

## Case Report

# Foreign body (copper wire) in urinary bladder and urethra: an unusual case presentation

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### ABSTRACT

Foreign bodies are rarely reported in the urinary bladder and urethra; though it is a topic of curiosity amongst the urologists and surgeon. In majority of the cases, the foreign body is removed via the transurethral approach. A 19-year-old young male patient was brought to our Institution with history of insertion of a wire through urethra during act of masturbation in the middle of night. Patient was having severe pain in penis along with burning micturition. Patient was taken up in emergency for retrieval of the foreign body (wire) transurethral (cystoscopic approach). Scope was inserted through urethra and the foreign body retrieved was found to be “copper wire”.

**Keywords:** Foreign body, Copper wire, Cystoscopic, Injury, Gratification

### INTRODUCTION

Thousands of cases of foreign body in urinary bladder have been reported across the globe. In most cases, the foreign body is removed via the transurethral approach. However, the foreign body sometimes develops calcification.<sup>1</sup> In case, foreign body in the bladder becomes calcified over a long period of time, then endoscopic approach may fail and open approach may be required for the same.

We herein report an usual case of a foreign body (copper wire) in the urinary bladder and urethra which was removed successfully by minimally invasive Transurethral Approach (Cystoscopic Approach).

### CASE REPORT

A 19 year old young male patient was referred to Emergency at our Tertiary Care Hospital Father Muller Medical College and Hospital, Mangalore in the night at

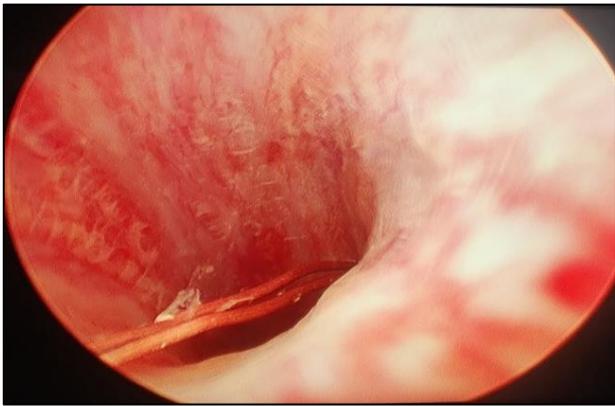
3 AM with history of insertion of wire through urethra for Sexual Gratification during the act of masturbation. Patient was able to pass urine but with severe pain along urethra and burning sensation. No history of hematuria was present. He had no history of any psychiatric illness or history of any drug abuse in the past.

No external marks of injury were present. External Genitalia was normal. Per-rectal examination was normal. X-ray Pelvis was requested which showed long, thin and well defined wire like radio-opacity in the bladder and proximal urethra (Figure 1). Ultrasonography showed the presence of foreign body in the urinary bladder.

Patient was taken up for Emergency Cystoscopic removal of foreign body under Short General Anesthesia. On cystoscopy, minimal mucosal urethral injury was found. Cystoscopy showed U-shaped wire in the proximal urethra which was traced further into the bladder (Figure 2).



**Figure 1: X-ray pelvis Image showing wire like radio-opacity.**



**Figure 2: Cystoscopic view of the foreign body (wire) inside urethra.**



**Figure 3: Picture of copper wire retrieved from urethra and urinary bladder.**

Bladder walls were normal and no injury was found. The wire was successfully pulled out with help of Triprrong forceps and it turned out to be a copper wire folded in between (Figure 3).

The length of folded copper wire was found to be 15 cm approximately (Figure 4).

Patient was catheterized with 14 Fr Foley's Catheter. Patient underwent Psychiatric evaluation and counselling. Catheter was removed on POD-1 and patient was discharged.



