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LETTER TO THE EDITOR

Determining efficacy and safety of opioid-free anesthesia combined with a regional block for thyroid surgery

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To the Editor:

By conducting a randomized controlled trial of 66 patients who underwent elective thyroid surgery under general anesthesia, Liu et al. [1] compared the efficacy and the safety between the opioid-free anesthesia (OFA) combined with ultrasound-guided intermediate cervical plexus block (ICPB) and opioid-based anesthesia. They showed that compared with the opioid-based anesthesia, the OFA combined with the ICPB resulted in a lower incidence of postoperative nausea, a better postoperative pain control and an improved quality of recovery. Given that both postoperative nausea and vomiting (PONV), and pain are the most distracting side effects after surgery and can adversely affect postoperative recovery of patients [2], this study has clinical implications. We sincerely congratulate the authors for publishing this study, but hope to present our questions on their methodology and results.

First, other than intraoperative use of dezocine 0.15 mg/kg to reduce postoperative pain and postoperative dezocine 2.5 mg or 5 mg on demand as rescue analgesic, patients did not seem to receive other analgesics in early postoperative period. This is not in agreement with the needs of standard multimodal analgesic strategy recommended in the current enhanced recovery after surgery (ERAS) practices for thyroid surgery, which contains non-opioid analgesics with different mechanisms, such as acetaminophen, non-steroidal anti-inflammatory drugs, or cyclooxygenase-2-specific inhibitors [3]. It has been shown that postoperative use of non-opioid multimodal agents including acetaminophen and ibuprofen for analgesia in patients with thyroid and parathyroid surgery is very effective, with a significantly decreased opioid consumption [4]. In this study, the ICPB was used and an improved postoperative pain control was achieved in the patients receiving the OFA. It must be noticed that postoperative pain is not only an important item of the quality of recovery 40 questionnaires (QoR-40), but also it can significantly affect the scoring of other items of QoR-40, such as physical comfort and emotional state [5]. Thus, we argue that a poor postoperative pain control in the patients receiving the opioid-based anesthesia would have biased the QoR-40 scores in favor of the patients receiving the OFA combined with ICPB.

Second, the incidence of intraoperative hypotension was significantly increased in the patients receiving the opioid-based anesthesia. Intraoperative hypotension has been significantly associated with an increased risk of PONV in the patients undergoing thyroidectomy [6]. As a randomized controlled trial, the authors did not state whether preoperative fasting time and intraoperative fluid use were comparable between groups. Available evidence indicates that prolonged preoperative fasting in surgical patients may increase the risks of intraoperative hemodynamic instability and PONV, while both limiting fasting of clear liquids and early intravenous rehydration are associated with a decreased risk of PONV [2, 7]. Thus, we believe that addressing these

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issues would improve the transparency of this research design.

Third, this study only assessed the incidence of PONV by a simplified PONV impact scale [8], but not the severity of PONV. In fact, severity of PONV can better reflect the degree of symptom distress and is easily rated with a 4-point Likert scale [9]: 0, none; 1, mild (no interference with activities of daily living); 2, moderate (significant interference with activities of daily living); and 3, severe (inability to perform any activities of daily living, or ≥ 3 vomits). We consider that more useful data about postoperative benefits of the OFA combined with ICPB for patients undergoing thyroid surgery would have been obtained, if this study included the assessment on severity of PONV.

Finally, QoR-40 score at 24 h postoperatively was significantly increased in the patients receiving the OFA combined with ICPB and between-groups difference of 7 points in median QoR-40 scores exceeded the recommended minimal clinically important difference of 6.3 [5]. However, median QoR-40 score at 24 h postoperatively was 188 (IQR, 184–192) in the patients receiving the OFA combined with ICPB and 181 (174–187) in the patients receiving the opioid-based anesthesia, respectively. These results indicate that patients receiving the two interventions have a good recovery at 24 h postoperatively [5]. Furthermore, there were no significant differences between groups in other outcomes of postoperative recovery, such as extubation duration, first flatus duration, and incidences of urinary retention and ileus. In these cases, we cannot determine whether the OFA combined with ICPB compared to the opioid-based anesthesia for thyroid surgery may really benefit patients by improving clinical outcomes and postoperative experience.

Declarations

Conflict of interest All authors have no financial support and potential conflicts of interest for this work.

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