LETTER

Letter to the Editor Regarding Serratus Anterior Plane Block Combined with General Analgesia and Patient-Controlled Serratus Anterior Plane Block in Patients with Breast Cancer: A Randomized Control Trial

Xing Tao · Fu-Shan Xue 🔟 · Bin Hu · Tian Tian

Key Summary Points

The authors of the article performed a randomized controlled trial assessing the effectiveness and safety of serratus anterior plane block combined with general anesthesia and patient-controlled serratus anterior plane block during early postoperative recovery after breast cancer surgery. However, sample size calculation of this study is questionable.

The authors used both anxiety visual analogue scale (AVAS) and physician quality reporting system (PQRS) score to assess early postoperative recovery of patients, but the results of two scores were not well interpreted. Furthermore, the results of intra-group comparison about the postoperative PQRS scores were questionable.

The authors failed to provide the details regarding the use of postoperative analgesia pump and the goal of postoperative analgesia.

The authors did not assess patients' satisfaction with different postoperative analgesic methods.

X. Tao · F.-S. Xue (✉) · B. Hu · T. Tian
Department of Anesthesiology, Beijing Friendship Hospital, Capital Medical University, No. 95 Yong-An Road, Xi-Cheng District, Beijing 100050, People's Republic of China
e-mail: xuefushan@aliyun.com; fushanxue@outlook.com

Dear Editor,

We have read with great interest the recent article by Xiao et al. [1], who assessed the effectiveness and safety of the serratus anterior plane block combined with general anesthesia and patient-controlled serratus anterior plane block (PCSAPB) during early postoperative recovery in patients undergoing breast cancer surgery. By comparing with the serratus anterior block + general anesthesia + patient-controlled intravenous analgesia (PCIA) and general anesthesia + PCIA, they showed that PCSAPB reduced pain and adverse events, alleviated anxiety, and improved the quality of early postoperative recovery. In fact, the need for multimodal analgesia with a variety of analgesic methods or drugs with different mechanisms of action to obtain the best analgesic effect and decrease the adverse reactions caused by a single method or drug is being emphasized in current practice. Furthermore, multimodal analgesia has become a critical component of enhanced recovery after surgery pathways [2]. Thus, the authors should be congratulated for performing an important study topic regarding early postoperative pain controls and recovery of patients with modified radical mastectomy. In this study, however, we noted several issues on which we invited the authors to comment.

First, the authors provided the formula for sample size calculation, but it was unclear which endpoint variable was used for sample size calculation. For a randomized controlled trial, sample size calculation is very important for preventing type I and type II statistical errors. As a general principle, sample size calculation should be carried out based on only the primary endpoint variable. Before sample size calculation, moreover, the minimal clinically important difference of the primary endpoint variable between groups must be evaluated to demonstrate a power that is needed to achieve clinically important significance [3]. Because the mean and standard deviation of the primary endpoint variable, and the minimal clinically important difference of the primary endpoint variable between groups were not provided, we question the sample size calculation of this study.

Second, both AVAS and PQRS score were used for assessment of early postoperative recovery. In fact, anxiety is often defined by a cutoff value of AVAS of about 50 or more [4] and patients are considered unrecovered only when the postoperative PQRS score is lower than the preoperative value [5]. On the basis of the results of this study, anxiety of all patients was significantly relieved after surgery and no patient suffered from significant postoperative anxiety, as the mean AVAS scores of all patients at 1 day after operation were significantly lower than their preoperative values and were less than 40. Furthermore, all patients should be considered to have a satisfactory recovery, because the PQRS scores at 1 day after operation had recovered to the preoperative levels. Thus, we argue that the small statistically significant differences in mean postoperative AVAS (3–5 points) and PQRS (1–2 points) scores among three groups obtained in this study should not be considered clinically significant outcomes.

Third, we noted that the total number of times the postoperative analgesia pump was used by patients was significantly increased in the control group compared with other two groups, but the VAS scores of postoperative pain were significantly higher in the control group than those in other two groups, especially the period from 8 h to 2 days after operation. Even the mean VAS scores of postoperative pain from 8 h to 2 days after operation in the control group were about 5, indicating that some of patients suffer from moderate to severe pain in early postoperative period [6]. We are very interested in knowing how patients were instructed to inject the analgesic drugs via the PCIA pump and whether an optimal goal of postoperative analgesia was included in the design of this study. In the absence of this information, the findings and subsequent conclusions of this study about postoperative analgesia must be interpreted with caution, as they may have been obtained using incomplete methodology.

Fourth, as the intra-group differences of mean postoperative PQRS scores were very small, we used the SPSS19.0 statistical software to further verify the results of inter-group comparison of the PQRS scores in Table 4 of

Xiao et al.'s article [1]. Our tested results showed no significant difference in the postoperative PQRS scores at 1, 2, and 3 days after operation among the three groups. We believe that further clarification of these results is helpful for the interpretation of study results.

Finally, this study used different analgesic methods and drugs for early postoperative pain controls in the three groups, but did not assess patients' satisfaction with early postoperative pain controls in the three groups. Actually, assessment of patients' satisfaction can provide more information about clinical availability of the PCSAPB for early postoperative pain controls. To obtain this variable, patients can be asked to rank their satisfaction with early postoperative pain controls according to the following scale: 1, very unsatisfactory; 2, unsatisfactory; 3, neutral; 4, satisfactory; 5, very satisfactory, as described in previous work [7].

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Compliance with Ethics Guidelines. This article is based on a previously conducted study and does not contain any study data with human participants or animals performed by any of the authors.

Data Availability. Data sharing is not applicable to this article as no datasets are generated or analyzed during the current study.

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