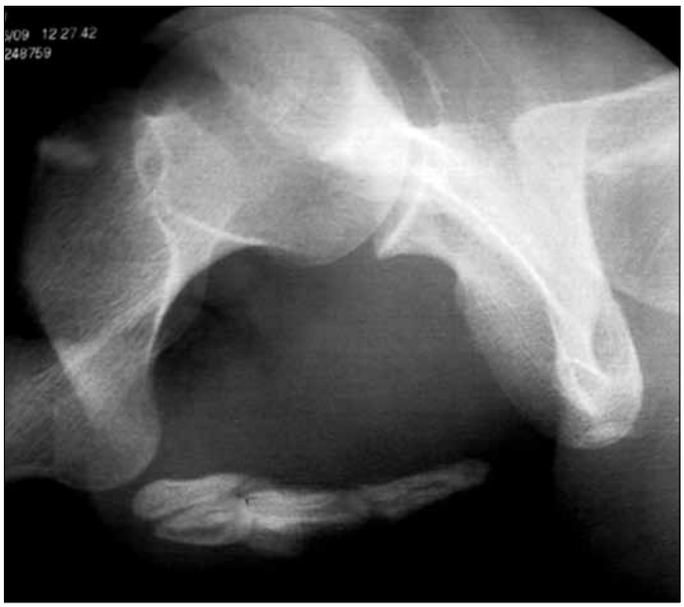

Figure 1. Plain X-Ray of the hip showing calcification in the urethra

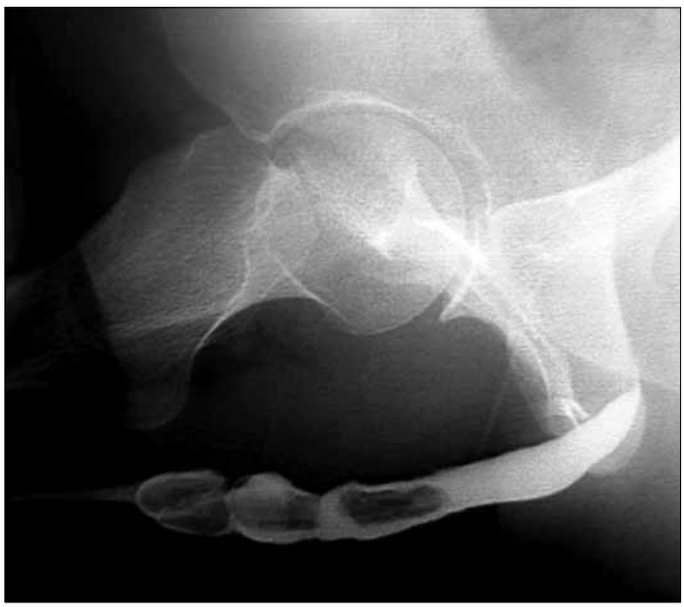

Figure 2. Retrograde urethrogram showing a filling defect in the anterior urethra

Figure 3. Multiple calcified foreign bodies retrieved from the urethra at exploration

