Suprapubic bladder catheterisation using the Seldinger technique

N Vasdev, N Kachroo, S Mathur, R Pickard

Citation

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Abstract

Background:

Suprapubic catheterisation is normally performed blindly or ultrasound guided. We present an evaluation of a new Seldinger technique for suprapubic catheterisation in our department describing the technique and post procedure results.

Methods:

6 patients had suprapubic catheters introduced via the Seldinger technique using suprapubic Foley catheter introduction set, Mediplus Ltd, High Wycombe, UK. All clinicians completed a questioner at the end of the procedure rating their confidence in the new device compared to the standard technique across 5 domains using a simple scale.

Conclusion:

Overall users of the device expressed greater confidence in application, patient comfort and safety of the new device compared to standard trochar placement. Given the current drive to minimise risk these devices appear to represent a significant advance over standard methods and merit consideration for routine use.

BACKGROUND

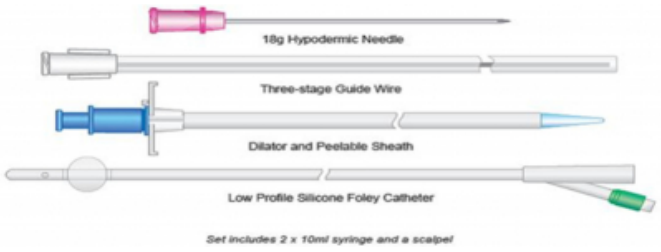
Suprapubic catherisation is currently performed using blind or ultrasound-guided percutaneous trochar puncture. Although usually straightforward it can be associated with bowel injury which may be fatal[1,2]. The safer Seldinger technique is now standard for vascular access and nephrostomy insertion and we now report its application to suprapubic catheterisation.

METHODS

We evaluated patient safety and the clinician's perception of a new Seldinger technique for Suprapubic catheterisation using the ‘Suprapubic Foleys catheter introducing set' (Mediplus Ltd, High Wycombe, UK) [Figure 1].

Figure 1

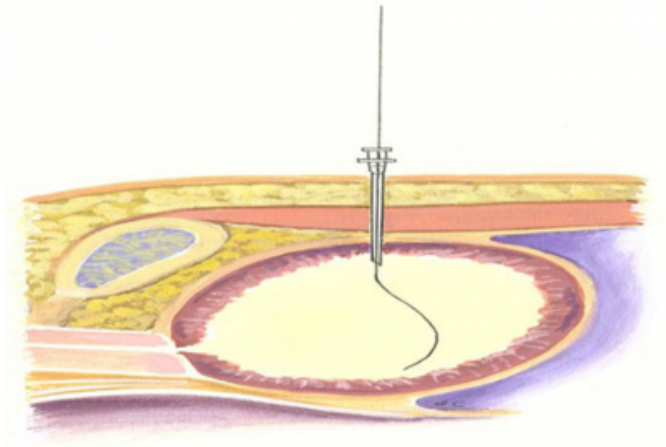
Figure 1: Suprapubic Foleys catheter introducing set' (Mediplus Ltd, High Wycombe, UK)



We asked 6 members of the urology staff (SpR's and Consultants) to use it when they next needed to catheterise a patient suprapubically. All patients were consented prior to the procedure. Catheter placement was accomplished by puncture of the full bladder under local anaesthetic using a 18 gauge needle confirmed by aspiration, passage of a floppy-tip 0.035 inch guidewire through the needle [Figure 2].

Figure 2

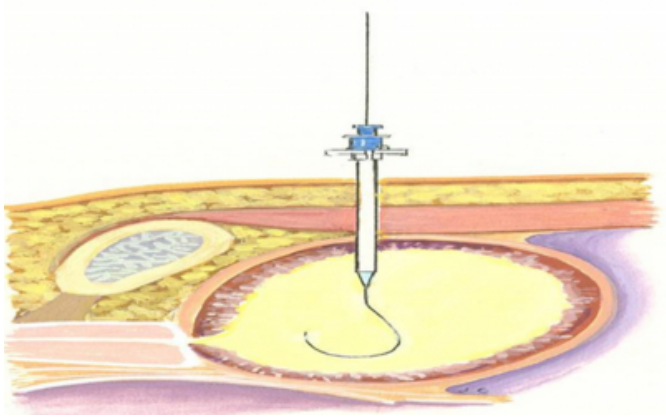
Figure 2: The 0.035 inch floppy-tip guidewire being passed through a 18 gauge needle into the Bladder.



A dilatation of the track over the guidewire was performed followed by removal of the needle and passage of a 14 Fr Foley catheter (Standard length of 43cm) through the peel-away sheath which is part of the dilator assembly [Figure 3].

Figure 3

Figure 3: Dilatation of the Suprapubic established tract over the 0.035 inch floppy-tip using the Seldinger technique.



At each use the clinician was asked to complete a short questionnaire rating their confidence in the new device compared to the standard technique across 5 domains using a simple scale [Table 1].

Figure 4

Table 1: Ratings by 6 observers of their assessment of the new device compared to standard trochar placement. The rating scale ranged from -100% to + 100%.

Procedure number	1	2	3	4	5	6	Average
Confidence in Technique	+50%	0%	+95%	+30%	0%	+50%	**+38%**
Confidence in Dilator	+95%	+80%	+95%	-40%	0%	+50%	**+47%**
Patient comfort	+50%	+20%	+30%	0%	0%	0%	**+17%**
Confidence in use by Junior Staff	+80%	+50%	+75%	-50%	0%	+80%	**+39%**
Safety	+50%	+50%	+80%	-50%	+10%	+80%	**+37%**

CONCLUSION

Overall users of the device expressed greater confidence in application, patient comfort and safety of the new device compared to standard trochar placement. This is in agreement with previous assessment of a similar device which, to our knowledge, has not been marketed in the UK_3. Given the current drive to minimise risk these devices appear to represent a significant advance over standard methods and merit consideration for routine use.

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Author Information

Nikhil Vasdev, MRCS (UK)
Department of Urology, Freeman Hospital

Naveen Kachroo, MBBS
Department of Urology, Freeman Hospital

Sunil Mathur, FRCS (Urology)
BioMed Centre, Bristol Urological Institute

Robert Pickard, FRCS (Urology)
Department of Urology, Freeman Hospital