Modified simple percutaneous suprapubic cystostomy

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Introduction

Acute retention of urine is a urological emergency. Urethral catheterisation is occasionally not possible. Then suprapubic cystostomy remains the treatment of choice. The two different approaches practised are percutaneous push-in technique using a peel away sheath [1] or the metal trocar and open surgical method. The existing percutaneous technique was modified by me to make it simple and cheap.

Technique

The procedure is done under local anaesthesia. Position of the enlarged bladder is confirmed by percussion. The skin is prepared as for a standard suprapubic cystostomy, and 2% lignocaine is infiltrated in the midline 2 cm above the pubic symphysis. Using a number 11 blade a vertical cut 1-2 cm in length is made in the midline. The incision is deepened and a small cut is made in the rectus sheath. With a mosquito forceps the rectus defect is enlarged and blunt dissection is done in the suprapubic fat till the resistance of the bladder is felt. The depth and position of the bladder are confirmed by inserting a 23 gauge needle on a syringe while aspirating.

A 16Fr catheter is mounted on a 2/5 Fr Lister's urethral dilator (figure). Tension is maintained on the catheter so that the tip of the catheter gets pointed by the traction. 2% lignocaine jelly is applied to the tip. The dilator and the catheter mounted on it are gently pushed through the cut made in the rectus sheath maintaining the traction on the catheter until the resistance of the bladder wall is felt. The catheter and the dilator are then pushed downwards and slightly forwards maintaining firm pressure. At one point a sudden give is felt as it penetrates the bladder wall. This will be confirmed by the appearance of urine. The dilator is then advanced a further 3-4 cm into the bladder cavity. Then 10-15ml of sterile water is injected to inflate the bulb and the dilator is withdrawn. The catheter is anchored.

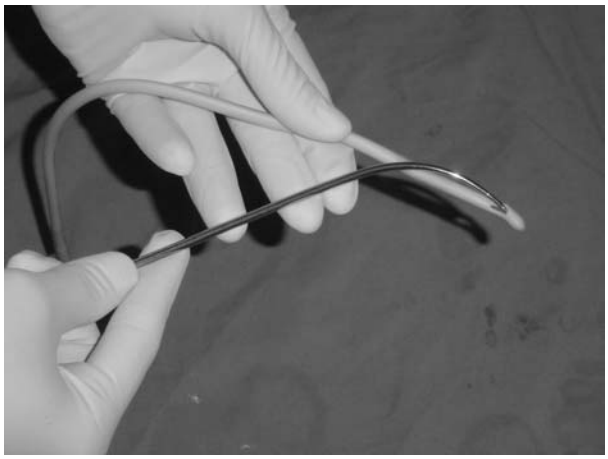

Figure. **16Fr catheter mounted on a urethral dilator and held under tension.**

Cases

Eleven patients with palpable bladder were referred for suprapubic catheterisation to the surgical unit in General Hospital, Kurunegala from March to September 2007. The modified technique was used in 10 patients. 7 patients were direct admissions with acute urinary retention and 3 were referrals from other wards. One patient with a pelvic fracture was excluded. All had urethral catheterisation attempted at least twice by medical officers. One patient had retention of urine subsequent to inadvertent inflation of the catheter bulb within the posterior urethra. All patients had palpable bladders. The modified technique was successful in all 10 patients. The average time taken from the draping to the final dressing was 5 minutes. During the hospital stay the catheters were functioning normally. There were no post-operative complications.

Discussion

The modified method requires minimal material (local anaesthetic, number 11 surgical blade on a Bard Parker handle, 2/5 Lister's urethral dilator, 16 Fr Foley catheter, 23

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gauge needle, 10 ml syringe and nylon skin suture) and it is simple to perform. A disposable peal away kit costs about Rs. 3 000. The open technique requires general anaesthesia, open access, and more time.

The size of the catheter may be a limiting factor in this new technique. Catheters larger than 18Fr may be difficult to push through the bladder wall. The procedure may be technically difficult in an obese patient with a thick abdominal wall. With a thick bladder wall the extra force necessary may make the procedure uncomfortable.

References

1. O'Brien WM. Percutaneous placement of a suprapubic tube with peel away sheath introducer. *Journal of Urology* 1991; **145**: 1015-6.