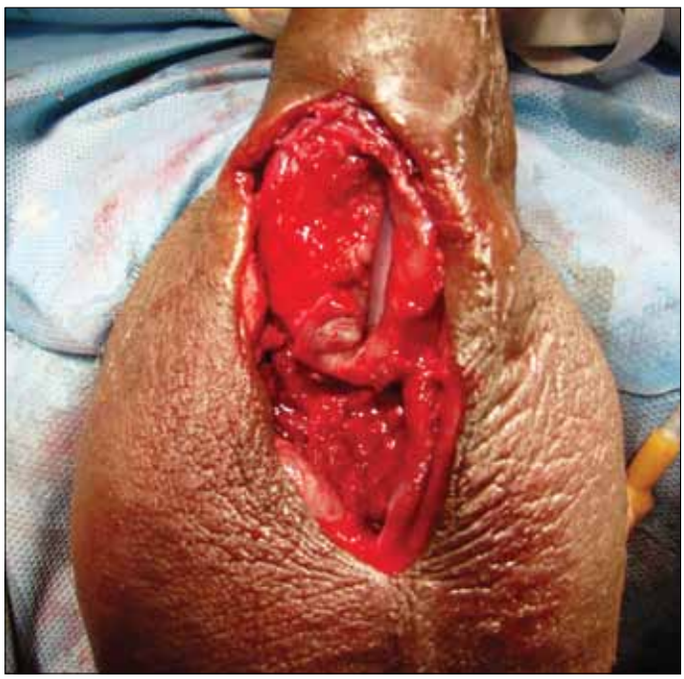

Figure 4. Intra-operative view after removal of foreign bodies

and pus discharge from the external urinary meatus for 5 days. He had acute urinary retention for 1 day. Upon taking further history, he disclosed that he had accidentally inserted the ink-lead of a sketch pen into his urethra 12 years before during masturbation and had had dysuria since then. Previous X-ray and retrograde urethrogram (Figure 1, 2) showed a calcified foreign body in the urethra, and he had been advised to undergo a surgical intervention 1 year prior but refused. As the patient presented to us with urinary retention, we performed suprapubic catheterization and started intravenous antibiotics. Then, the patient underwent incision and drainage of the periurethral abscess. Intraoperatively we found multiple pieces of calcified foreign bodies that looked like stones (Figure 3). All pieces were retrieved, and the urethrostomy was kept open to proceed with a planned urethroplasty after the infection was resolved (Figure 4). The patient underwent two-stage urethroplasty and maintained on self-calibration. Even after our counseling, the patient refused a psychiatric evaluation. At the 6-month follow up, he had satisfactory uroflow.

Discussion

A variety of objects have been found in the urethra, including sharp objects (needles, pencils, copper wire and Allen keys), household batteries, vegetables (carrots, beans) and intrauterine contraceptive devices (IUCD)[1,2] (Table 1). Some patients present with swelling of the external genitalia, poor urinary stream, and urinary retention, while others may present with no or minimal symptoms.[2] Complications of foreign bodies include recurrent urinary tract infections, calcification, obstructive uropathy, scrotal gangrene, vesicovaginal fistula and even death from sepsis.[3] Signs that should raise suspicion include undue anxiety during the patient's sexual history or attempts to avoid genital or rectal examination. Typically, objects distal to the urogenital diaphragm can be palpated directly. Radio-opaque foreign bodies can usually be seen on KUB radiographs, as in our case. Ultrasound imaging can successfully reveal radiolucent objects (Table 2).[1,3]

Self-insertion of a foreign body in the urethra is usually associated with autoerotic and sexual gratification, especially during masturbation.[1,3] Other cases are associated with psychiatric disorders, drug intoxication, mental confusion, sexual curiosity or a desire to relieve urinary symptoms. Incidence appears to be higher in men (1.7:1) than in women.[1] Van Ophoven et al.[2] reviewed the literature published between 1755 and 1999. They concluded that the most common cause of foreign body insertion is sexual or erotic in nature. Few psychoanalytical theories have been described. The most popular, Kenney's theory, states that the initiating event is an accidentally discovered pleasurable stimulation of the urethra.[1] Co-morbidities in these patients include exotic impulses, most commonly sexual, a disturbed schizoid personality and borderline personality disorder, mental retardation and dementia. For this reason, a routine psychiatric evaluation is recommended by some authors.[1] We also accept this protocol, unless the patient refuses a psychiatric evaluation, as in this case. If the psychiatric evaluation reveals any mental health disorder, it may reduce the risk of recurrence.[2]

The main objectives of treatment are to remove the foreign object, endoscopically if possible, and to avoid and treat complications without compromising erectile function. These patients are at high risk of infection; therefore, antibiotic cover-

Table 1. Interesting studies about urethral foreign bodies

Study (Reference)	Age/ Sex	Foreign body	Treatment	Psychiatric cause
Walter G.[4]	Middle-aged man	Knitting needle	Endoscopic	Monosymptomatic hypochondriacal delusion
Costa G et al.[5]	36/M	Metallic body	Endoscopic	Schizoid personality
Phillips JL.[6]	Elderly male	Multiple foreign bodies	4F Fogarty catheter under fluoroscopy	-
García Riestra V et al.[7]	74/M 34/F	Metal tube, electrical cable	Open surgery	Mental disturbances
Brazilai M et al.[8]	41/M	Elongated body	Endoscopic	-
Gonzalgo et al.[9]	Middle-aged	Metal screw	Endoscopic (Nitinol basket)	Schizophrenia
Kanda F.[10]	53/M	3 m vinyl tube (6 mm diameter)	Urethrostomy	-
Gokce et al.[11]	61/M	Two safety pins (with non-obstructive giant urethral stone)	Open surgery	-
Sukkarieh T et al.[12]	59/ M	Multiple small metallic objects	Meatotomy	Major depression
Navarro Gil J et al.[13]	Middle aged male	Multiple foreign bodies	Removal with abscess drainage	Post-traumatic stress disorder
Gunay N et al.[14]	28/ M	Pen	Urethrostomy	-
Forde J C et al.[15]	57/ M	Ball-point pen	Endoscopic basket removal	-
Kuwada M et al.[16]	12- and 14- year-old adolescent boys	Stretched safety pin, metallic bar	Endoscopic	Parental death in one and divorce in the other
Boscolo-Berto R et al.[17]	54/M	Plastic tube	Endoscopic basket extraction	Depression

