

The occasional suprapubic catheter

Keith MacLellan, MD

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Every now and again a patient will present to a rural emergency room with urinary obstruction, usually because of a prostate problem. The immediate treatment is to pass a Foley catheter of some sort through the urethra, past the obstruction and into the bladder. Rarely this cannot be done, and the level of frustration for the physician and patient increases with each try of successively smaller calibre catheters, with or without a variety of potentially harmful rigid shapes. Instead of the gratifying sight of urine, blood may begin issuing from the urethra as the trauma adds to the worsening discomfort of a distending bladder. Permanent damage may ensue.

There are, of course, few rural urologists to call upon. However, a urologist would install a suprapubic catheter fairly early in this process, before significant trauma happens and when it becomes clear that nothing will get through the urethra past the obstruction. Insertion of a suprapubic catheter is not considered an advanced urologic skill. It can be mastered easily by rural physicians and needs no maintenance of competence. Here is what we do at our hospital:

Requirements

- A patient with bladder obstruction, in distress, with no history of extensive surgery or cancer (adhesions).
- An obviously palpable bladder above the symphysis pubis.
- Failure of transurethral catheterization, short of causing major trauma.
- One of 2 suprapubic catheter kits (see below).
- As much informed consent as is possible.

Kits

We use either the urinary drainage kit from Zimmer with Snyder Hemovac (cat. no. 2587-001-10; Zimmer Inc., Dover, Ohio) (Fig. 1) or the Lawrence Add-A-Cath suprapubic catheter introducer (Femcare Ltd., St. Peter's St., Nottingham NG7 3EN, UK) (Fig. 2).



Fig. 1



Fig. 2

The Zimmer kit has a smaller needle, ending up with a catheter so thin that a spring loaded Hemovac suction receptacle must be attached to drain the bladder effectively. The advantage is that a smaller needle can be used for initial bladder puncture. The disadvantage is that it takes time to drain the bladder, and the skinny catheter must be sutured to the skin to achieve any sort of stability. Even if the suturing is effective, there is a risk of infection.

The Lawrence system involves a rather dauntingly large trocar, but will allow the introduction of a no. 10 Foley catheter, with its accompanying larger diameter and more rapid drainage. Since the Foley catheter has an inflatable balloon, there is inherent stability, without the need for sutures and attendant risk of infection.

In either case, the introduction site and preparation are the same:

- Ensure the above requirements are met.
- Prepare and drape in a sterile manner
- Choose a spot 3 cm above the symphysis pubis in the midline. Alternatively, the junction of the lower one-third from the upper two-thirds of the distance from the umbilicus to the symphysis would be satisfactory (Fig. 3).



Fig. 3

- Infiltrate the chosen area with local anesthetic, using a 22-gauge needle, going through the rectus sheath at the midline. Aspirate until the bladder is punctured and urine returns into the syringe. The needle and the subsequent instruments should be angled approximately 60°.
- Using either the Zimmer needle or the Lawrence trocar, follow the path used for local anesthesia (Fig. 4).



Fig. 4

If the Zimmer kit is used, the soft end of the catheter is threaded through the needle once the bladder has been punctured. The needle is withdrawn and the metal end of the catheter is inserted into the Hemovac (Fig. 1). The receptacle's springs are primed according to the instructions on the front of the Hemovac.

If the Lawrence kit is used, follow the same preparation and anesthetizing steps. Since the trocar is much larger, it helps to make an incision through the rectus sheath with a scalpel (Figs. 5, 6 and 7). The peel-away sheath works well.



Fig. 5



Fig. 6



Fig. 7

Either of these methods will safely give your patient who has urinary obstruction, recalcitrant to the usual approaches, a large measure of relief and will buy you time when trying to find a urologist to carry out definitive therapy. Other methods may be available, and we would appreciate hearing of them.

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