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Case report

Unusual intravesical foreign body management: the Casablanca experience

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Abstract

Self-insertion of foreign bodies in the urethra is most commonly associated with sexual or erotic arousal of adolescents with mental health disorders. It may rarely be practiced by healthy adults for masturbation. A diagnosis is usually made radiologically. Iatrogenic foreign bodies were found to be the most frequent type of insertion encountered. Endoscopic retrieval is usually successful, with minimal morbidity. The aim of this paper was to expose our experience about intravesical foreign bodies. The management of 4 cases with intravesical foreign body is exposed and analyzed.

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Introduction

The variety of foreign bodies inserted into, or externally attached, to the genitourinary tract defies imagination and includes all types of objects, the usual causes for insertion of foreign bodies in genitourinary system include sexual curiosity, autoerotic stimulation, or during invasive procedures [1,2]. Obtaining an accurate history from patients with this condition may be difficult, especially for patients who insert objects for sexual pleasure. Foreign bodies used for the above mentioned purpose may include flexible or rigid and fragile or strong materials such as needles, bullets and pens, as well as candles, gauzes, etc. The presenting features usually include urinary tract infection, pain and hematuria. The physical examination is almost always unremarkable and urine microscopy usually reveals pus cells and red blood cells. Radiopaque objects can easily be seen on radiographs, while others are identified by the ultrasonography. Cystoscopy is rarely required for diagnosis. Most of the inserted objects can be retrieved endoscopically using the latest available equipment and open surgery is usually not required [3]. In this paper, we reported the successful management of 4 interesting cases of different bodies inserted in the urethra for erotic arousal purposes and migrated to the bladder.

Patient and observation

Case 1

A 26-year-old man came to the emergency department for hematuria and dysuria during the two previous weeks. The patient reported a sabliuria without mictional burns or antecedent of urethritis. The clinical examination revealed a weak urinary stream with hematuria. Palpation of the penile urethra exposed a hard and motionless hard formation inside the penile urethra at 1 cm from the meatus. A radiological assessment by renal and bladder ultrasound, urinary shaft without preparation, pelvic radio and radio centered on the penis was performed. Ultrasound, Appareil urinaire sans préparation (AUSP) and pelvic radio were without abnormality. The radio centered on the penis revealed a roughly triangular formation (Figure 1). The most likely diagnosis was lithiasis enclosed in the urethra. L'Examen cytobactériologique des urines (ECBU) was sterile. Endoscopic extraction was decided. Intraoperative exploration found a piece of pen enclosed in the urethra (Figure 2). The endoscopic extraction was unsuccessful, a surgical extraction allowed to discover the tip of a pen. Postoperatively, the patient admitted that he was using this method for auto-erogenous purposes. Postoperative suites were simple.

Case 2

A 24-year-old patient with no particular medical history who was presented to the emergency department for dysuria and hematuria. The physical examination revealed a palpable mass along the anterior side of the penis, the rest of the somatic examination was without particularities. A pelvic x-ray objectified the presence of a linear opacity projecting in the penis (Figure 3). The retrospective interrogation found the notion of self-introduction of the foreign body for an auto-erogenous purpose 6 hours before admission. ECBU was sterile. Endoscopic extraction was impossible because of the size of the foreign body (pen) which was enclosed, it showed traumatic lesions of the urethral mucosa, a cystotomy was proposed allowing the extraction of a pen measuring 12 cm in length (Figure 4). The postoperative suites were simple.

Case 3

A 80-year-old female patient who is known to be diabetic and hyper-tense, and followed-up for dementia, has presented with intermittent terminal hematuria and urinary burns evolving during a year according to the family. The patient was

aphasic which complicated the retrospective questionning. The clinical examination was without particularities. The AUSP performed showed the presence of two opacities of calcium density, rounded projecting in the bladder area, and measuring approximately 2 and 1.5 cm in diameter respectively. Renal ultrasonography showed the presence of two hyperechoic opacities with a posterior shadow cone, primarily suggestive of vesical lithiases. ECBU showed *E. choli* infection which was treated with antibiotic therapy. Urethrocystoscopy confirmed the presence of two vesical lithiases, with bladder wall integrity. Patient was operated by cystotomy, which allowed the extraction of two lithiases measuring 1.5cm and 2cm formed around a foreign body represented by two coins (50c and 10c) (Figure 5), with placement of a urethral probe for 10 days. The evolution was favorable, patient was sent to his psychiatrist for support.

