Technical Section

TECHNICAL NOTES & TIPS

TECHNICAL NOTES

Using an extracorporeal suture loop to aid retroperitoneal pelvi-ureteric anastomotic suturing during laparoscopic pyeloplasty

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BACKGROUND

Intracorporeal suturing during laparoscopic surgery is time-consuming but fundamental to performing a pyeloplasty. In addition, laparoscopic pyeloplasty is routinely performed via an extraperitoneal approach limiting available suturing space adding to potential technical difficulties.¹ We describe a technique that eliminates the need for an initial intracorporeal knot to begin the anastomosis.

TECHNIQUE

The method involves forming an initial suture loop outside the body. We recommend attaching an artery forceps to the operative

drape and tying an accurate reef knot around the points of the forceps (Fig. 1A). Removing the forceps leaves a small loop at the opposite end of the suture to the needle. The needle and suture are delivered into the retroperitoneal space. The first pass is taken of the renal pelvis and the needle subsequently passed through the ureter. We routinely use a Connel suture.² The needle is passed through the formed loop (Fig. 1B) and pulled tight, securing the beginning of the anastomosis. The formation of the anastomosis continues with tension on the running suture, knotting in a standard intracorporeal fashion at the end.

DISCUSSION

We have now used this technique in 15 consecutive procedures. Fourteen procedures were entirely uncomplicated; in 1 case, there was a prolonged urinary leak. Creating the initial knot extracorporeally ensures an accurate and safe initial hand tie under direct vision. This eliminates the need for an initial laparoscopic intracorporeal knot tie to begin the anastomosis, saving time and allowing rapid apposition of the renal pelvis and ureter. This, in turn, allows the rapid generation of 'momentum' to the suturing process that is important to the timely completion of an accurate anastomosis.

References

1. Eden C, Cahill D, Allen J. Laparoscopic dismembered pyeloplasty: 50 consecutive cases. *BJU Int* 2001; **88**: 526–31.
2. Cartledge J, Blacker T, Joyce A. Laparoscopic pyeloplasty – Lessons from the learning curve. *Urol News* 2004; **8**: 6–10.

Figure 1 Initial extracorporeal knot aids suturing. (A) Illustration shows artery forceps (F) grasping drape (D) as reef knot is tied (K). (B) Photograph shows extraperitoneal space, after bites through renal pelvis (P) and ureter (U); needle is passed through previously formed loop (L) and pulled tight.

Are tracheal dilators useful in stomal stenosis?

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BACKGROUND

Tracheostomy has been performed since ancient times. In 1833, Armand Trousseau invented an instrument designed to dilate the incision into the airway, to allow easier passage of a tracheostomy