Foley Catheter Retention: A Case Report

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Mechanical complications associated with the use of Foley catheters are common and are usually managed by balloon deflation and catheter removal. Occasionally, attempts to deflate the balloon are unsuccessful, and removal of the catheter by usual means becomes impossible. These cases generally involve retention of the balloon in the bladder of male patients. We present a case of retention of a Foley catheter in the urethra of a young male patient, removed by a percutaneous needle puncture of the balloon using a perineal approach.

Case Report

A 29-year-old man was brought to the trauma room of the emergency department after sustaining a stab wound to the abdomen. An intravenous line and a nasogastric tube were inserted, and urinary catheterization using a No. 18 French Foley catheter was attempted. Inflation of the balloon of the Foley catheter was difficult, and no urine flow was observed. The patient experienced severe perineal pain and demanded immediate removal of the Foley catheter. Evacuation of fluid from the balloon port was attempted, but no fluid could be aspirated or injected, even after cutting off the balloon port valve. Irrigation of the drainage lumen of the Foley catheter was also tried, but no fluid could be injected or recovered. The Foley catheter could be neither advanced nor retracted. Palpation of the perineal region at the base of the scrotum revealed a firm round mass, which was presumed to be the balloon of the Foley catheter within the urethra.

Use of a guidewire was advised by a urological consultant, but a suitable wire was not readily available and the patient needed immediate attention. At this time it was decided to aspirate the fluid from the balloon percutaneously. The perineal skin was prepared with povidone-iodine solution, and using a 23-gauge needle on a 3 mL syringe, the balloon was punctured at the base of the scrotum. Upon penetration, the balloon burst and there was a sudden forceful ejection of both the fluid and the Foley catheter from the external urinary meatus, bringing relief to the patient. The Foley catheter was noted to have no structural defect except for the burst balloon. Subsequently the patient could void without difficulty. Further inquiry revealed that the patient had suffered from gonorrhea in the past but had experienced no further urinary problems. Retention of the Foley catheter in this case was believed to have been due to deflection and retrograde movement of the tip of the Foley catheter and the balloon part upon itself (Figure 1). Subsequent inflation of the balloon, therefore, caused obstruction of both lumens of the catheter.

Discussion

Several methods have been described for deflation of the balloon of Foley catheters retained in the bladder, including the following: (1) slow traction, (2) suprapubic puncture of the balloon using a fine spinal puncture needle,[1] (3) overinflation of the balloon until it bursts, (4) chemical injection of the balloon with ether or liquid paraffin,[2] (5) introduction of a ureteric catheter stylet into the balloon channel, after severing the valve, to puncture the balloon,[3] (6) suprapubic needle puncture of the balloon under radiological control,[4] (7) ultrasound-guided suprapubic puncture of the balloon,[5–7] (8) transection of the catheter, followed by pushing the remaining portion of the catheter into the bladder, subsequently puncturing the balloon with a cystoscopic needle, and extracting the transurethral catheter by biopsy forceps,[8] (9) balloon puncture using a guidewire through the balloon channel,[9] (10) ultrasound-guided needle puncture of the balloon using a perineal approach,[10] and (11) reduction of the angulation of the Foley catheter in

continued on page 653

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continued from page 649

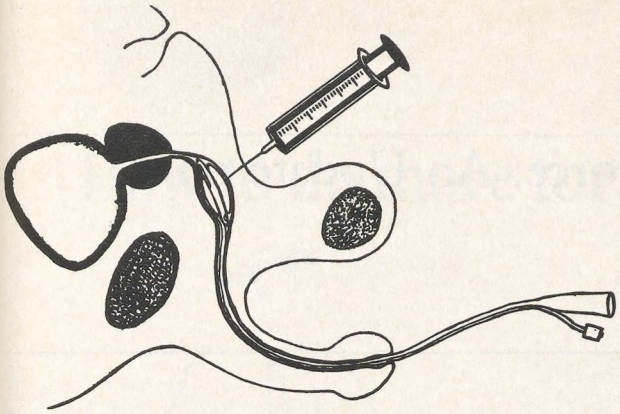

Figure 1. Foley catheter deflection in the urethra, presumed to be the mechanism responsible for the retention of the catheter, and percutaneous needle puncture of the balloon.

the urethra using a guidewire through the drainage channel.[11]

Of the above methods, balloon rupture by overinflation may require the insertion of more than 200 mL of fluid, and may not be possible because of obstruction. The use of chemicals such as ether, chloroform, or liquid paraffin to dissolve the balloon may cause chemical injury to the bladder mucosa, and the retained balloon fragments may induce foreign body reactions. Ultrasound-guided methods of needle puncture of the balloon in the bladder are most favored because of their safety and high rate of success. When an inflated balloon is in the urethra, rapid deflation is important because of pain and the possibility of urethral injury. Needle puncture of the stuck Foley catheter balloon can be performed simply, under direct vision, guided by percutaneous or transrectal digital palpation, with or without the use of anesthetics or radiologic or ultrasonic assistance.

Key words. Urinary catheterization; equipment failure.

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