



Sevoflurane and propofol's effects on postoperative vomiting and nausea

Hongxing Guo¹, Haizhen Hui², Yuanxiang He³

¹Department of General Surgery, Chongqing Hospital of Traditional Chinese Medicine, Chongqing, China; ²Department of Dermatology, Chongqing Hospital of Traditional Chinese Medicine (Chongqing Key Laboratory of Integrative Dermatology Research; Chongqing Clinical Research Center for Dermatology), Chongqing, China; ³Department of General Surgery, Kweichow Moutai Hospital, Renhuai, China

Correspondence to: Yuanxiang He, MD. Department of General Surgery, Kweichow Moutai Hospital, Fuyang Road, Central Street, Renhuai 564500, China. Email: heyx-navy@sohu.com.

Comment on: Wu L, Li Y, Si J. Effects of sevoflurane and propofol on postoperative nausea and vomiting in patients with colorectal cancer placed under general anesthesia: a systematic review and meta-analysis. *J Gastrointest Oncol* 2022;13:2963-72.

Submitted Feb 22, 2023. Accepted for publication Aug 07, 2023. Published online Aug 21, 2023.

doi: 10.21037/jgo-23-153

View this article at: <https://dx.doi.org/10.21037/jgo-23-153>

Recently, Wu and colleagues performed a meta-analysis entitled “*Effects of sevoflurane and propofol on postoperative nausea and vomiting in patients with colorectal cancer placed under general anesthesia: a systematic review and meta-analysis*” (1), which was published in *Journal of Gastrointestinal Oncology*. We thank the authors’ provision of a meta-analysis comparing the effectiveness of sevoflurane and propofol in treating postoperative nausea and vomiting (PONV). This meta-analysis revealed that colorectal cancer patients undergoing laparoscopy with moderate central sedation experienced good preventative and therapeutic effects for PONV when sevoflurane and propofol were combined. However, after reading this report carefully, there are a number of issues with this meta-analysis that need to be handled.

Firstly, there are some flaws with the literature search. To start out, the team of investigators did not fully detail the manual search process and the search strategy. Additionally, not all of the papers on this topic were included in their search approach. For example, two documents (references 11 and 16) included in the article have nothing to do with the topic of this meta-analysis (2,3). The research of Kim *et al.* (2) is a protocol and Li *et al.*’s study is a prediction model (3).

Secondly, the review contained several methodological flaws despite the authors’ claims that their meta-analysis complied with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) requirements (4).

After further review, we discovered that this review was not included in the international database of prospectively registered systematic studies (PROSPERO) and lacked a CRD number. Furthermore, it appears that the authors of this meta-analysis made a mistake. The authors claim that *Tab. 1* demonstrates the fundamental traits, study period, study design, and quality ratings of the included articles. As shown in the *Tab. 1*, all the included literatures are RCT studies, and the author used NOS score to evaluate the quality of literature. The evaluation tool for RCT bias risk mainly adopts two forms (5): one is scale, such as Jadad scale (6). The second is checklist, such as Weintraub list (7).

Last but not least, this meta-analysis contains an ambiguity. In the results section, the authors claimed that there was no publication bias in the research presented in *Fig. 3*. An analysis of more than ten articles used funnel plots to assess publication bias. For a meta-analysis to be successful, sensitivity analysis is essential. Nevertheless, the authors failed to perform sensitivity analysis for achieving more convincing results.

Acknowledgments

Funding: None.

Footnote

Provenance and Peer Review: This article was a standard

submission to the journal. The article did not undergo external peer review.

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at <https://jgo.amegroups.com/article/view/10.21037/jgo-23-153/coif>). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Open Access Statement: This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license). See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

References

1. Wu L, Li Y, Si J. Effects of sevoflurane and propofol

on postoperative nausea and vomiting in patients with colorectal cancer placed under general anesthesia: a systematic review and meta-analysis. *J Gastrointest Oncol* 2022;13:2963-72.

2. Kim KH, Kim DH, Bae JM, et al. Acupuncture and PC6 stimulation for the prevention of postoperative nausea and vomiting in patients undergoing elective laparoscopic resection of colorectal cancer: a study protocol for a three-arm randomised pilot trial. *BMJ Open* 2017;7:e013457.
3. Li M, Chen J, Deng Y, et al. Risk prediction models based on hematological/body parameters for chemotherapy induced adverse effects in Chinese colorectal cancer patients. *Support Care Cancer* 2021;29:7931-47.
4. Moher D, Liberati A, Tetzlaff J, et al. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ* 2009;339:b2535.
5. Moher D, Jadad AR, Tugwell P. Assessing the quality of randomized controlled trials. Current issues and future directions. *Int J Technol Assess Health Care* 1996;12:195-208.
6. Jadad AR, Moore RA, Carroll D, et al. Assessing the quality of reports of randomized clinical trials: is blinding necessary? *Control Clin Trials* 1996;17:1-12.
7. Weintraub M. How to critically assess clinical drug trials. *Drug Ther* 1982;12:131-48.

Cite this article as: Guo H, Hui H, He Y. Sevoflurane and propofol's effects on postoperative vomiting and nausea. *J Gastrointest Oncol* 2023;14(4):1902-1903. doi: 10.21037/jgo-23-153