Knotting of Urethral Catheters: a Preventable Complication

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ABSTRACT

A number of complications are associated with Urethral catheterization. Feeding tube is usually used for this purpose in children. Spontaneous intravesical knotting of such urethral catheters is a known but rare complication. We are reporting two cases of intravesical knotting of feeding tube used to drain bladder in patients who underwent urethroplasty.

Key words: Catheter knotting, urinary.

INTRODUCTION

Feeding tubes are commonly used to drain the bladder for a variety of indications, e.g. surgery on bladder and urethra, for obtaining urine to measure output & urinary analysis and for retrograde cystourethrography etc[1], of various complications, spontaneous intra vesical knotting is rare but a known complication.[2] It has drastic consequences.[3] However this complication can be prevented. We are reporting two cases to increase the awareness of the complication.

CASE REPORTS

Case No. 1

A 6-year-old boy underwent repair of distal hypospadias. An 8 Fr feeding tube was used to drain the bladder. Removal of Feeding tube post-operatively was encountered with resistance. Catheter came out with complete breakdown of the repair on forceful removal. A knot was found in the catheter (photograph -1)

Case No. 2

An eight year old boy had hypospadias repair (Bracka I). An 8 Fr feeding tube was used for urinary drainage. In this case when removal of catheter was attempted, resistance was encountered. Intravesical knotting was suspected, so catheter was removed with gentle steady traction under sedation without any harm. Patient was kept under observation for 24 hours for any detrimental effect of urethral injury.

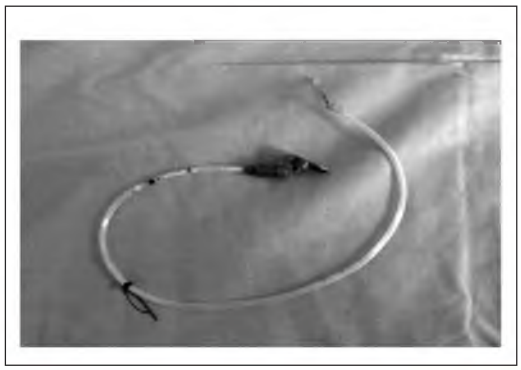

Figure – 2 :

DISCUSSION

In 1976 Haris & Ramilo [4] were the first to report the case of catheter knotting in a pediatric patient, and since then few other cases have been reported [5-7] Spontaneous intra vesical knotting is a rare complication. The incidence is about 0.2 cases per 100,000 catheterizations.[1] In most of these cases feeding tube was used.

The probable mechanism of catheter knotting is the presence of excessive length of catheter tubing inside the bladder, which becomes coiled up with distal tip passing through one or more loops of the catheter to form a knot and when the catheter is pulled out it becomes tight, preventing its removal. [8]

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The treatment options reported in the literature include, untying of the knot by passing an angiography guide wire alongside the catheter under fluoroscopic guidance[5], Gentle steady traction under sedation or general anaesthesia has been reported successful in some female children with short & relatively pliant urethra.[2, 3, 9] The last option is surgical removal through cystostomy[10].

We encountered this problem in 2 cases. Both underwent hypospadias repair. In the first case, the condition was not recognized and removal of catheter with force resulted in disruption of repair. In second case, it was suspected and so the catheter was removed with steady gentle traction without any adverse effects. Singh *et al*. has also reported successful and safe removal of knotted catheter in a patient who had hypospadias repair by steady gentle traction and lubrication[12], while Khattak *et al*. required cystostomy to remove knotted catheter in a patient who had hypospadias repair.[3]

This complication can easily be prevented by an awareness of the possibility of spontaneous intravesical knotting. The only precaution needed is to avoid the insertion of excessive length of the catheter in the urinary bladder. The catheter should be inserted only till the urine starts coming out in the tube & then only a few [5,8,11] centimeters of further insertion is required to ensure intravesical placement and balloon inflation in case of Foley's catheter. This precaution should be taught to all the healthcare personnels carrying out urethral catheterization. [9]

This awareness is most important in cases of Urethroplasty where removal of the catheter with a knot can have a drastic complication (disrupt the repair).

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