



ENDOSCOPIC REMOVAL OF A TRANSVERSELY IMPACTED URETHRAL NEEDLE IN SCHIZOPHRENIA

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ABSTRACT

Self-inflicted urethral foreign body insertion is a rare urological emergency frequently associated with psychiatric disorders and may present significant management challenges, particularly when sharp metallic objects are involved. We report the case of a 44-year-old man with schizophrenia who presented with meatal bleeding and penile pain after self-inserting a needle into the urethra. Clinical evaluation, pelvic radiography, and urethroscopy revealed a 10-cm needle lodged transversely in the bulbomembranous urethra with bilateral mucosal penetration. The foreign body was successfully removed through a minimally invasive endoscopic approach under direct visualization, without fragmentation or the need for open surgery. The patient experienced an uneventful postoperative recovery and was referred for psychiatric follow-up. This case demonstrates that careful endoscopic planning and controlled extraction can facilitate the safe management of sharp urethral foreign bodies even in anatomically challenging locations, while multidisciplinary psychiatric care remains essential to prevent recurrence.

Keywords: foreign body; schizophrenia; self-inserted; urethra

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INTRODUCTION

Self-insertion of foreign bodies into the lower urinary tract is a rare urological emergency commonly associated with psychiatric disorders, autoerotic behavior, intoxication, or self-medication (Godzisz et al., 2025; Tuncer et al., 2021). These cases occur predominantly in males and may involve various objects, most commonly wires, needles, pens, and electrical cables, which can affect the urethra and bladder (Fotovat et al., 2023; Palmer et al., 2016). Clinical presentations range from mild dysuria to acute urinary retention, while delayed treatment may result in complications such as urethral trauma, infection, hematuria, and fistula formation (Fotovat et al., 2023; Palmer et al., 2016). Diagnosis and management are often delayed because patients frequently feel embarrassed to seek medical attention (Gharbia et al., 2025).

Needles in the urethra are particularly difficult to manage due to their sharpness, potential for migration, and tendency to embed in tissues (Wang et al., 2023). Careful planning is needed to minimize injury during localization and extraction (Crawford et al., 2021). Endoscopic removal is usually preferred for its minimally invasive nature and direct visualization, while open surgery may be necessary if the object is firmly embedded (Temiz et al., 2015). Psychiatric illness, particularly Schizophrenia, is an important predisposing factor for self-inflicted genitourinary foreign body insertion. We report a rare anatomical and technical variant in which a 44-year-old man with schizophrenia self-inserted a long needle transversely into the bulbomembranous urethra, causing bilateral mucosal penetration and requiring controlled endoscopic extraction without open surgery. The aim of this report is to present a rare case of a self-inflicted needle lodged transversely in the

bulbomembranous urethra with bilateral mucosal penetration in a patient with schizophrenia, and to discuss the diagnostic considerations, endoscopic extraction technique, and multidisciplinary management required to achieve a favorable clinical outcome.

METHOD

We report the case of a 44-year-old man with schizophrenia who presented with meatal bleeding and penile pain after self-inserting a needle into the urethra. Clinical evaluation, pelvic radiography, and urethroscopy revealed a 10-cm needle lodged transversely in the bulbomembranous urethra with bilateral mucosal penetration. The foreign body was successfully removed through a minimally invasive endoscopic approach under direct visualization, without fragmentation or the need for open surgery.

RESULT

Case Presentation

A 44-year-old man was brought to the emergency department by his family. He had meatal bleeding for four days and pain in the proximal penis (Visual Analog Scale: 6). Symptoms began after he inserted a needle into his penis and unsuccessfully tried to remove it. He urinated 4–5 times daily and denied fever, dysuria, or purulent discharge. The patient had a four-year history of schizophrenia and took antipsychotic medication as prescribed by a psychiatrist. He was unmarried and sexually inactive.

Vital signs were normal. On external genital exam, there was no urethral discharge, inflammation, or hematoma. Penile palpation revealed tenderness. Complete blood count was normal without leukocytosis. Pelvic X-ray confirmed the presence of a radiopaque foreign body with a needle impression. The needle was transversely oriented within the penis (Figure 1).



