

“Self-inflicted ballpoint pen in a male urinary bladder and successful endoscopic management - a rare case report ”

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Case Report

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Abstract

Background: Self-inflicted foreign bodies in the urinary bladder are extremely rare sometimes posing a great challenge in the management. Most of these objects are introduced through the urethra for sexual gratification. It is very rare for foreign bodies inserted per the urethra, to reach the bladder, especially in men owing to the anatomy of the urethra.

Case presentation: We report a case of the self-inflicted ball-point pen in the urinary bladder of a male patient during the COVID-19 pandemic lock-down. The uniqueness of this presentation is the patient was able to negotiate the foreign body through the normal curvatures of the urethra to reach the urinary bladder in its entirety without causing any significant injury to the lower urinary tract and its successful endoscopic extraction using nephroscope and the challenges faced during the extraction.

Conclusion: This is the first reported successful endoscopic extraction of a long rigid foreign body from a male urinary bladder. A combined or open procedure is the usual approach for the removal of large bladder foreign bodies. It is now clear to us that the even long rigid bladder foreign bodies in men can be extracted successfully with endoscopy provided adequate endoscopic instruments and armamentarium are available

Background

World Health Organization declared Novel Coronavirus Disease (COVID-19) global outbreak as a pandemic on March 11 2020 and called for several countries to take immediate actions and scale up the response to detect, treat and reduce transmission to save people's lives¹. Strict lock-down was one of the measures carried out in many countries, including India. The long-term lockdown has hurt the social, economic, and psychological frontiers in the general population. Migration of day laborers back to their native came to a halt due to lockdown measures. The stranded manual laborers were part of the most affected section. We report a case of a stranded male daily wage laborer who migrated from another state to Tamil Nadu before the COVID-19 pandemic, separated from his wife, had inserted a long rigid foreign body in his urethra for sexual gratification and pushed the foreign body further inside until he reached orgasm. He presented to our outpatient department with complaints of visible haematuria 2 days later.

Self-inflicted foreign bodies in the urinary bladder are extremely rare and are more common in women than men owing to their short urethra. Many of these foreign bodies are smaller objects amenable to endoscopic retrieval². Most of the foreign objects used in the lower urinary tract are intended for sexual gratification and may also be associated with psychiatric disorders or old age³.

Some of the unusual self-inflicted long bladder foreign bodies reported in journals are metal rods, wooden sticks, and telephone cables. 3 case reports of a pen in the urinary bladder have been reported all in

female patients^{4,5,6}. A pencil, a clinical thermometer, a toothbrush, and a fetal bone in the urinary bladder have also been reported in women.

Here we report a young man who had self-inserted a whole ballpoint pen into his urinary bladder and its successful endoscopic management. Although pen as a foreign body in the urinary bladder has been reported in women, this is the first to be reported in a male patient.

Case Presentation

A 34-year-old gentleman, a daily wage migrant laborer from the north-eastern part of India, with a normal intelligence quotient, presented to our outpatient department with complaints of dysuria, terminal haematuria, and suprapubic pain following self-insertion of an uncapped ballpoint pen into his urethra during masturbation. No significant past medical or surgical illness. On examination, his vitals were essentially normal and per abdomen was soft with good bowel sounds. Digital X-ray KUB showed a radiopaque foreign body within the bladder silhouette. Ultrasound abdomen revealed a hyperechoic long linear foreign body in the urinary bladder with otherwise normal-appearing bladder. CT KUB revealed a linear foreign body in the urinary bladder, most likely a pen.

Procedure:

Under regional anesthesia, rigid cystoscopy (20 Fr) was performed and a pen was visualized.

Cystoscopic findings during pen extraction are

1. *The anterior and posterior urethra was normal in entirety except for few insignificant mucosal injuries in the posterior urethra concurring with a history of insertion of foreign body*
2. *The pen was freely moving inside the bladder on cystoscopy with*
 1. *The pointed end of the pen was impinging the posterior bladder wall just above the trigone.*
 2. *The rear end was free from the bladder wall.*

Critical Steps

1. *Under regional anesthesia, initial attempts with cystoscopic extraction of the pen using conventional cold-cup grasper forceps were unsuccessful as the diameter of the pen was greater than the ability of grasper to hold*
2. *Therefore, a transurethral approach of using Karl Storz 22 Fr nephroscope, the tip of the pen was held with a tri-prongs grasper and careful maneuvering without harming the mucosa of bladder and urethra, and the pen was extracted in toto.*

The operative time was under 40 mins without any intraoperative complications. The postoperative period was uneventful. Ultrasonography and uroflowmetry were normal during follow-up.

