Technical Section [TECHNICAL NOTES AND TIPS

Combined transversus abdominis plane and rectus sheath catheters for postoperative analgesia following major hepatopancreatobiliary surgery

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BACKGROUND

Optimal pain control after major surgery is paramount in preventing postoperative complications. Recent adoption of enhanced recovery after surgery protocols has highlighted the critical importance of analgesia protocols, ensuring rapid patient recovery through early mobilisation.^{1,2} Traditional epidural analgesia can impair mobilisation and, importantly, can impact on the postoperative 'fluid shift' from the vasodilatory effect. In major hepatopancreatobiliary surgeries using a reverse-L incision, analgesia via surgically placed transversus abdominis plane and rectus sheath catheters represents an excellent alternative, without 'fluid-shift' effects.^{3,4}

TECHNIQUE

We describe the technique for a reverse-L incision using widely available equipment, illustrated with a step-by-step video. It is an

Figure 1 Creation of a pocket by dissecting the natural plane between transversus abdominis and internal oblique muscles. (a) As seen in reverse-L incision. (b) Transverse abdominis plane. (c) Posterior rectus sheath.

First, we identify the transversus abdominis plane layer, above which the nerves run, followed by creation of a pocket by dissecting the natural plane between transversus abdominis and internal oblique muscles (Fig 1). Next, we create a pocket below the posterior rectus sheath, followed by closure of the posterior rectus sheath and transversus abdominis layer. An epidural catheter is then inserted into each pocket using a bent 16-G epidural needle. This is followed by closure of the anterior fascia. The catheters are secured by single skin tunnelling and dressing to avoid dislodgement.

Video link:

<https://publishing.rcseng.ac.uk/journal/video?doi=10.1308%2Fvideo.2019.8.2&videoTaxonomy=TECH>

DISCUSSION

Transversus abdominis plane and rectus sheath catheter placement is a robust technique for pain management. This report details an easy approach with step-wise illustration, without a need for new equipment for its placement. The procedure will add 30 minutes to the closure time.

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References

1. Hughes MJ, McNally S, Wigmore SJ. Enhanced recovery following liver surgery: a systematic review and meta-analysis. *HPB* 2014; **16**(8): 699–706.
2. Ji HB, Zhu WT, Wei Q *et al.* Impact of enhanced recovery after surgery programs on pancreatic surgery: a meta-analysis. *World J Gastroenterol* 2018; **24**(15): 1,666–1,678.
3. Bell R, Ward D, Jeffery J *et al.* A randomized controlled trial comparing epidural analgesia versus continuous local anesthetic infiltration via abdominal wound catheter in open liver resection. *Ann Surg* 2019; **269**(3): 413–419.
4. Karanickolas PJ, Cleary S, McHardy P *et al.* Medial open transversus abdominis plane (MOTAP) catheters reduce opioid requirements and improve pain control following open liver resection: a multicenter, blinded, randomized controlled trial. *Ann Surg* 2018; **268**(2): 233–240.
5. Behman R, McHardy P, Sawyer J *et al.* Medial open transversus abdominal plane catheter analgesia: a simple, safe, effective technique after open liver resection. *J Am Coll Surg* 2014; **218**(5): e91–94.

The paediatric tracheostomy part-task trainer: low fidelity, low cost

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Figure 1 Equipment needed to develop the paediatric tracheostomy part-task trainer.

Figure 2 Suction tube secured in the middle of a plastic box.