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Case Report

Retained Foley catheter fragment in the urinary bladder managed with open cystolithotomy and prostatectomy

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ABSTRACT

Retained Foley catheter due to balloon non-deflation is an uncommon but clinically relevant complication. We report a rare case in which the catheter was inadvertently retained after the patient cut the external portion of the Foley catheter, leading to proximal slippage and inability to deflate the balloon. Although the patient had no documented psychiatric illness, such behavior raises the possibility of underlying psychological or behavioral factors. Conventional methods failed, the patient was successfully managed through open cystolithotomy and simultaneous open prostatectomy. This case highlights the importance of considering patient-related factors in catheter complications and emphasizes a structured management approach to prevent morbidity.

Keywords: Foley catheter, Foreign body, Urinary bladder, Open cystolithotomy, Prostatectomy, Urinary retention, Benign prostatic hyperplasia

INTRODUCTION

Urinary catheterization using a Foley catheter is a routinely performed procedure in clinical settings. While generally considered safe, it may occasionally lead to complications such as urinary tract infection, urethral trauma, and rarely, retained catheter due to failure of balloon deflation.[1] Retained Foley catheter is an infrequent but challenging clinical scenario that may arise due to mechanical malfunction or external factors.[2] In certain situations, patient-related behavioral or psychiatric issues may contribute to unusual modes of catheter damage or retention, which are sparsely described in literature.[3] Various techniques for managing a non-deflating Foley balloon have been reported, ranging from simple bedside methods to invasive urological procedures.[4] However, no standardized protocol exists, and management often depends on the clinical scenario. This report describes a rare case of retained Foley catheter following self-inflicted catheter cutting in a patient with suspected psychiatric disturbance, along with a review of management strategies.

CASE REPORT

An 80-year-old male presented to the surgical emergency department with complaints of urinary discomfort along with a known history of a retained foreign body within the urinary bladder. According to the attendant, who provided a reliable history, the patient had experienced multiple prior episodes of urinary retention requiring repeated catheterizations. He also had a past surgical history of transurethral resection of the prostate (TURP), performed in 2000 and again in 2012 for benign prostatic hyperplasia (BPH). During a recent episode of urinary retention, the patient underwent Foley catheterization at a peripheral healthcare facility. Subsequently, he

intentionally cut the external portion of the catheter, which led to migration of the distal segment along with the inflated balloon into the urinary bladder. Following this event, he again developed urinary retention and required insertion of a second Foley catheter at the same center. Due to persistent lower urinary tract symptoms, particularly irritative symptoms, he presented to our institution for further evaluation and management.

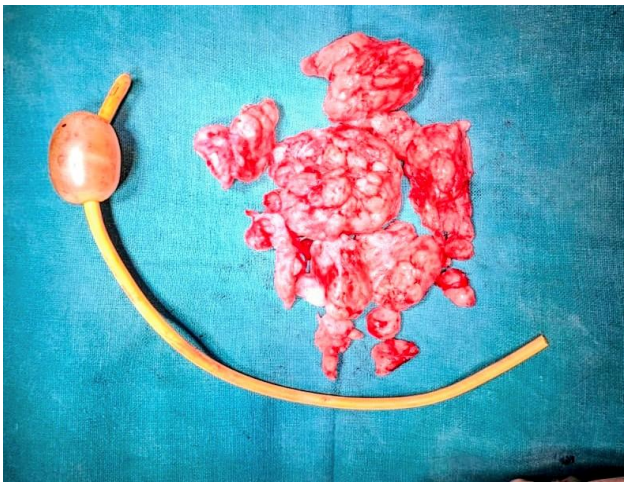

Figure 1: Intraoperative specimen showing the retrieved retained Foley catheter segment with inflated balloon along with enucleated prostatic tissue following open cystolithotomy and open prostatectomy.

On examination, a Foley catheter was found in situ and draining. Ultrasonography of the abdomen demonstrated a large retained segment of Foley catheter with an inflated balloon within the urinary bladder, along with the presence of intravesical debris and an enlarged prostate consistent with benign prostatic hyperplasia.

