

LETTER TO THE EDITOR

Letter to the Editor commenting on “Efficacy of serratus anterior plane block versus thoracic paravertebral block for postoperative analgesia after breast cancer surgery: a randomized trial”



Dear Editor,

We have read with very great interest the study published by Arora S et al.: “Efficacy of serratus anterior plane block versus thoracic paravertebral block for postoperative analgesia after breast cancer surgery: a randomized trial”, especially for the attention paid to the key points in the management of breast surgery: postoperative analgesia optimization, incidence of postoperative nausea and vomiting reduction, prevention of the onset of chronic pain and functional impotence.¹

Traditionally, radical oncologic breast surgery has been performed under general anesthesia. Many regional anesthetic techniques have been described in literature, including Thoracic Epidural Paravertebral Block (TPVB), Intercostal Nerve Blocks, Brachial Plexus Blocks, and Trunk Nerve Blocks as Pectoral Nerve Block 1-2 (PECS1, PECS2), Erector Spinae Plane Block (ESP), and Serratus Anterior Plane block (SAP).²

Research on this topic is abundant, but there is a shortage of comparative studies among regional techniques combined one another associated with general anesthesia.³

Routinely, in our Centers we use combinations of peripheral/neuraxial blocks associated with sedation or general anesthesia, which guarantees a total coverage also in the axillary area.⁴

Particularly, we manage to use PECS2 block to cover muscles, axilla, and lateral cutaneous branches of intercostal nerves (reliable from T2 to T4), SAP block to cover lateral cutaneous branches from T4 to T7, and parasternal block (or transversus thoracic muscle plane block) to cover anterior cutaneous branches. Lastly, the skin of the breast, breast gland, and nipple are supplied by the second to sixth intercostal nerves (T2–T6), which are adequately blocked with TPVB. Regarding ESP block, it provides analgesia in the territories innervated by the anterior branches of the spinal nerves and can achieve an anesthetic plane in the territories innervated by the dorsal branches of the spinal nerves.

Indeed, TPVB is the first choice, a safe and reliable method under ultrasound guidance. Rather than complications (bleeding, epidural spread, pneumothorax), it is the

anthropometric characteristics of the patient (a paravertebral space > 5.5 cm deep) that preclude its use.

These alternatives are effective and easy to perform in real working condition.

Our observation when adopting the same techniques even in less expert hands such as those of the residents is that, with the same quality of the procedure and correct execution, PECS and SAP blocks are easier to execute and can be performed with the patient under sedation or asleep and ventilated so as to avoid the emotional component that often prejudices the mere execution of anesthesiology procedures, while ESP must be performed in a sitting position and therefore the patient's emotionality, perhaps the technical difficulties may affect the actual quality of the block and above all the discomfort of the patient (sensation of widening of the fascial planes and at least two punctures on the back).

ESP and PECS/SAP are also superimposable as a benefit to the vision of the surgeons who perform the procedure in the operating room and then follow up the patients.

If the surgical procedure foresees greater anatomical involvement the choice falls on the peridural management for better repeatability, for better coverage of more anatomical metameres, and so less possible uncovered and painful surgical areas in the postoperative period.

In short, depending on the type of breast surgery and the time of the surgical list, opting for the peridural in larger surgical frameworks and adding a block on the more scarified territory remains a winning option; TPVB and ESP are excellent choices even on large surgical territories, but the multi-sectorial nature of the territory to be analyzed and anesthetized obliges more injections and therefore discomfort for the patient, both in favor of the peridural and in favor of the management of the PECS and SAP blocks, which are simpler both in terms of execution, even with a single puncture on the periarticular shoulder tissue, and of surgical outcome.

Arora's study concerns American Society of Anesthesiologists physical Status (ASA) I–II patients, excluding elderly, obese and other categories of frail patients, for whom it may be desirable to avoid general anesthesia. A combination of several locoregional techniques would guarantee surgical anesthesia compared to one alone.

These regional anesthesia techniques can be done under the ever-growing constraints in time. We are of the opinion that their combination, far from delaying it, could lead to a time gain by acting on the nerve pathways at different levels, reaching the anesthetic plane first.

<https://doi.org/10.1016/j.bjane.2022.05.001>

0104-0014/© 2022 Published by Elsevier Editora Ltda. on behalf of Sociedade Brasileira de Anestesiologia. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Improved pain control combined with reduced opioid consumption and reduced complications, such as vomiting, ensures a speed recovery after surgery, with less time spent in recovery rooms and ordinary hospital stays, with obvious economic benefits.

There is also the potential benefit concerning the relationship between multimodal anesthesia techniques and the lower incidence of tumor recurrence which, despite the lack of strong evidence in the literature, still represents a hot topic and could further endorse regional anesthesia techniques in this clinical scenario.⁵

We believe that elective breast surgery anesthesia might be tailored to the patient's needs as much as to the surgical approach, and we deem appropriate for the anesthesiologist to be able to master as many techniques as possible in order to obtain the best result for the patient.

Conflicts of interest






The authors declare no conflicts of interest.

References

1. Arora S, Ovung R, Bharti N, Yaddanapudi S, Singh G. Efficacy of serratus anterior plane block versus thoracic paravertebral block for postoperative analgesia after breast cancer surgery – a ran-

domized trial. *Braz J Anesthesiol.* 2021. <https://doi.org/10.1016/j.bjane.2021.09.017>. Epub ahead of print.

2. Woodworth GE, Ivie RMJ, Nelson SM, Walker CM, Maniker RB. Perioperative Breast Analgesia: A Qualitative Review of Anatomy and Regional Techniques. *Reg Anesth Pain Med.* 2017;42:609–31.
3. Jacobs A, Lemoine A, Joshi GP, Van de Velde M, Bonnet F. PROSPECT Working Group collaborators#. PROSPECT guideline for oncological breast surgery: a systematic review and procedure-specific postoperative pain management recommendations. *Anaesthesia.* 2020;75:664–73.
4. Santonastaso DP, DE Chiara A, Bagaphou CT, et al. Erector spinae plane block associated to serratus anterior plane block for awake radical mastectomy in a patient with extreme obesity. *Minerva Anesthesiol.* 2021;87:734–6.
5. Sessler DI, Riedel B. Anesthesia and Cancer Recurrence: context for divergent study outcomes. *Anesthesiology.* 2019;130:3–5.

Matteo Zappaterra ^{a,1}, Alessio Cittadini ^{b,1},
Andrea Sica ^{b,1,*}, Domenico Pietro Santonastaso ^{b,1},
Vanni Agnoletti ^{b,1}

^a *Anesthesia and Intensive Care Unit, AUSL Romagna, Santa Maria delle Croci Hospital, Ravenna, Italy*

^b *Anesthesia and Intensive Care Unit, AUSL Romagna, M. Bufalini Hospital, Cesena, Italy*

* Corresponding author.

E-mail: andrea.sica@auslromagna.it (A. Sica).

Received 27 November 2021; accepted 10 May 2022

Available online 18 May 2022

¹ All authors contributed equally to the work.