

## Percutaneous Removal of a Very Unusual Foreign Body from the Bladder: Case Report and Literature Review

Mesanedeki Alışılmadık Yabancı Cismin Perkütan Çıkarılması: Vaka Sunumu ve Literatürün Gözden Geçirilmesi

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### Abstract

A 45-year-old male patient presented with a complaint of obstructive lower urinary system symptoms, haematuria, suprapubic pain and urethral discharge that had worsened in the last two days. There was a hard nodular swelling at the urethral region of the proximal penile shaft on palpation. An x-ray of the kidneys, ureter and bladder (KUB) demonstrated radiopaque multiple opacities inside the bladder. Cystoscopy was performed and multiple beads connected each other were observed in the urethra and bladder. Cystoscopic removal of the foreign body was impossible because of too many beads knotted in the bladder; thus, a percutaneous surgery was planned. Suprapubic percutaneous cystostomy is an easy and good option for removing objects from the bladder with minimal possible damage to the urethra.

(JAEM 2013; 12: 231-3)

**Key words:** Foreign body, bladder, urethra, percutaneous cystostomy

### Özet

Kırk beş yaşında erkek hasta acil servise son iki gündür artmış olan alt üriner sistem obstrüksiyon semptomları, hematüri, suprapubik ağrı ve üretral akıntı şikayetleriyle başvurdu. Palpasyonda proksimal penil üretrada sert nodüler şişlik mevcuttu. Direkt üriner sistem grafisinde mesane lojuna uyan kesimde multiple opasiteler mevcuttu. Sistoskopi uygulandı. Üretra ve mesanede birbirine bağlı şekilde çok sayıda boncukla karşılaşıldı. Yabancı cisimlerin sayı fazlalığı ve birbirine bağlı olması dolayısıyla sistoskopik olarak çıkarılması mümkün olamadı ve perkütan cerrahi planlandı. Suprapubik perkütan sistostomi, mesanedeki cisimleri üretraya en az hasarı vererek çıkarılması için kolay ve iyi bir seçenektir. (JAEM 2013; 12: 231-3)

**Anahtar kelimeler:** Yabancı cisim, mesane, üretra, perkütan sistostomi

### Introduction

A foreign body in the bladder may be self-inserted (through the urethra), iatrogenic, migrated from adjacent organs or as a result of penetrating trauma (1-6). Clinical presentations may vary from asymptomatic to swelling of the external genitalia, dysuria, poor urinary stream or retention, bloody or purulent urethral discharge or an ascending urinary tract infection. As reported in the literature, different kinds of foreign bodies, such as a needle, a bullet, a safety pin, an animal feather, pieces of a candle, a thermometer, chewing gum, a Steinman pin, a gauze pack, a toothbrush, a metal hook, and a scalpel blade etc., have been found in the urinary bladder (1, 2). This paper presents a very unusual case for intravesical foreign body, and also includes a review of the literature regarding diagnostic and therapeutic problems of self-inserted foreign bodies in the bladder and urethra.

### Case Report

A 45-year-old male patient presented to our emergency service with complaint of obstructive lower urinary system symptoms, haematuria, suprapubic pain and urethral discharge that had lasted for two weeks and worsened in the last two days. During the physical examination there was redness at the urethral meatus, the glans was swollen and oedematous. Also there was a hard nodular swelling at the urethral region of the proximal penile shaft on palpation. Urinalysis showed plenty of erythrocytes and leukocytes, positive leukocyte esterase and nitrite. An x-ray of the kidneys, ureter and bladder (KUB) demonstrated radiopaque multiple opacities, like urinary stones, inside the bladder (Figure 1). On ultrasonography there were multiple hyperechogenicities, that had a largest diameter of 7-8 mm, in the bladder and 3 hyperechogenicities extending from the proximal urethra to the bladder were detected. The patient's history

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**Figure 1.** X-ray and endoscopic view of foreign body in the bladder



**Figure 2.** Necklace with 57 beads after successful removal

was re-examined. The patient was a prisoner and was making bead work as a hobby in prison. The patient admitted that he used to masturbate by introducing a necklace (stringed beads) through the urethra. Two weeks ago, he had lost the necklace inside his erect penis during this process.

After obtaining his informed consent. The patient underwent cystoscopy and many beads connected to each other were observed in the urethra and bladder (Figure 2). Cystoscopic removal of foreign body was impossible because too many beads were knotted in the bladder and a urethral injury could have been caused; thus, a percutaneous surgery was planned. Under cystoscopy vision we suprapubically entered the bladder using an 18-gauge needle and performed dilatation with Amplatz dilators routinely used in percutaneous nephrolithotomy (PNL). A foreign body consisting of 57 beads

was successfully removed from the 30-F sheath (Figure 2). The patient was discharged on the second postoperative day and the urethral catheter was removed on the fifth day. On the one month evaluation, the patient was well with a normal urine flow and no symptoms of urethral stricture.

