Technical Section

TECHNICAL NOTES & TIPS

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Nail gun injuries: a simple method to facilitate exploration

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BACKGROUND

Nail gun injuries to the hand, fingers and wrist are commonly sustained by younger manual workers¹ who rely heavily on the function of their hand. Classical treatment for penetrating injury with associated foreign body is to lay open the entire tract, to enable adequate wound toilet and identification of damaged structures.² We describe a technique to facilitate both exploration and irrigation of the tract.

TECHNIQUE

Before removal of the nail, a robust suture (for example a 2/0 nylon) is tied around the distal end (Fig. 1). Antiseptic solution is applied to the nail, which is then removed, pulling the suture into the tract (Fig. 2). An exploratory incision is made, taking care to plan the incision to allow for extension for further surgical exploration as necessary. Damaged structures in the vicinity of the nail can be visualised and repaired; adequate irrigation can be performed, using a modified Seldinger approach³ by threading an intravenous cannula over the 2/0 nylon tie into the tract of the nail, whilst minimising unnecessary surgical access incisions and their associated morbidity (Fig. 3).

DISCUSSION

While we strongly endorse adequate exposure and debridement in contaminated wounds with foreign body involvement, in selected cases this technique allows visualisation of the tract, allowing directed debridement and irrigation thus minimising the risk associated with larger surgical wounds, without compromising treatment.

Figure 1 A suture is tied around the nail.

Figure 2 The suture is pulled into the tract.

Figure 3 The suture allows identification of the tract during treatment.

References

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Laparoscopic nephro-ureterectomy for upper tract urothelial cancer: cystoscopic closed system pluck

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BACKGROUND

Laparoscopic nephro-ureterectomy has emerged as a safe alternative to open surgery for upper tract urothelial cancers.¹ The dilemma during this procedure is the management of the distal ureter. Cystoscopic dissection of the distal intramural ureter obviates the open approach;² however, the open ureter is associated with tumour spillage.³ We describe a novel cystoscopic closed system pluck.

TECHNIQUE

In the lithotomy position, around the appropriate ureteric orifice, a Collin's knife is used to incise the bladder deep into muscle with a margin < 5 mm (Fig. 1). A 5-mm laparoscopic hem-o-lok clip® (Teleflex Medical, High Wycombe, UK) is inserted via the straight working channel of the cystoscope into the bladder (the jaws of the loaded clip applicator are gently closed, but not locked, to allow introduction easily down the working channel, then opened fully when within the bladder). The clip is applied across the intramural ureter (Fig. 2). Following patient repositioning, either a retroperitoneal or transperitoneal laparoscopic nephro-ureterectomy is performed. Subsequently, minimal traction and further blunt dissection is applied to the distal ureter, completely freeing it off the bladder. The hem-o-lok clip is clearly visible and adherent to the distal ureter confirming total ureteric excision (Fig. 3). The entire specimen is removed via the endocatch bag. An in-dwelling 16-F Foley urethral catheter is left *in situ*; following a cystogram on day 8, the catheter is removed.

DISCUSSION

The closed system pluck allows a complete minimally invasive nephro-ureterectomy to be performed. It adheres to the oncological principles that dictate complete '*en bloc*' removal of the specimen, minimising the risks of tumour spillage and

Figure 1 Dissection around ureteric orifice with Collin's knife.

Figure 2 Application of hem-o-lok clip around intramural ureter.

Figure 3 Closed system laparoscopic nephro-ureterectomy with hem-o-lok clearly visible on distal ureter.

seeding. Compared to the open approach of the distal ureter, it is associated with reduced operative time, postoperative pain and hospital stay.