CONTINUOUS SAP BLOCK VS ESP BLOCK FOR MITRAL VALVE SURGERY: PRELIMINARY DATA OF AN OBSERVATIONAL COHORT STUDY

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INTRODUCTION

Fascial blocks have been proposed as an alternative to traditional opioids-based analgesia following cardiac surgery [1].
At the "Città della Salute e della Scienza Hospital"- Turin - Italy we compared continuous Serratus anterior plane block (SAPB) and continuous Erector Spinae block (ESPB) for mininvasive mitral valve surgery (mini-MVS).

MATERIALS AD METHODS

58 consecutive patients undergoing mini-MVS from March 2019 to July 2020 and providing informed consent were enrolled: 34 in the SAP group and 24 in the ESP group. Primary outcomes were total opioids consumption and postoperative pain during the first 48 hours as measured by means of NRS scale. Secondary outcomes were incidence of postoperative nausea and vomiting (PONV) and time to canalization and Intensive Care Unit discharge.

Both groups received standardized general anesthesia and baseline characteristics were comparable. SAPB and ESPB were performed with the injection of Ropivacaine 0,375% 3mg/kg in the target site (Fig.1), followed by a peripheral nerve catheter insertion.
Postoperative analgesia was maintained with Ropivacaine 0,3% 21mg/h and Paracetamol 1 g every 8 hours.
A rescue dose with intravenous morphine was administered when NRS >4.

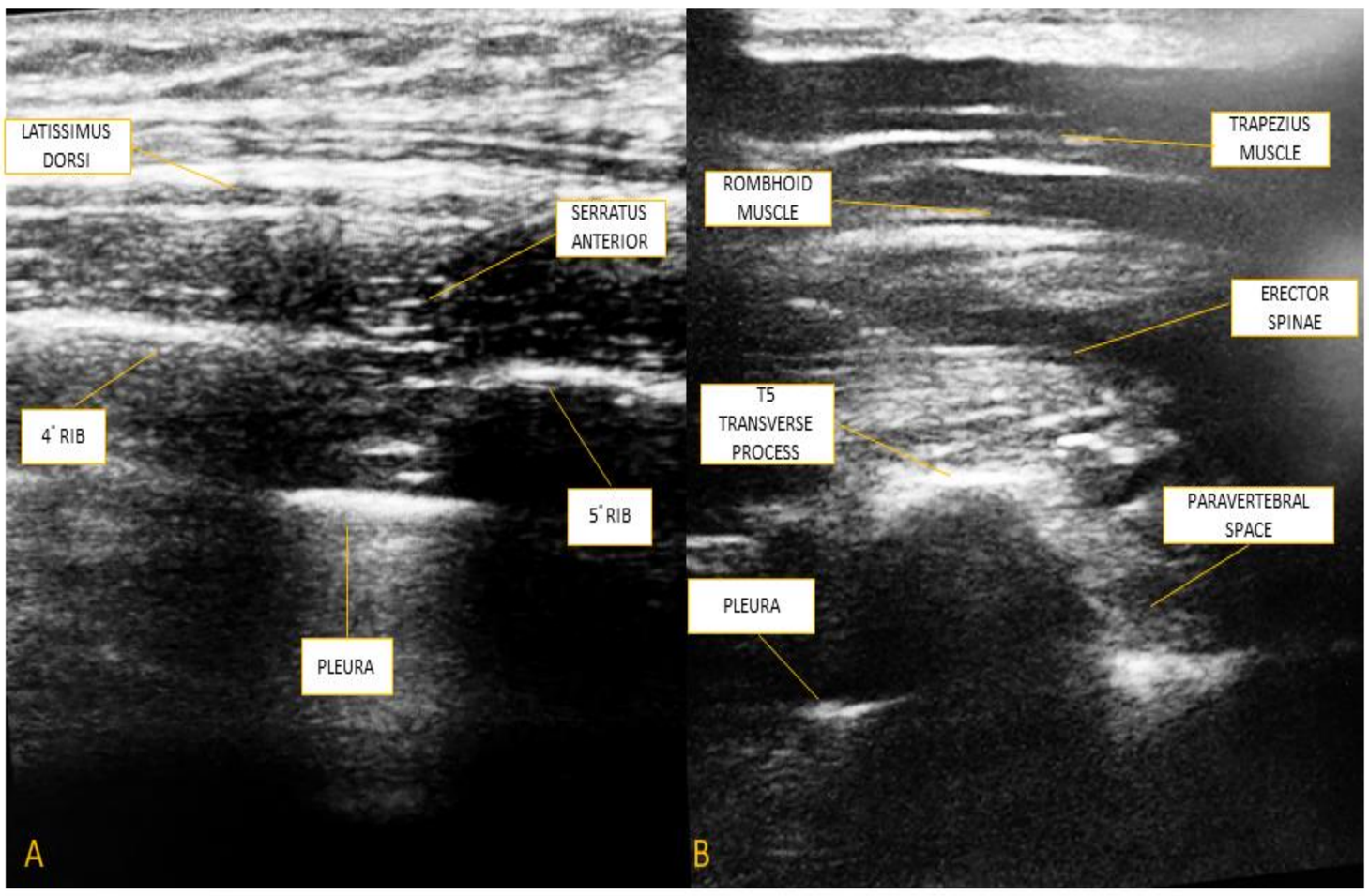

Figure 1:
A) sono-anatomy of the SAP block: a linear probe was used with an-in plane approach. The Trget site was fascial plane localized between Serratus Anterior muscle posterior surface and lateral periosteum of 5° right rib on mid-axillary line.

B) Sono-anatomy of the ESP block: a linear probe was placed on the pragittal plane about 3 cm lateral to the T5 spinous process. Three muscles, trapezius (uppermost), rhomboid major (middle) and erector spinae (lowermost) were identified superior to the hyperechoic transverse process. The endpoint was the needle tip lying over the tip of T5 transverse process below the erector spinae muscle

RESULTS

Median morphine consumption in the post-operative period was 0.00 (0.00-5.00) mg in SAP group and 0.00 (0.00-3.00) mg in ESP group (p= 0.83). Median NRS at 24 and 48 hours was 1.50 (0.00-3.75) in SAP group and 2.00 (0.00-2.00) in ESP group (p=0.98) and 1.00 (0.00-3.00) in SAP group and 1.50 (0.00-2.00) in ESP group (p=0.71) respectively. No significant differences were observed on secondary outcomes. No major adverse effects were observed.

CONCLUSIONS

When performed by expert anesthesiologists, either SAPB or ESPB seems safe and effective methods to treat pain in patients undergoing mini-MVS.

REFERENCES

[1] Engelman DT et al. Guidelines for Perioperative Care in Cardiac Surgery: Enhanced Recovery After Surgery Society Recommendations. JAMA Surg 2019; 154(8):755–766