Figure 1. Plain pelvis X-ray shows a radiopaque metallic foreign body in the proximal penis

Elective endoscopic removal was scheduled the following day. After spinal anesthesia, the patient was placed in the lithotomy position, and aseptic preparation was performed. Urethroscopy was carried out using a 21-Fr sheath with a 30° lens. The needle was identified in the bulbomembranous urethra, with both ends penetrating the urethral mucosa: the proximal part of the needle appeared to penetrate the membranous urethra and the distal part of the needle appeared to penetrate the bulbar urethra (Figure 2).

The needle was not immediately extracted by simple traction due to the risk of further mucosal injury. Under continuous endoscopic visualization, one end of the needle was first carefully disengaged from the urethral mucosa using alligator forceps. Once partially freed, gradual manipulation was performed to realign the longitudinal axis of the needle with the urethral lumen. This controlled realignment allowed the sharp ends to be oriented within the lumen. Following proper alignment, the needle was gently and completely extracted without fragmentation or the need for open surgery. The foreign body was carefully extracted using alligator forceps, and an intact needle measuring approximately 10 cm was successfully removed (Figure 3). After the procedure, a urinary catheter was inserted and maintained for 2 weeks.

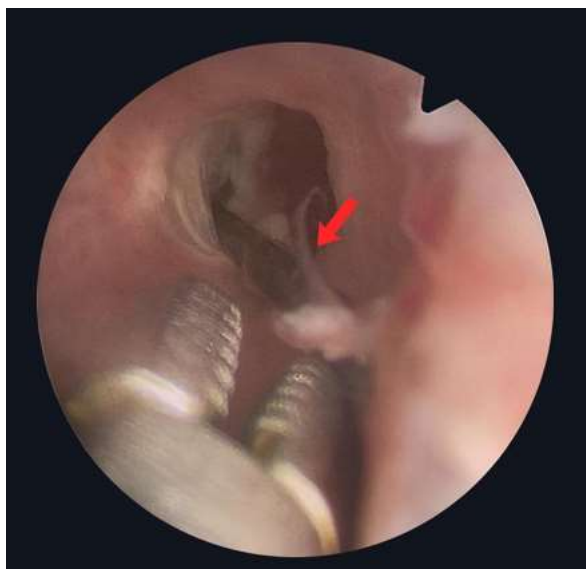


Figure 2. Urethroscopy findings shows the needle was identified in the bulbomembranous urethra, with both ends penetrating the urethral mucosa



Figure 3, Clear appearance of the needle

During hospitalization, the patient received intravenous antibiotics and pain relief medication. A psychiatric consultation was arranged for ongoing psychiatric care. On the first postoperative day, the patient was stable and reported less pain. He was discharged after this. After 1 week, the patient came for a check-up. He stated that he only experienced minimal discomfort. He denied complaints of fever, dysuria, and hematuria.

DISCUSSION

Self-inflicted urethral foreign body insertion remains an uncommon but clinically important urological emergency, particularly among patients with psychiatric disorders such as schizophrenia (Mushtaq et al., 2014). Although a wide variety of objects have been reported, sharp metallic foreign bodies such as needles represent a distinct subgroup because they are more likely to penetrate mucosa, migrate, and complicate extraction (Wang et al., 2023).

A recent literature review identified 443 reported urethral foreign body cases since 1961, with only 12 involving needles (Ali et al., 2024). Among these, most cases involved straightforward longitudinal positioning or partial migration, whereas transverse impaction with bilateral mucosal penetration at the bulbomembranous urethra appears rarely documented (Ali et al., 2024). This anatomical configuration creates a specific technical challenge because both sharp ends become anchored in opposing mucosal surfaces, increasing the risk of urethral tearing during traction.

Sharp metal objects, like needles, present specific technical challenges due to their tendency to penetrate the mucosa, migrate, and cause secondary tissue injuries during extraction (Wang et al., 2023). Retained needles are more likely to embed themselves in the periurethral tissues compared to more flexible materials, such as wires or catheters. This often necessitates careful surgical planning to avoid complications like urethral perforation or the formation of false routes (Crawford et al., 2021; Yang et al., 2024).

This case is particularly notable because the needle was embedded in the bulbomembranous urethra, with both ends penetrating the urethral mucosa. This configuration significantly complicates the extraction process. The bulbomembranous segment is anatomically vulnerable due to being a relatively narrow section of the urethra, making it more likely for sharp objects to become embedded following failed self-expulsion attempts (Palmer et al., 2016). Similar migratory behavior has been described in recent reports of penile and urethral foreign bodies, in which sharp metal objects can penetrate tissue layers if diagnosis or intervention is delayed (Yang et al., 2024).