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Table 2. Studies with large number of subjects

Study (Reference)	Number of patients	Intention*	Diagnosis	Treatment
Aliabadi et al.[18]	18	1. Autoerotic 2. Psychiatric	Palpation (in 9) and Radiology (in 9)	Endoscopic (in 10), Suprapubic cystostomy (in 5)
Pec J et al.[19]	23	Sexual stimulation	IVU and Cystoscopy	Conventional surgery
Rahman NU et al.[3]	17	1. Psychiatric 2. Intoxication 3. Erotic (in only 5)	X-ray in 14 and USG/CT in 3 patients	Endoscopic in all but 1 patient (Urethrostomy)
Rieder J et al.[20]	13	1. Intentional 2. Accidental (catheters) 3. Iatrogenic (forgotten penile implant)	X-ray	Endoscopic most common
Rinard et al.[21]	Solid FB=63 Liquid FB=11	1. Sexual 2. Experimental	Various radiological methods	Endoscopic most common

*Sequenced from most common to least common
#Cross-sectional study containing 445 patients with different genital plays
FB: Foreign body

Table 3. Studies with foreign body in the urethra for a very long duration

Study (Reference)	Foreign body	Intention	Duration (Years)	Treatment
Ghaly et al.[22]	Tip of mascara brush	Sexual	12	Surgery
Seung et al.[23]	Plastic chopstick	Sexual	3	Meatotomy + cystolithotomy
Hwang EC et al.[24]	Glass particles	Alcoholic and mentally challenged.	7	Urethrostomy + Percutaneous drainage
Bendana et al.[25]	Straight catheter	Iatrogenic, lost in urethra	20	Perineal urethrostomy
Present study (Chipde SS et al.)	Ink-lead of sketch pen	Masturbation	12	Incision and drainage, suprapubic catheterization and urethrostomy, followed by two-stage urethroplasty

age should be given before and after manipulation. Attempts at urethral catheterization and manipulation of the object may cause further damage and complications, so these procedures should be avoided until the exact type, size, shape, and location of the object are determined. In most cases, pelvic radiographic imaging is sufficient to determine the location, size and shape of objects (Table 2).

Most foreign bodies in the urethra and bladder can be removed endoscopically either completely or after fragmentation (Table 3). Cylindrical foreign bodies and thermometers have been removed via the transurethral route using flexible and rigid cystoscopy transurethrally.[2] Endoscopic retrieval is facilitated by the shorter length and wider diameter of the female urethra, but this procedure may be difficult in males due to longer urethral length and associated BPH, if present. Various endoscopic methods (e.g., specially designed magnetic retrievers to remove metallic foreign bodies such as hair pins and solvents such as xylol and benzene to dissolve candles and crayons) are no longer used.

In cases where endoscopic techniques are unsuitable or unsuccessful, open surgical removal is necessary. For objects lodged in the penile urethra, external urethrostomy is recommended, while a suprapubic cystostomy is the procedure of choice for intravesical foreign bodies.[1-3] In the present case, because the patient came to us with periurethral abscess and fever with early signs of sepsis, we performed emergency incision and drainage and kept the urethrostomy open to heal with due to intentions for a secondary procedure. Thus, treatment should be individualized according to the particular patient.

In conclusion, in patients presenting with chronic lower urinary tract symptoms, the presence of foreign bodies should be kept in mind. Radiological tests are necessary to determine the exact size, number and nature of the foreign objects. The best method for removal of the foreign object depends on its nature and location, the patient's size and age, as well as the physician's surgical expertise.

Conflict of interest

No conflict of interest was declared by the authors.

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