## Discussion

Foreign bodies can enter the bladder in many ways. They may find their way into the urinary bladder by accident, deliberate introduction through the urethra or migration from neighbouring organs (1-6). The urethra is the main entrance for foreign bodies into the genitourinary tract and a variety of urethral foreign bodies have been reported in the literature including pencils, electric cables, thermometers, glass rods, toothbrushes, candles, serum sets, balloons and hairpins, among others (1, 7-11). Previously described materials are predominantly rigid and hard substances; stringed beads are difficult to manipulate into the urethra and this case is the first reported in the literature. Occasionally, a foreign body is inadvertently inserted into the female urethra in an attempt to procure abortion or prevent conception. As the female urethra is shorter than the male, foreign objects can more easily enter the urinary tract. In contrast, it is difficult for the male urethra.

Intravesical foreign bodies usually cause symptoms, like acute cystitis, urinary frequency, dysuria, haematuria and strangury. Some patients may present with swelling of the external genitalia, poor urinary stream, urethral pain, urethral injury, periurethral abscess, urethral diverticulum, urinary retention and fever (5-7). Diagnosis can be made by an accurate history and physical examination. Since the patients usually use it for masturbation and sexual gratification, to avoid embarrassment, they tend to seek treatment late. They often wait until the problem has become symptomatic and usually conceal the real situation in their anamnesis. Signs that should raise the physi-

cian's suspicion include undue anxiety during anamnesis or sexual history, and attempts to avoid genital or rectal examination with obstructive lower urinary tract symptoms. This was the case for our patient; as he had been in prison for a long time and he was using the necklace for masturbating, it was difficult to get this information from him. Also, he came to the hospital about 15 days after insertion.

We can palpate foreign bodies distal to the genitourinary diaphragm. Radiological evaluation should be used to ensure the location and size of the foreign body. Usually, pelvic or abdominal x-ray is sufficient, but further radiological evaluation with ultrasound and computerised tomography should be performed if there is any doubt.

Depending on the type of foreign body and its location, various methods of removal have been described, including meatotomy, cystoscopy, internal or external urethrotomy, suprapubic cystostomy, Fogarty catheterisation and the injection of solvents (4, 5, 12). The YAG laser has also been used recently (9). Most foreign bodies in the bladder can be removed by transurethral endoscopic approaches. The treatment differs with the location, size and nature of the foreign body. When the diameter of the urethra and the literature is taken into consideration, substances greater than 1 cm, with uneven surfaces, sharp protrusions or sharp features on the surface of the body are not suitable for direct endoscopic urethral removal. For this kind of object, nephroscopes inserted in a suprapubic fashion have been used for the retrieval of screws as well as magnetic retrievers for galvanic objects (1). We also used the same method, because the foreign body was knotted and was too large to extract from the urethra in another way. This method has the advantage of protecting the urethra from damage while extracting the objects and possible further urethral strictures. In cases where endoscopic procedures are unsuccessful, open surgery is recommended. For objects stuck in the penile urethra, external urethrotomy is recommended; while for intravesical foreign bodies, a suprapubic cystostomy is the treatment of choice (7).

## Conclusion

Intravesical foreign bodies should be borne in mind in patients who have unexplained exaggerated symptoms of cystitis. It is important to use radiology, generally a plain pelvic radiograph is satisfactory, to clearly delineate the severity of the case as much as the history and good physical examination. Suprapubic percutaneous cystostomy is an easy and good option to remove objects with minimal possible damage to the urethra.

## Conflict of Interest

No conflict of interest was declared by the authors.

**Peer-review:** Externally peer-reviewed.

**Informed Consent:** Written informed consent was obtained from patients who participated in this case.

## Author Contributions

Concept - T.O.; Design - T.O., A.Ö.; Supervision - A.K., T.A.S.; Funding - T.O., A.Ö.; Materials - T.O., O.E.; Data Collection and/or Processing - T.O., A.Ö.; Analysis and/or Interpretation - T.O., A.Ö., O.E., M.B.H.; Literature Review - T.O., A.Ö., O.E., M.B.H.; Writer - T.O., A.Ö.; Critical Review - T.O., A.Ö., A.K., T.A.S.; Other - T.O., A.Ö., O.E.

## Çıkar Çatışması

Yazarlar herhangi bir çıkar çatışması bildirmemişlerdir.

**Hakem değerlendirmesi:** Dış bağımsız.

**Hasta Onamı:** Yazılı hasta onamı bu olguya katılan hastalardan alınmıştır.

## Yazar Katkıları

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