Discussion

The urethra is approximately 20 cm in men and 4 cm in women. In men, it is broadly classified into the anterior (penile and bulbar) and posterior urethra (membranous and prostatic part). There are natural urethral curvatures at the bulbo-membranous junction and peno-bulbar junction. The bulbar urethra curves anterior beginning at the peno-bulbar junction and is sometimes challenging to negotiate on cystoscopy. The uniqueness of our case is that this long rigid foreign body has negotiated these normal curvatures and bends of the urethra and has traversed the whole length of it to lodge in the urinary bladder without causing any significant damage.

Various treatment approaches have been reported for the treatment of bladder foreign bodies, for example, endoscopic, laparoscopic, percutaneous, radiological, open surgery or combination approach and various techniques using retrieval baskets, laser have been described⁶. However, still, endoscopic extraction is the preferred approach among urologists. The method of choice for extraction depends on the size and mobility of the object inside the bladder¹. In addition, the availability of instrumentations and urologist experience plays an important role. A wide range of grasping armamentarium may be required including stone basket, grasping forceps, stone punch, snares and other modified instruments. Satisfactory success rate for cystoscopic extraction of bladder foreign bodies was reported in literature ranging between 60% and 94%^{6,7,8}.

Most large foreign bodies in the bladder are treated by surgical exploration in the past either due to their long size with increased liability to perforate or the formation of a large bladder stone over a neglected foreign body that requires open cystolithotomy. However, endoscopy was successfully used in the extraction of the ball-point pen and avoided the need for an open procedure. The challenges that we faced during endoscopic extraction are: 1) the sharp end of the pen appeared to be penetrating the bladder wall but during cystoscopy, the pen was mobile freely inside the bladder with no evidence of penetrating injury 2) the wide diameter of the pen which made it very difficult to hold by the routine grasper instruments 3) The plastic nature of the pen made it slippery to hold with a bi-prongs grasper and required multiple attempts to hold the tip firmly with a tri-prongs grasper. 4) the long length of the pen posed a constant risk of injury to the bladder and urethra during the entire procedure and only with careful maneuvering we could successfully extract the pen in toto. 5) Check cystoscopy was normal except for few small insignificant mucosal tears in the urethra and per-urethral catheterization was done. The post-operative period was uneventful and the catheter was removed on the third postoperative day and the patient was discharged. On follow-up, the patient is voiding well without any difficulty. Ultrasound and uroflowmetry findings are normal.

Conclusion

Endoscopic extraction of long rigid foreign bodies from the urinary bladder poses a considerable challenge to the urologist, especially in men. The old treatment dictum is to use an open procedure for the removal of large and long foreign bodies in the urinary bladder. However, it is now clear to us that the even long rigid bladder foreign bodies in men can be extracted successfully with endoscopy provided adequate endoscopic instruments and armamentarium are available, however, a urologist should not hesitate to convert to open procedures if endoscopy is failed or if endoscopic equipment is not available or lack of surgeon's experience with endoscopic maneuvers.

Abbreviations

KUB - Kidney, Ureter, Bladder

Cm - Centimeter

CT - computed tomography

F/ Fr - French units

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Figures



Figure 1

A) X-ray KUBU showing a linear foreign body in the bladder region B) USG bladder confirming the linear object inside the bladder without any evidence of bladder clots or hydroureteronephrosis. C) CT-KUB confirms the same without any evidence of bladder perforation.

