

Effects of the Different Doses of Esketamine on Postoperative Quality of Recovery in Patients Undergoing Modified Radical Mastectomy: A Randomized, Double-Blind, Controlled Trial [Letter]

Yi Cheng, Fu-Shan Xue , Cheng-Wen Li 

Department of Anesthesiology, Beijing Friendship Hospital, Capital Medical University, Beijing, People's Republic of China

Correspondence: Fu-Shan Xue, Department of Anesthesiology, Beijing Friendship Hospital, Capital Medical University, NO. 95 Yong-An Road, Xi-Cheng District, Beijing, 100050, People's Republic of China, Tel +86-13911177655, Fax +86-10-63138362, Email xuefushan@aliyun.com; fushanxue@outlook.com

Dear editor

In a randomized, double-blind, controlled trial including 99 female patients who underwent modified radical mastectomy, Zhu et al¹ compared the effects of intraoperative different-dose esketamine infusion on the quality of early postoperative recovery. They showed that intraoperative esketamine infusion significantly improved the quality of recovery on postoperative days 1 and 3, especially when a high-dose infusion of esketamine (4 µg/kg/h) was used. Other than the limitations described by the authors in the Discussion, however, we have several questions about methods and results of this study and wish to get the authors' responses.

First, as the primary outcome of this study, the quality of early postoperative recovery was assessed by the Quality of Recovery-15 (QoR-15), with a total score of 150 points. It was unclear why the preoperative QoR-15 scores of patients were not provided and compared among the three groups. We are concerned that unbalanced preoperative QoR-15 scores in the three groups would have biased the primary findings of this study.

Second, anesthesia was maintained with intravenous infusion of remifentanyl and propofol, and the bispectral index values were higher in patients receiving intraoperative esketamine infusion than in control patients. The authors described continuous infusion rates of remifentanyl and propofol for the maintenance of anesthesia in the Methods section, but the total dosages of remifentanyl and propofol during anesthesia and surgery were not provided and compared between groups in the Results section. Thus, it is unclear whether esketamine infusion in this study resulted in sparing effects of intraoperative opioids and anesthetics, especially when a high-dose infusion of esketamine was applied. The available evidence indicates that the use of esketamine can reduce the dosages of remifentanyl and propofol required for the maintenance of anesthesia.^{2,3}

Third, this study used a single-mode postoperative analgesia strategy in all patients, ie, non-steroidal anti-inflammatory drugs were administered if the postoperative numeric rating scale pain score was more than 3. In fact, the current Enhanced Recovery After Surgery protocols recommend a multimodal strategy for postoperative analgesia, in which nerve or fascial plane block and a package of basic analgesics, such as paracetamol, non-steroidal anti-inflammatory drugs or cyclooxygenase-2 specific inhibitors, and dexamethasone, is included.⁴ Because postoperative pain is a component of the QoR-15 questionnaire⁵ and postoperative pain levels were significantly different between the three groups, we argue that different results regarding the quality of early postoperative recovery would have been obtained if a multimodal strategy of postoperative analgesia had been used and a comparable postoperative analgesic effect had been achieved in all patients.

Finally, this study observed the incidence of adverse effects at 24 h postoperatively, but did not assess any outcome variables of the current Enhanced Recovery After Surgery protocols, such as duration of postanesthesia care unit stay, time to early mobilization, time to hospital discharge, readmission, and the occurrence of postoperative complications.⁴ Because of the lack of these outcome data, an important question that this study cannot answer is whether improved quality of early postoperative recovery by intraoperative esketamine infusion can be translated into early postoperative benefits for female patients undergoing modified radical mastectomy.

Disclosure

The authors report no conflicts of interest in this communication.

References

1. Zhu M, Xu S, Ju X, Wang S, Yu X. Effects of the Different Doses of Esketamine on Postoperative Quality of Recovery in Patients Undergoing Modified Radical Mastectomy: a Randomized, Double-Blind, Controlled Trial. *Drug Des Devel Ther.* 2022;16:4291–4299. doi:10.2147/DDDT.S392784
2. Yang H, Zhao Q, Chen HY, et al. The median effective concentration of propofol with different doses of esketamine during gastrointestinal endoscopy in elderly patients: a randomized controlled trial. *Br J Clin Pharmacol.* 2022;88(3):1279–1287. doi:10.1111/bcp.15072
3. Su Y, Zhang J, Wang H, Gu Y, Ouyang H, Huang W. The use of Esketamine in CT-guided percutaneous liver tumor ablation reduces the consumption of remifentanyl: a randomized, controlled, double-blind trial. *Ann Transl Med.* 2022;10(12):704. doi:10.21037/atm-22-2756
4. Mancel L, Van Loon K, Lopez AM. Role of regional anesthesia in Enhanced Recovery After Surgery (ERAS) protocols. *Curr Opin Anaesthesiol.* 2021;34(5):616–625. doi:10.1097/ACO.0000000000001048
5. Chazapis M, Walker EMK, Rooms MA, Kamming D, Moonesinghe SR. Measuring quality of recovery-15 after day case surgery. *Br J Anaesth.* 2016;116(2):241–248. doi:10.1093/bja/aev413

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Drug Design, Development and Therapy 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Drug Design, Development and Therapy editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

Drug Design, Development and Therapy

Dovepress

Publish your work in this journal

Drug Design, Development and Therapy is an international, peer-reviewed open-access journal that spans the spectrum of drug design and development through to clinical applications. Clinical outcomes, patient safety, and programs for the development and effective, safe, and sustained use of medicines are a feature of the journal, which has also been accepted for indexing on PubMed Central. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/drug-design-development-and-therapy-journal>

<https://doi.org/10.2147/DDDT.S406088>