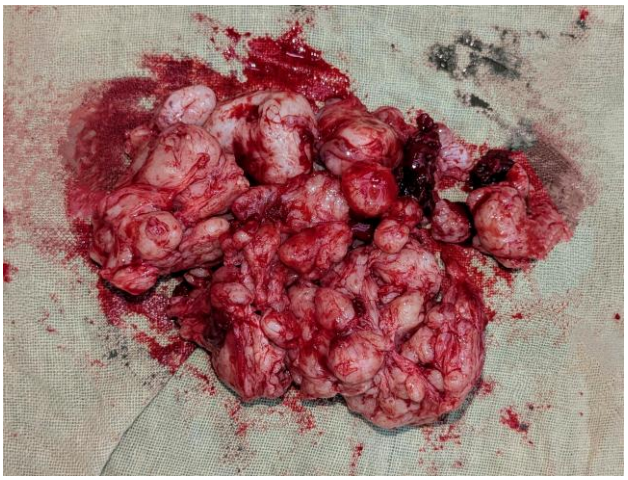

Figure 2: Excised prostatic tissue following open prostatectomy for benign prostatic hyperplasia.

Considering the size and configuration of the retained catheter fragment, as well as the presence of significant prostatic enlargement, a decision was made to proceed with open cystolithotomy combined with open prostatectomy. Intraoperatively, approximately two-thirds of the Foley catheter, including the inflated balloon, was successfully retrieved. Additionally, a substantial amount of prostatic tissue, weighing approximately 500 grams, was excised. The procedure was performed under spinal anesthesia. A three-way Foley catheter was placed at the end of the surgery, and continuous bladder irrigation was initiated.

The postoperative course was uneventful. The urine became clear by postoperative day 2, and the surgical drain was removed on postoperative day 7. The patient was discharged on postoperative day 11 in stable condition with satisfactory urine output.

DISCUSSION

Retained intravesical Foley catheter or its fragments represent an uncommon but clinically significant complication of urinary catheterization. Such complications are most commonly attributed to mechanical causes, including valve malfunction, blockage of the inflation channel, or crystallization within the balloon.[5] However, unusual mechanisms such as accidental or deliberate damage to the catheter by the patient have been infrequently reported.[6] In the present case, catheter retention occurred following self-inflicted transection of the external portion of the Foley catheter, which resulted in proximal migration and loss of access to the inflation channel. Notably, the patient had no prior history of psychiatric illness, suggesting that factors such as discomfort, anxiety, or inadequate awareness regarding catheter care may contribute to such behavior. Similar observations have been described in literature, where device manipulation occurred even in the absence of a formal psychiatric diagnosis.[6]

A key finding in this case was the inability to deflate the balloon due to disruption of the catheter system, which differs from the more commonly reported mechanism of intrinsic balloon deflation failure.[5] Imaging modalities such as ultrasonography or plain radiography play an important role in confirming the presence and location of the retained catheter and in assessing balloon status.[7] In previously reported cases, imaging has been particularly useful in guiding further management, especially when minimally invasive techniques are considered.[7] In addition, the coexistence of prostatic enlargement in this patient contributed to urinary retention and influenced the overall management strategy, necessitating definitive surgical intervention.

The management of retained Foley catheter is generally recommended to follow a stepwise approach, beginning with simple non-invasive techniques and progressing to more invasive methods when required.[5] Conventional methods such as cutting the inflation port are often effective when the catheter structure remains intact;

however, this was not feasible in the present case due to catheter transection. Minimally invasive techniques, including guidewire insertion through the inflation channel, have been reported with good success rates in earlier studies, but their applicability depends on the integrity of the catheter system.[7] Similarly, ultrasound-guided suprapubic puncture of the balloon has been shown to be a reliable and effective option in resistant cases.[8]

In contrast to most previously reported cases, where catheter retention is primarily due to mechanical failure, the present case demonstrates an atypical etiology related to patient manipulation of the device.[6] This distinction is important, as it significantly affects both the mechanism of retention and the available management options. The damaged catheter in our case limited the utility of standard minimally invasive techniques, thereby necessitating a more individualized and definitive approach. Open surgical intervention not only facilitated removal of the retained catheter fragment but also allowed simultaneous management of the underlying prostatic enlargement, thereby addressing the primary cause of urinary retention and reducing the likelihood of recurrence.[5]

This case underscores the importance of patient education regarding catheter care, as well as proper fixation and monitoring to prevent inadvertent manipulation.[9] It also highlights that even in the absence of a diagnosed psychiatric disorder, behavioral factors may contribute to unusual complications. Therefore, clinicians should maintain a high index of suspicion and adopt a flexible, case-specific management strategy. Compared with existing literature, this case adds to the limited reports of catheter retention due to external manipulation and reinforces the need for a systematic yet individualized approach to management.[10]

CONCLUSION

In summary, this case differs from previously reported literature in terms of etiology, mechanism, and management challenges. While most studies focus on mechanical failure of the catheter, our findings emphasize the role of patient-related factors. A structured, stepwise approach remains essential; however, management must be individualized based on the specific clinical scenario and associated conditions.

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