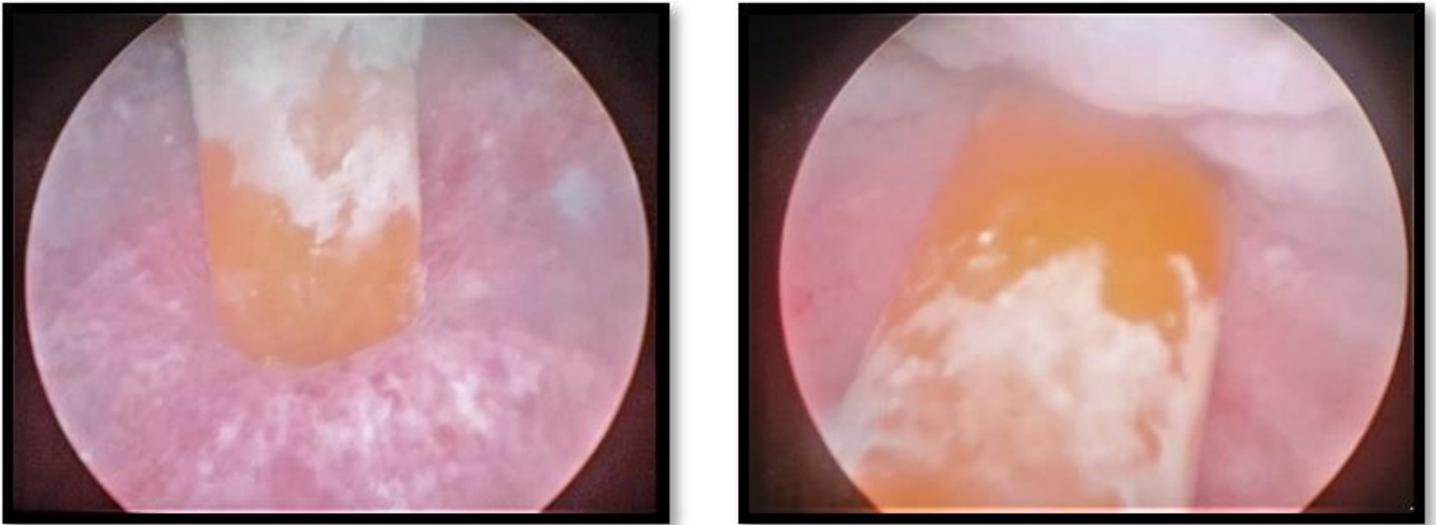


Figure 2

A and B: Cystoscopy showing both the ends of the lodged foreign body

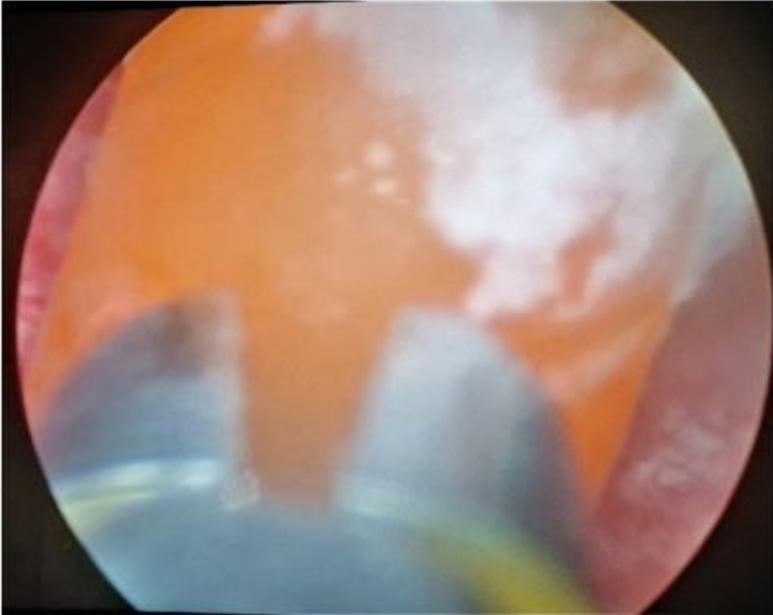


Figure 3

Unsuccessful cystoscopic attempt with cold-cup forceps

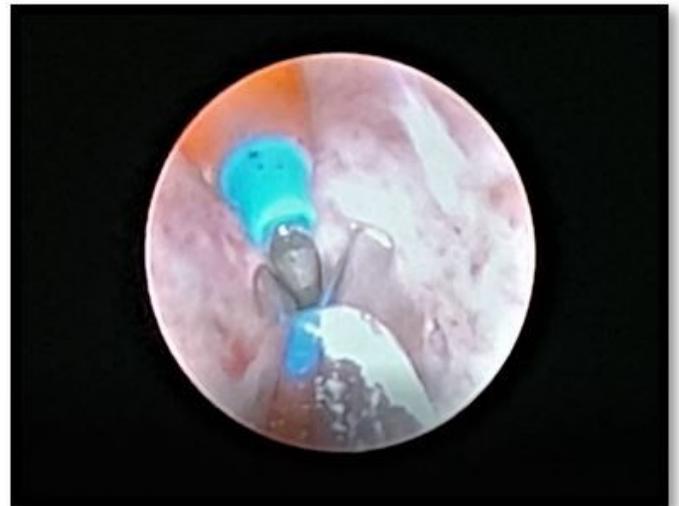
