DOI: https://doi.org/10.5114/ait.2024.142758

Commentary: PECS II block versus serratus anterior plane block in modified radical mastectomies

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Dear Editor,

We read with profound interest the recently published study that compared the effects of pectoralis nerve block II (PECS II) versus serratus anterior plane (SAP) block in modified radical mastectomy (MRM) procedures [1] and wish to provide our insights on that article.

While we appreciate the authors for comparing these two techniques specifically in MRM procedures, we believe that the comparison of these two techniques defies logic if we carefully analyze their sensory coverage. We must note that the pectoserratus plane block (subpectoral component of "PECS II") provides sensory coverage over the lateral aspect of the breast and axilla similar to the SAP block [2]. However, the pectoral component of PECS II (interpectoral plane block) provides blockade of the pectoral nerves that are associated with myofascial pain due to the disruption of pectoral muscles [2] that occurs in MRM. Because of this additional property of pain relief of PECS II, it is inadvisable to compare it with the SAP block in procedures where pectoral muscles are disrupted, such as MRM, breast augmentation with prosthesis insertion, etc. We believe that this could be the reason for the non-availability of many studies comparing these two blocks in these procedures. Even if they are compared, PECS II block would certainly result in a better quality of pain relief. Although Bakeer *et al*. [3] concluded that PECS II and SAP block produced similar benefits in MRM procedures, there was indeed a slightly lesser requirement of fentanyl and a fewer patients requiring morphine rescue analgesia in the PECS II group of that study when compared to the SAP block group [3]. Hence, it is surprising that the SAP block provided better pain relief than the PECS II block as per the current study [1], and we are afraid that the conclusion of this study might mislead the readers.

The title of the article also needs correction as the authors incorrectly mentioned the SAP block as SAP II [1], probably instead of "PECS II". To the best of our knowledge, there is no such technique called SAP II, and there are two varieties, namely the superficial or deep SAP block. The authors have provided a deep SAP block in this study as per the description. More importantly, the deep SAP block spares the nerve to the serratus anterior muscle, thereby allowing the surgeons to evaluate its function postoperatively.

The write-up of a few points does not make things clear. For instance, in the fourth paragraph of the Introduction, the authors state that "each regional anaesthesia technique has its own merits and demerits; hence, ultrasound was introduced to assist the procedures" [1]. However, ultrasound can only guide us to locate the anatomy precisely and cannot help us to analyze the advantages or disadvantages of any technique. A few references cited in this paragraph for various techniques do not apply to MRM. Another reference is also misquoted in the Discussion, regarding the comparison of PECS I versus SAP block (reference 34, Alshawadfy *et al*. [1]).

Anaesthesiol Intensive Ther 2024; 56, 3: 215–216

Received: 07.07.2023; **accepted:** 08.07.2024

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However, the referenced study by Abdallah *et al.* [4] compared superficial versus deep SAP.

Lastly, the breast and axilla are innervated by many sources, making it complex to delineate [2]; thus, it is impossible for any single regional anesthesia technique to provide complete sensory coverage for them [5]. We must choose the technique(s) according to its sensory coverage and the nature of the surgical procedure, etc. [6]. Hence, we need to carefully analyze the points raised here before drawing any conclusion based on the current study by Alshawadfy *et al.* [1].

ACKNOWLEDGEMENTS

1. Assistance with the article: none.
2. Financial support and sponsorship: none.
3. Conflicts of interest: none.
4. Presentation: none.

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