THE ULTRASOUND-GUIDED MULTIPLE-INJECTION COSTOTRANSVERSE BLOCK FOR POSTOPERATIVE PAIN MANAGEMENT WITH MAJOR BREAST CANCER SURGERY: CASE REPORTS

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Background and aim

The multiple-injection costotransverse block (MICB)¹ combines the positive mechanism of action from the thoracic paravertebral block with a reduced risk profile and we have, with success, obtained postoperative pain management with MICB for both unilateral mastectomy with sentinel node biopsy and bilateral mastectomy with primary reconstructive surgery (BMPR). We present three pilot cases (patients' oral and written informed consent obtained).

Methods

Preoperative multimodal analgesic regime for all patients consisted of Acetaminophen 1g, Celecoxib 400mg, Gabapentin 600mg, Dexamethasone 8mg and Dextromethorphan 30mg. The MICB was successfully applied preoperatively at levels T2, T4, T6 and 30min. prior to emergence 10µg Sufentanil was administered (case C 12µg Sufentanil)

Case A: A 56-year-old woman, weight 68kg (body mass index, 24.1kg/m²) with a history of thrombocytopenic purpura, hypertension and poor morphine tolerance (syncope), scheduled for unilateral mastectomy and sentinel node biopsy due to breast cancer. MICB: Ropivacaine 0.5%, 3x10ml respectively. A PECS1 block² using Ropivacaine 0.375% 10ml block was added.

Case B: A 67-year-old woman, weight 55kg (body mass index, 23.2kg/m²) with a history of chronic obstructive pulmonary disease scheduled for BMPR due to breast cancer. Bilateral MICB: Ropivacaine 0.375% 6x10ml supplemented with 60µg Dexmedetomidine.

Case C: A 51-year-old woman, weight 57kg (body mass index, 21.5kg/m²) with a history of migraine and gastroesophageal reflux scheduled for UMPR with a sub-pectoral implant due to breast cancer. MICB: Ropivacaine 0.75% 3x7ml.

Results

Case A: Oral Tradolan 100mg was administered within the first 24hrs. Reported diplopia 12hrs. postoperative; presumably from sympathetic block.

Case B: Sufentanil 10µg and Morphine 5mg was administered within the first 24hrs. (all in the post anaesthesia care unit). Left surgical field was completely pain free.

Case C: In the PACU the patient received 5mg morphine and 5mcg Sufentanil. No opioids were administered within 48 hrs. of discharge from the PACU. The patient reported no adverse effects in regards to the MICB.

Conclusion

The MICB is effective as postoperative pain management in regards to major breast cancer surgery. In a forthcoming RCT we aim to use Ropivacaine 0.5% 3x10ml at levels T2, T4, T6 respectively and 0.2mcg Sufentanil/kg body weight 30 min. prior to emergence vs. placebo (saline) in 36 UMPR patients.

1. Nielsen M V, Moriggi B, Hoermann R, Nielsen TD, Bendtsen TF, Børglum J. *Are Single-injection Erector Spinae Plane Block and Multiple-injection Costotransverse Block Equivalent to Thoracic Paravertebral Block?* Acta Anaesthesiol Scand. 2019;Accepted:In press.