Continuous TAP Block for Cesarean Section Analgesia

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Randomized clinical trials to assess the efficacy of transversus abdominis plane (TAP) blocks for post-Cesarean section analgesia have demonstrated limited benefits when compared to or given with spinal morphine (1). This may be due to the limited duration of action of single shot TAP blocks, lasting usually only 12-16hrs. To achieve extended analgesia, bilateral TAP catheter placement could be advantageous for post-Cesarean analgesia in patients with challenging medical conditions.

We present 3 cases where conventional multimodal analgesia was either impossible or likely to fail (renal failure, chronic pain, documented morphine and NSAID allergy). In each case, bilateral TAP catheters were inserted under US-guidance at the end of the Cesarean section under spinal anesthesia.

Procedure: Initial scanning with a linear probe was performed in the mid-axillary line at the height of umbilicus. After optimal visualization of the muscle layers and the TAP, an 18G Tuohy needle, spiked with a B. Braun SoftTip Perifix® 20G epidural catheter, was advanced under US-guidance into the TAP. Bupivacaine 0.25% 5ml with epinephrine 1:200000 was injected after negative aspiration. After further confirmation of correct catheter tip location in the TAP with a visible hydrodissection image (Figure), the catheter was further advanced 3-5cm. Under US-guidance, incremental dosing of 5ml to a total of 20ml was completed. After removal of the Tuohy needle, the catheter mark at the skin was noted. The catheter was secured with transparent Tegaderm™. The same procedure was then repeated on the other side.

Follow-up: Follow-up visits were performed every 12h. After confirmation of negative aspiration each time, bupivacaine 0.25% 10ml with epinephrine 1:200000 was injected on each side every 12h over the next 48h (3 reinjections). Excellent pain relief was achieved for 48h in all 3 patients. Moderate to severe pain (VAS≥3) was rarely noted and never related to abdominal wound pain. Women reported great satisfaction. Nursing staff noted that patients were able to comfortably ambulate.

Conclusions: Bilateral US-guided TAP catheters placed immediately post-Cesarean section allow excellent analgesia, particularly in women with challenging medical conditions. Larger series and randomized clinical trials to assess the optimal modality (local anesthetic, adjuvants, interval dosing) and safety of this novel technique are now warranted.

EOM = external oblique muscle
IOM = internal oblique muscle
TAM = transversus abdominis muscle
LA = hydrodissection of TAP (hypoechogenic)
Needle = Tuohy 18G Perifix®, in plane
Catheter cannot be seen in 1st case, visible in 2nd case

B. Braun SoftTip Perifix® 20G epidural catheters
Tegaderm covering each catheter