A Rare Case of Stuck Guidewire with Foley Catheter in Urethra due to Knotting

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ABSTRACT

Guidewires play a significant role in many medical specialties.¹ They were initially developed for vascular procedures,² but are also nowadays an essential tool in endourology. The knotting of the guidewire is a very rare complication and only a few cases have been reported until now. We report a case of spontaneous intraurethral knotting of guidewire on the Foley catheter during per urethral catheterization that led to retained Foley catheter with the guidewire. The balloon was punctured percutaneously with a needle under ultrasound guidance but due to knotting guidewire and Foley catheter, both are stuck in the urethra. A guidewire knot was found proximal to the balloon. The urethroscopy shows the knotting of the guidewire with a Foley catheter. Open urethrotomy done and both guidewire and Foley catheter removed.

Keywords: Foley catheter, Guidewire, Knotting, Urethra.

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INTRODUCTION

Guidewires are widely used in the field of surgery and medicine. Their application has been expanded with the advent of the Seldinger technique.³ However, guidewires are associated with complications such as perforation, bleeding, and knotting.³⁻⁶ Kinking of the guidewire is another complication that is described very little. We report a unique case of intraurethral knotting of guidewire around a Foley catheter balloon during per urethral catheterization in an adult male patient. This is the first case report about the knotting of guidewire around Foley catheter in urethra during per urethral catheterization and both were stuck in urethra.

CASE DESCRIPTION

A 66-years-old male patient of k/c/o squamous cell carcinoma of left side of angle of mouth admitted in Mahatma Gandhi Hospital on 20/10/2020 in oncology department. Patient was posted in operation in oncology for wide local excision with complete neck dissection with reconstruction with alt flap on 23/10/2020. Intraoperative catheterization was tried but fail.

A hydrophilic coated terumo guidewire was then used as a guide to place the Foley catheter per urethra. The following catheterization and inflating the balloon, the guidewire was gently pulled to take it out. The guidewire could not be pulled out completely and got stuck. Further attempts to deflate the balloon of the catheter such as aspiration through the side channel and by cutting the balloon channel were performed (Fig. 1), but were unsuccessful. The catheter balloon was subsequently punctured percutaneously with needle but both guidewire and Foley catheter stuck in urethra. Urethroscopy was done (Fig. 1). We found multiple knotting of guidewire around the balloon of Foley catheter was there which cause stuck of this in urethra. Both guidewire and Foley catheter were left there. Suprapubic cystostomy done. X-ray KUB done which shows knotting of the guidewire (Fig. 2). After 3 days of this patient was posted for removal of this guidewire and Foley catheter in the urology operation theater. Under spinal anesthesia

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and in lithotomy position midline perineal incision is given. Urethra open and both stuck guidewire and Foley catheter were removed (Fig. 3) and silicon catheter placed. Complete removal of guidewire with Foley catheter done (Fig. 4).

Fig. 1: Urethroscopy showing both stuck guidewire with Foley catheter in urethra

Fig. 2: X-ray KUB showing guidewire knotting done in urethra

Fig. 3: Intraoperative photo showing removal of both guidewire and Foley catheter

Fig. 4: Postoperative complete removal of both guidewire with Foley catheter

TREATMENT

Subsequently, the Foley balloon was punctured and deflated percutaneously but not removed. Both guidewire and Foley catheter stuck in urethra. Urethroscopy done we found multiple knotting of guidewire around the balloon of Foley catheter was there which cause stuck of this in the urethra. Both guidewire and Foley catheter were left there. Suprapubic cystostomy done. After 3 days of this patient was posted for removal of this guidewire and Foley catheter in urology operation theater under spinal anesthesia and in lithotomy position midline perineal incision is given. Urethra open and both stuck guidewire and Foley catheter were removed and silicon catheter placed. Then patient discharge with per urethral catheter and spc. per urethral catheter removed after 1 month and then spc removed. Patient is doing well now.

DISCUSSION

Each part of the Foley catheter can be implicated as a cause behind the non-deflating Foley's balloon. Reasons for the catheter balloon not deflating could be (i) malfunction of inflation valve due to external trauma, clamping, or crystallization when crystallizable fluid like normal saline is used to fill the balloon. (ii) If the valve

is not at fault, problems may be present in the rest of the side port passage or the balloon. Catheter blockage from mineral salt encrustation in as many as 40–50% of patients having long-term catheterization. The effects of urinary precipitation under alkaline condition compounded by urea-splitting bacteria and the resulting biofilm were found to be important for catheter blockages.⁷

When difficulty arises in removing a catheter this is usually due to the inability of the balloon to deflate. Commonly, the balloon port is cut-off in an attempt to deflate the balloon passively.⁸ This circumvents any defect in the inflation port itself. Some have advocated injecting fluid within the balloon port until the balloon burst⁹ or using solutions such as mineral oil to dissolve the balloon.¹⁰ These techniques require inspection of the balloon to ensure that there are no retained particles. The use of guidewires down the inflation port to burst the balloon has also been utilized.¹¹ Using needles with a palpable balloon through the urethra or vagina, or if needed under ultrasound guidance, is often a final resort.⁸

In this case, we show the failure of several of these techniques largely because guidewire was found folded around the catheter within the urethra.

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