Endourological urethral dilation using a ureteral access sheath

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BACKGROUND

Male urethral strictures occur principally because of sexually transmitted infections and instrumentation or surgery of the lower urinary tract. We describe our technique of endourological urethral dilation that can be applied for urethral strictures (especially in the posterior urethra) and bladder neck stenosis.

TECHNIQUE

The external urethral meatus is inspected and dilated bluntly in case of stenosis with the tip of a mosquito clamp. On-table retrograde urethrography is then performed to characterise the stricture. A hydrophilic guidewire is advanced via flexible urethroscopy past the stricture(s) into the bladder (Fig 1) and exchanged over a ureteral access catheter with a stiffer wire. A 35cm 5–14F ureteral access sheath (Flexor®; Cook Medical, Bloomington, IN, US) is advanced over the guidewire into the urinary bladder under continuous fluoroscopy, dilating the stricture (Fig 2). The sheath is removed and a 14F urethral catheter is introduced with the guidewire (Fig 3), passing through the intact rounded catheter tip.¹

DISCUSSION

Urethral dilation and internal urethrotomy are equivalent in achieving long-term patency as initial management of urethral strictures (Fig 4).² The hydrophilic coating and the special tip design of the ureteral access sheath (gradual gauge increase from 5F to 14F) aid in safely dilating bladder neck stenosis or urethral strictures close to the external sphincter (Fig 5). The relatively increased cost of expendables (approximately £150) compared with optical

Figure 2 The ureteral access sheath is advanced into the bladder using fluoroscopy.

Figure 3 The urethral catheter in the correct position

Figure 1 The hydrophilic guidewire is advanced via flexible urethroscopy past the stricture (arrowhead) and into the bladder under fluoroscopic control.

Figure 4 Retrograde urethrography six weeks following dilation

Figure 5 The tip of the Flexor® ureteral access sheath

urethrotomy is justified as this stepwise approach increases safety by direct visual as well as fluoroscopic control of the procedure, avoiding blind dilation or sharp dissection.

References

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Controlled eversion of the patella during total knee replacement surgery

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BACKGROUND

Patella eversion is a useful method to improve access during total knee replacement.¹ However, it is often difficult to carry out due to the force needed to overcome the extensor mechanism and due to fat-pad scarring from previous surgery. It must be carefully controlled to prevent avulsion of the patellar tendon, and also to avoid unnecessary rough handling of tissues (especially if the patella is not to be resurfaced).

TECHNIQUE

We have developed a technique for patellar eversion that is relatively easy to carry out. A six-claw rake retractor is placed on the juxta-articular medial inner surface of the soft tissues of the patella. A three-claw 'cat's paw' retractor is placed on the lateral patella, on the edge of the soft tissues. The larger retractor allows external rotation of the patella, so the smaller retractor lifts the lateral edge to facilitate patella eversion. The knee is flexed slowly, initially to only 45°, to allow the soft tissues surrounding the patella to relax. At this stage, we also routinely remove the most superficial scarred layer of the fat pad, before the knee is finally flexed to 90°.

DISCUSSION

Eversion of the patella can be a technically challenging part of total knee replacement. However, our reproducible technique allows for

Figure 1 Placement of the cat's paw and rake retractors

Figure 2 Slow flexion is applied to the knee as the patella is rotated externally

Figure 3 Superficial portion of the fat pad (held in forceps) is removed

easy, controlled patella eversion and good access for the remainder of the procedure. We have found that the technique works well even in obese patients or in stiff knees. We have used this technique in 1,100 consecutive knee replacements (including revisions) and no ruptures of patella tendons have been observed.

References

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