Dexamethasone as an adjuvant to local anesthetic in ultrasound-guided thoracic wall block for breast cancer surgery.

Report of 2 cases.

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Background

Dexamethasone (DEX) is used as an adjuvant in regional anaesthesia, both in perineural and in fascicular blocks. Following an algic stimulus, DEX seems to attenuate C-fibers response, thus down-regulating P-substance release and preventing neuropathic pain, and reduces cytokines release that sensitise the nociceptors. Its anti-inflammatory properties ease the periaxonal inflammation and ischemia of the surgically traumatized nerve, thus sparing nerve fibers and decreasing further damage. However, DEX effect on the duration of analgesia and reduction in post-surgical pain is unclear, and no data exist on its use in patients undergoing regional anesthesia for breast surgery. We describe the effect of DEX on post-surgical pain in two patients undergoing regional anesthesia for breast surgery.

Case report

Two female patients (age: 60 years) underwent a supero-external segmentectomy with sentinel-node biopsy for breast cancer. The operation was performed with a thoracic wall block in deep sedation (Propofol 10 mg/ml injected at 2 mg/kg/h) with spontaneous respiration. All patients received an intravenous premedication (fentanyl 100 mcg plus midazolam 2 mg) and intraoperative paracetamol (1000 mg i.v.). Both patients received levobupivacaine 0.375% + lidocaine 0.5% 35ml for the thoracic wall block. Patient A received an intramuscular bolus of 8 mg DEX. Patient B received 8 mg fascicular DEX diluted in the local anesthetics. Pain was assessed with the numerical rating scale (NRS) up to 48h after surgery. Adverse events were recorded.

Pic. 1: Spread of local anesthetic above the 4th rib, below the serratus anterior muscle

Discussion and results

Both patients had no or very mild pain. In particular, patient A experienced mild pain (NRS=1) from 24 to 36 hours after the operation. Patient B experienced no pain in the first 48hrs after the operation. No adverse event was recorded.

	NRS 2h	NRS 4h	NRS 6h	NRS 8h	NRS 12h	NRS 24h	NRS 36h	NRS 48h
Patient A	0	0	0	0	0	1	1	1
Patient B	0	0	0	0	0	0	0	0

Table 1: Post-surgical pain

Learning points

This report is one of the first on the use of adjuvant DEX for breast surgery regional anesthesia. In our patients, DEX administration (both i.m./fascicular) during thoracic wall block for breast cancer surgery was feasible and safe, and could have played a role in decreasing or delaying postoperative pain.