The clinical presentation in these cases can vary significantly based on the extent of mucosal injury. Symptoms such as dysuria, hematuria, urinary retention, fever, penile and abdominal pain, and pyuria may manifest, or patients may even be asymptomatic (Perdana et al., 2022). Our patient exhibited meatal bleeding and proximal penile pain. This relatively mild presentation likely indicates a limited inflammatory response and the absence of secondary infection, as supported by normal hematologic findings and the absence of systemic signs of infection (Fotovat et al., 2023). Delayed presentation is common, often due to embarrassment that prevents early disclosure. This delay in diagnosis has been consistently recognized as a significant contributor to urethral complications (Gharbia et al., 2025; Wang et al., 2023).

In managing urethral foreign bodies, it is crucial to perform radiological evaluation to support effective surgical planning (Vagholkar et al., 2023). Plain pelvic radiography is the recommended first-line imaging method for identifying metallic foreign bodies. This technique allows for a quick and cost-effective assessment of the size, orientation, and approximate anatomical location of the foreign object (Haronis et al., 2025). In this case, the radiograph clearly showed a needle oriented transversely, which helped anticipate mucosal penetration prior to urethroscopy. For radiolucent objects, migration outside the urethra, or uncertain locations, advanced imaging techniques such as ultrasound or computed tomography may be utilized (Haronis et al., 2025; Thummar et al., 2016).

Current evidence strongly supports the endoscopic removal of foreign bodies whenever it is technically feasible. This approach minimizes tissue trauma, reduces the length of hospitalization, and allows for direct visualization of any mucosal injury (Haronis et al., 2025). However, dealing with sharp foreign bodies that are embedded in the mucosa on both sides can be technically challenging. Forceful traction in these cases may worsen mucosal tears or turn partial injuries into complete perforations (Ali et al., 2024; Wang et al., 2023). In our patient, urethroscopy revealed that both ends of the foreign body were embedded in the mucosa of the bulbomembranous urethra. Controlled extraction using alligator forceps under direct visualization allowed for the complete removal of the foreign body without fragmentation or the need for open surgery. Recent case reports also highlight that carefully aligning the sharp edge with the urethral lumen is crucial for the successful minimally invasive extraction (Ali et al., 2024; Yang et al., 2024).

A multidisciplinary approach is crucial in cases involving self-inflicted urethral foreign bodies because simply extracting the object does not address the risk of recurrence. In patients with psychiatric disorders, especially schizophrenia, the behavior of self-insertion may indicate ongoing issues with judgment, impulsivity, or psychotic symptoms, even when they are receiving pharmacological treatment. This highlights the need for psychiatric reassessment, even in individuals who appear clinically stable (Allo et al., 2025; Gharbia et al., 2025).

Additionally, counseling for both the patient and their family should be included to enhance supervision, ensure adherence to treatment, and facilitate the early recognition of recurrent self-harm behaviors, particularly in socially vulnerable individuals with limited insight (Palmer et al., 2016). Thus, managing urethral foreign bodies should not be viewed merely as an acute technical procedure but as an opportunity to identify and mitigate future urological and psychiatric issues through integrated care.

This case highlights that transversely impacted sharp urethral foreign bodies with bilateral mucosal penetration, although rare, can still be successfully managed through a minimally invasive endoscopic approach when careful extraction is performed under direct visualization. Early radiological assessment, precise endoscopic planning, and gentle alignment of the foreign body with the urethral lumen are essential to minimize urethral injury and avoid open surgery. In patients with underlying psychiatric disorders, definitive management should also incorporate psychiatric follow-up to reduce the likelihood of recurrent self-inflicted genitourinary injury.

CONCLUSION

Transversely impacted urethral needles with bilateral mucosal penetration are rare and technically challenging foreign bodies. This case demonstrates that careful endoscopic extraction under direct visualization, including controlled disengagement and realignment of the needle with the urethral lumen, can enable safe and complete removal without the need for open surgery. Early radiological assessment and meticulous endoscopic planning are essential to minimize urethral injury. In patients with underlying psychiatric disorders, multidisciplinary management with psychiatric follow-up is crucial to reduce the risk of recurrent self-inflicted genitourinary injury.

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