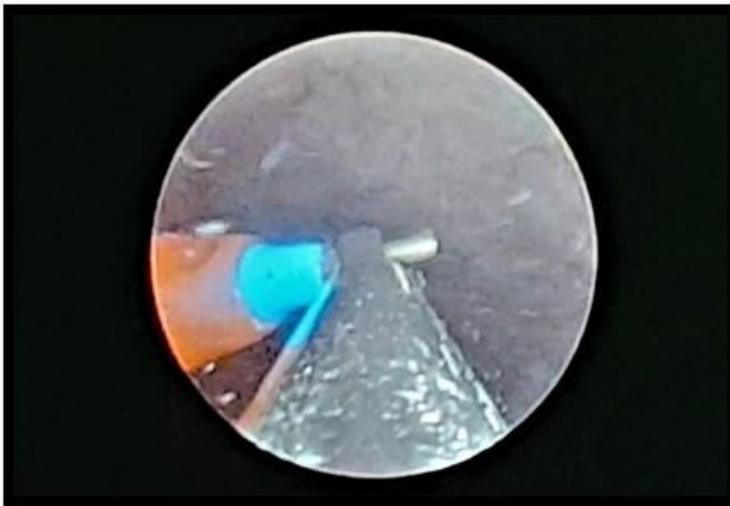


Figure 4

A and B. Successful endoscopic extraction of the pen using nephroscope and grasper.

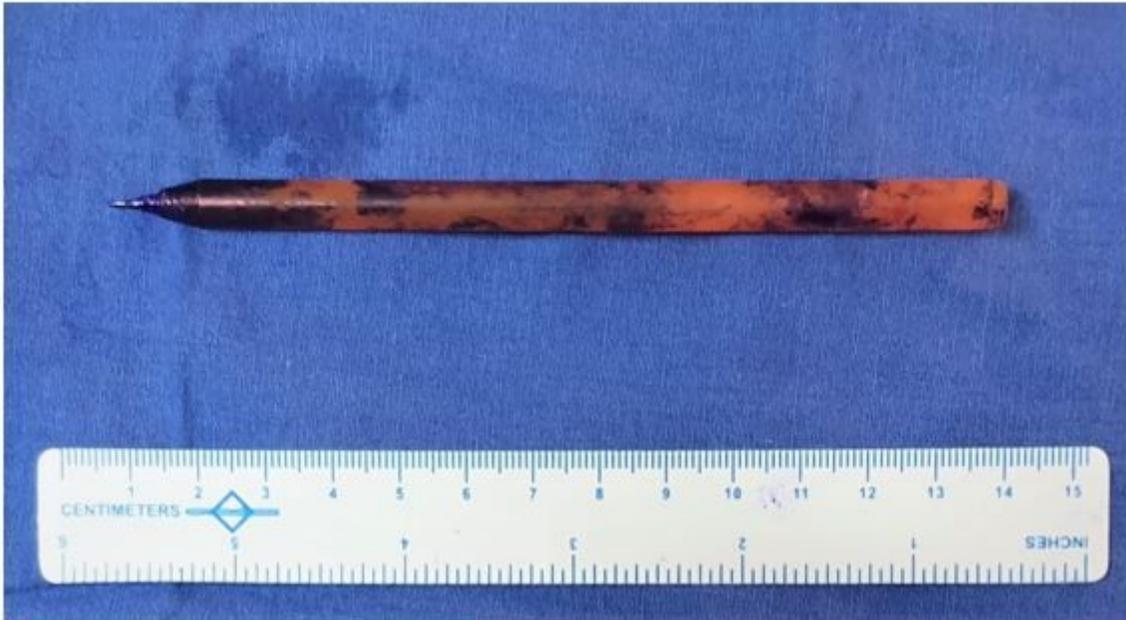


Figure 5

Endoscopically extracted intact foreign body - 13 cm long ball-point pen