**Figure 4: Picture depicting the length of removed copper wire along scale.**

## DISCUSSION

Cases involving foreign bodies in the urinary bladder and urethra have been reported worldwide. In Japan, the first case was reported in 1917. In most cases, the foreign body is introduced via the transurethral approach.<sup>2</sup> More than 80% of foreign bodies introduced via the transurethral approach are a form of a sexual perversion, while all foreign bodies introduced via the trans-bladder approach are iatrogenic.

In the present case, the patient introduced a copper wire into the urethra for sexual gratification. Most foreign bodies are reported in patients of 10–20 years of age; however, recently, older patients (approximately 60 years of age) have also been reported. Sometimes, patients can deny the history of insertion of foreign body due to parental fear, social embarrassment or due to associated history of drug abuse. Obtaining an accurate history from patients with this condition may be difficult, especially for patients who insert objects for sexual pleasure. Presentation may be late in such patients.<sup>2</sup>

The main symptoms of a foreign body in the bladder and urethra include pain, hematuria, bladder irritation, and urinary tract infection.<sup>3</sup> Bladder stones from sometimes develop in chronic cases.<sup>4</sup> Some patients may present with urethral tears, periurethral abscess, haemorrhage and urethral diverticula. The physical examination is usually unremarkable.

X-ray KUB and cystoscopy are the standard approach for diagnosing and evaluating foreign bodies in the bladder, while USG, CT and MRI are useful in some cases.

On occasion, foreign bodies may be spontaneously expelled during micturition. More frequently, surgeon's intervention is required. Small palpable objects can sometimes be gently milked distally, then grasped and removed but there is risk of more trauma to urethra with this technique.

In most cases, the transurethral approach is attempted first; if this fails, an open bladder incision approach can be performed. In some cases, it might become necessary to push the foreign body into the bladder before being able to remove it with help of grasping forceps. Bladder wall perforation and urethral injury can occasionally occur in patients with large foreign bodies. Bigger foreign bodies may require cutting into smaller pieces. As such, even when urologists attempt to remove a foreign body via the transurethral approach, an invasive approach may ultimately be required.<sup>5,6</sup> In our case, Endoscopic approach was preferred to remove the foreign body (wire). The copper wire was successfully removed with this approach.

Recently, a wide variety of foreign bodies has been reported including electrical wires, kidney beans, chicken bones, wooden sticks, thermometers, bullets, intrauterine contraceptive devices (IUCDs), encrusted sutures, surgical staples with stones, needles, pencils, safety-pins, hairclips, household batteries, gauze, screws, pessaries, ribbon gauze, parts of Foley catheters, candles, broken parts of endoscopic instruments etc.<sup>7</sup>

A few of the innovative techniques include use of magnetic retrievers endoscopically to remove metallic foreign bodies such as hair pins. Previously, solvents like benzene, kerosene were used to dissolve foreign objects like candles and crayons. But however, not preferred nowadays as they are carcinogenic. Endoscopic removal of wax, pencils is further complicated as these substances tend to float on water.

Urologists should be alert to this differential diagnosis when patients present with antibiotic-resistant infections and a history of bladder irritation, even if the patient denies inserting the foreign body. Such patients should be counselled properly and a psychiatric evaluation and consultation should be obtained.<sup>8</sup>

A careful pre-operative evaluation to assess the characteristics of the foreign body should be performed to avoid the risk of bladder wall perforation, urethral injury and avoid erectile dysfunction. When the transurethral (minimally invasive) approach is considered to be difficult, the open bladder wall incision approach should be considered immediately.

## CONCLUSION

Foreign bodies should always be included in the differential diagnosis when evaluating a patient who presents with chronic lower urinary tract symptoms. Intravesical foreign body can range from any types of easily available objects. Such cases requires prompt evaluation and removal. A large percentage of foreign bodies can be retrieved using endoscopic techniques. Open surgical removal may be performed in cases where endoscopic techniques are unsuitable or have failed. A psychiatry evaluation of such patients should be done and patients should be counselled about the complications associated with such acts and not to repeat such incidences in future.

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