



SPONTANEOUS INTRAVESICAL KNOTTING OF A CYSTOCATHETER IN A 75-YEAR-OLD MAN

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ABSTRACT

Intravesical knotting is a rare complication of urinary catheterization that can make catheter exchange difficult. We report a case involving a 75-year-old man with type 2 diabetes mellitus and recurrent urethral stricture after several unsuccessful endoscopic procedures. The patient had a long-term 12 Fr suprapubic cystostomy catheter and presented for a scheduled exchange without pain, hematuria, or fever. Ultrasound confirmed the intravesical position of the catheter and showed no bladder calcifications. Elastic resistance prevented initial withdrawal. A hydrophilic guidewire was introduced through the catheter lumen, and controlled traction subsequently permitted removal. Examination of the extracted device revealed a tight knot in its distal intravesical portion. A new catheter was inserted, and no immediate complications were observed. Excess intravesical catheter length is a possible mechanism, although it was not measured in this patient. This case illustrates the need to consider catheter knotting when unexpected resistance occurs during suprapubic catheter exchange and to select further management according to the catheter configuration and available access.

KEYWORDS: Suprapubic catheter; Intravesical knotting; Cystocatheter; Catheter exchange; Case report.

BACKGROUND

Suprapubic catheterization provides urinary drainage when urethral access is unsuitable. Intravesical knotting is an uncommon complication that has been described in both adult and pediatric patients and may prevent routine catheter removal.^[1,2]

We report intravesical knotting discovered during a scheduled suprapubic catheter exchange in an older man with recurrent urethral stricture.

CASE PRESENTATION

A 75-year-old male with a significant medical history of type 2 diabetes mellitus was followed by our urology department for a complex, recurrent urethral stricture. Following the failure of multiple endoscopic interventions, the patient was managed with a long-term 12 French indwelling suprapubic cystostomy catheter. He presented for a routine, scheduled catheter exchange.

At the time of clinical evaluation, the patient was asymptomatic, specifically denying suprapubic pain, gross hematuria, or irritative voiding symptoms. There were no systemic signs of infection, such as fever or chills. On physical examination, the suprapubic cystostomy site was clean and well-healed, without evidence of peristomal erythema or purulent discharge. The abdomen was soft and non-tender upon palpation.

Before the procedure, bladder ultrasound confirmed the intravesical position of the catheter and showed no bladder calcifications.

The suprapubic catheter had no balloon. Significant elastic resistance was encountered during attempted withdrawal, and initial gentle traction was unsuccessful. Further manipulation was undertaken cautiously to limit the risk of injury.

Despite these attempts, the resistance persisted. A decision was made to use a hydrophilic guidewire (Figure 1), inserted through the lumen of the catheter to provide structural rigidity and attempt to straighten any potential intravesical looping. With the guidewire in place, steady and controlled traction allowed for the successful removal of the catheter. Visual inspection of

the device immediately revealed a tight, true knot at the distal intravesical tip (Figure 2). The patient tolerated the procedure well, and a new 12 Fr silicone catheter was successfully inserted over a guide. No immediate complications, such as gross hematuria or bladder spasms, were observed. The patient was discharged with a follow-up plan for his definitive urethral surgery.



Figure 1: Cystocatheter removal using a guidewire (left). Figure 2. Tight knot in the intravesical portion of the catheter (right).

DISCUSSION

Published reports describe suprapubic catheter knotting in an elderly adult and in a child.^[1,2] The present case adds an example involving long-term suprapubic drainage for recurrent urethral stricture.

Excess catheter length within the bladder may permit looping and subsequent knot formation.^[1,2] Catheter flexibility and bladder movement have also been discussed as possible contributors.^[2] The intravesical length and the sequence of knot formation were not documented in our patient; therefore, the mechanism remains uncertain.

The patient was asymptomatic before exchange, and the knot became apparent only after resistance to withdrawal and inspection of the removed device. Ultrasound established catheter position before the procedure but did not identify the knot. Thus, the preprocedural ultrasound did not exclude this complication in this case.

Reported approaches to knotted urinary catheters include sustained traction, guidewire manipulation, endoscopic treatment, and surgical extraction.^[2,3] These approaches reflect individual cases rather than comparative evidence establishing a preferred method.

In this patient, guidewire insertion followed by controlled traction permitted removal without an

observed immediate complication. The guidewire was intended to modify the catheter configuration, but its precise contribution cannot be established from a single case. This outcome should not be interpreted as evidence that traction is appropriate for every knotted catheter.

Persistent resistance should prompt reassessment of the catheter and consideration of imaging or endoscopic management. Percutaneous suprapubic cystoscopic removal has been reported when other approaches are unsuitable.^[3] The recurrent urethral stricture in our patient would need to be considered when selecting an alternative access route.

This report is limited by the absence of measured intravesical catheter length and documented long-term follow-up. It establishes technical removal success and the absence of immediate reported complications, rather than long-term safety.

CONCLUSION

Intravesical knotting should be considered when unexpected resistance occurs during suprapubic catheter exchange. Guidewire-assisted removal succeeded in this case without an immediate complication. Management must be individualized, and excessive intravesical catheter length should be avoided where possible.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and the accompanying images.

ACKNOWLEDGMENT

None.

Conflict of Interest

No conflict of interest.

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