

## Bloc des érecteurs du rachis - bloc paravertébral

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### Single shot ultrasound-guided para-vertebral block for thoracic surgery with opioid-free anesthesia (ofa): a randomized prospective study

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#### Position du problème et objectif(s) de l'étude:

Patients undergoing thoracic surgery are at risk of severe postoperative pain. Intraoperative use of opioids may result in an increased analgesics consumption which can cause life-threatening side effects such as hyperalgesia, chronic pain and increased risk of tumor recurrence [1,2,3]. We investigated whether preoperative ultrasound guided paravertebral block (PVB) associated with general anesthesia (GA) decreases per and post-operative opioid consumption compared to opioid based anesthesia.

#### Matériel et méthodes:

It was a randomized prospective controlled study. Patients (ASA I – III, over 18 years old) scheduled to undergo video-assisted thoracoscopic surgery or thoracotomy surgery were randomly allocated into two groups of 30 patients to receive GA with Propofol preceded by PVB (Group A) or GA with Propofol and opioid (group B). In Group A, The patients received an ultrasound-guided PVB at T5 level (injection of 15 ml of 0.25% bupivacaine) before GA induction. All patients received 100 gamma of Fentanyl by the induction and a repeat injection if there was a 20% increase in heart rate or blood pressure.

Postoperative analgesia was provided by multimodal analgesia and morphine administration if VAS (visual analogue scale) was above 3. The primary outcome was the Per-operative Fentanyl consumption. Secondary outcomes included postoperative pain scores, postoperative morphine consumption and incidence of nausea and vomiting. Data analysis was performed using SPSS statistics.

#### Résultats & Discussion:

Sixty patients were included and no patient was excluded. Demographic and surgical parameters were comparable between the two groups. The cumulative perioperative Fentanyl consumption was significantly lower in group A (195 µg versus 295 µg,  $P < 0,001$ ). Visual Analogue Scale (VAS) both at rest and at movement at 1, 4, 8 and 12 h were significantly lower in group A ( $p < 0,05$ ), but were comparable at 24h (2,4 vs 2,7,  $P = 0,140$ ). In post-anesthesia care unit, Morphine consumption was significantly higher in group B (3.8 vs 1.9,  $P = 0.008$ ). Higher rates of NVPO were correlated to higher consumption of both Fentanyl and Morphine.

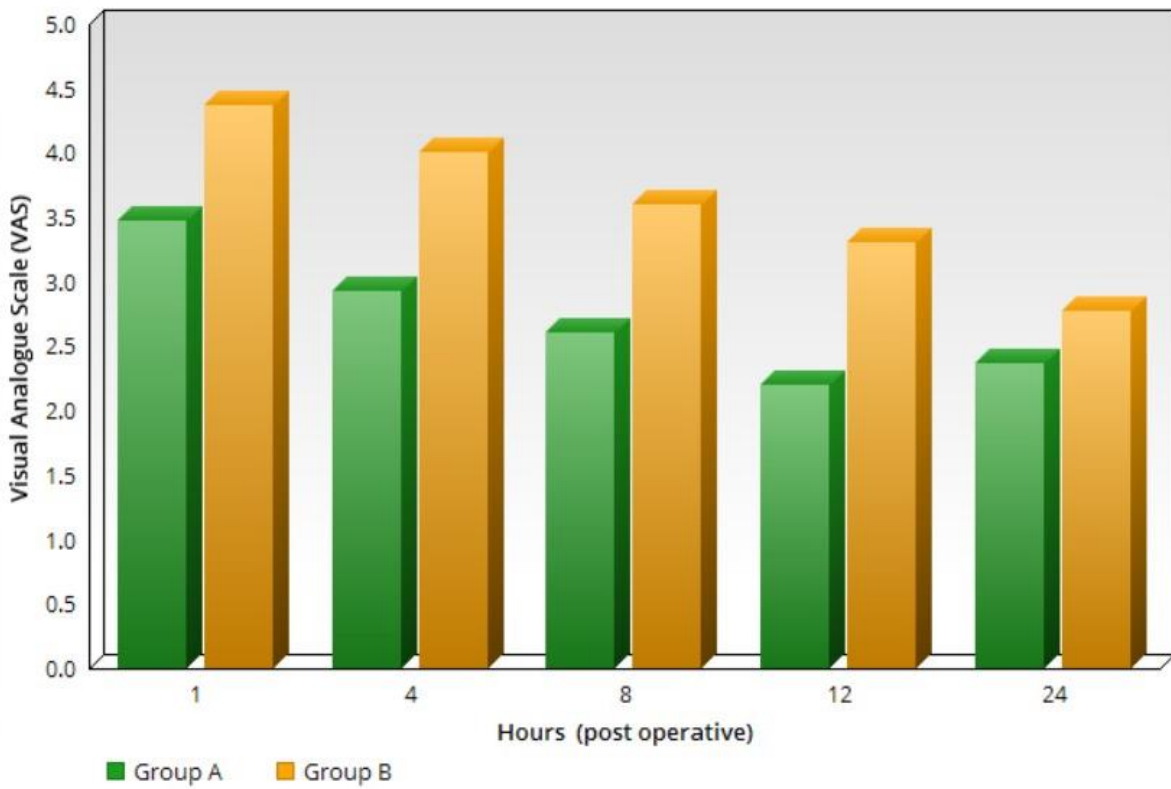
#### Conclusion:

OFA with single shot ultrasound-guided BVP might reduce perioperative opioid consumption, early post-operative pain scores and requirement for morphine titration after thoracotomy. These results suggests that opioid free anesthesia is mandatory in the field of thoracic surgery.

#### Références bibliographiques:

1. Anesthesiol Clin 2010; 28:587-99. 17. 2. J Thorac Dis 2015; 7:S62-72. 3. Curr Opin Support Palliat Care 2016; 10:109-118

Average VAS within the first 24 hours (post operative)



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