Case 4

A patient aged 62 years, followed-up for psychiatric disorders, consulted for urinary disorders such as urinary burns, pollakiuria and urinary blockage with urinary sand emission, without hematuria. The clinical examination was normal. Vesico-prostatic ultrasound noted a mobile intra-vesical image with posterior shadow cone in favor of a urolithiasis, about 1.5 cm in diameter. ECBU did not show any germs. Cystoscopy found a partially calcified condom that was removed (Figure 6). The retrospective examination noted the concept of the patient's own introduction of a condom six months ago for the purpose of contraception. The suites were simple.

Discussion

Insertion of a foreign object in the urethra and bladder is a pathological situation that occurs due to sexual disorders. Foreign material in the urinary bladder might be transported into the bladder in several ways. Pencils, telephone cables, thermometers, glass rods, toothbrushes, candles, intravenous infusion lines, balloons, hair clips and batteries have been reported being removed from the urethra and urinary bladder [4-6]. As autoerotic accidents are a delicate issue where feelings of shame play an important role, these patients should be approached with a great deal of sensitivity and a careful history should be taken. In the case of a great amount of suspicion of mental health disease or substance abuse the threshold for psychiatric investigation and drug screening should be lowered [7]. Rahman *et al.* [8] reported their 17 years experience with self-inflicted male urethral foreign body insertion. In all the 17 patients foreign bodies were palpable. The most common symptom was frequency with dysuria. A psychiatric disorder was the most important cause, followed by intoxication and erotic stimulation.

All patients had a diagnostic imaging. Plain radiographs were sufficient in 14 patients, ultrasonography and computerized tomography (CT) scan was required in 3 patients. Endoscopic retrieval was successful in all but one patient. They concluded that radiological evaluation is necessary to determine the exact size, location and number of foreign bodies. Van Ophoven *et al.* [2] did an extensive search of the literature and revealed the results in a review article. They reviewed the literature published between 1755 and 1999 and concluded that the most common cause of foreign body insertion is sexual or erotic in nature. In acute cases, symptoms such as dysuria, voiding difficulty, urgency of micturition, urinary retention and gross hematuria are noted. Patients with more chronic history had presented with recurrent urinary tract infection, urosepsis and acute abdominal pain when the foreign body perforates the bladder into the abdominal cavity [7,8]. Radiologic evaluation helps in determining the exact size, location and number of the foreign bodies [9]. Confirmation can easily be done in cases of radiopaque foreign bodies with plain kidney urinary bladder (KUB)

radiograph and for radiolucent foreign bodies with ultrasound and computed tomography (CT) [4]. However, urethrocystoscopy remains the most accurate method for diagnosis of intravesical foreign bodies [10].

The treatment should be aimed to remove the foreign object, avoiding complications, without compromising erectile function for male patients. The method of removing the foreign body should be selected based on the size, nature and mobility of the object [11]. Removal can be attempted under either regional or general anaesthesia to minimize patient discomfort and movement during the manipulation and retrieval process. If the surgeon thinks that the object can be removed without urethral damage, endoscopic methods should be attempted first [12]. This can be either involve cystoscopy-guided removal using grasping forceps or transurethral cystolitholapaxy using a stone punch. Smaller objects can be easily removed intact, but larger objects require fragmentation. In cases where endoscopic management is not possible, open surgery is recommended. This includes external urethrotomy for objects stuck in the penile urethra and suprapubic cystostomy for intravesical foreign bodies [13]. As foreign bodies in the female bladder can be accessed easily via the urethra, they are usually removed endoscopically [14]. However, sharp or large objects may require open removal.

Conclusion

The presence of a foreign body in the genitourinary tract represents a urologic challenge that often requires prompt intervention. The most suitable method of removing any urethral foreign body depends on the size and mobility of the object in the genitourinary tract. Removal of foreign bodies of the urogenital system should follow rules of basic surgical practice. Underlying psychiatric illness may be present and a high index of suspicion is required in the management of such patients. A plain pelvic radiograph is recommended to fully delineate all foreign bodies.

Competing interests

The authors declare no competing interests.

Authors' contributions

Khalid Elmortaji: redaction and bibliography, Adil Debbagh: supervision, Mohamed Dakir: supervision, Rachid Aboutaeib: supervision and correction. All authors have read and agreed to the final manuscript.

Figures

Figure 1: penis-centered X-ray showing a triangular lacunar image

Figure 2: tip of the pen after its extraction

Figure 3: pelvic X-ray showing a linear opacity of calcium tone that projects at the level of the penis

Figure 4: surgical extraction of the foreign body

Figure 5: coins after the extraction

Figure 6: calcified condom after extraction

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