Is neostigmine safe and effective for neuromuscular blockade reversal in patients recovering from general anesthesia?

Jiangfeng Wu^, Jie Yang, Zehao Hu, Anli Zhao, Yinghong Guo

Department of Ultrasound, the Affiliated Dongyang Hospital of Wenzhou Medical University, Dongyang, China

Correspondence to: Jiangfeng Wu. Department of Ultrasound, The Affiliated Dongyang Hospital of Wenzhou Medical University, No. 60 Wuning West Road, Dongyang 322100, China. Email: wjfhospital@163.com.

Comment on: Ji W, Zhang X, Liu J, *et al.* Efficacy and safety of neostigmine for neuromuscular blockade reversal in patients under general anesthesia: a systematic review and meta-analysis. Ann Transl Med 2021;9:1691.

Submitted Jan 15, 2022. Accepted for publication Feb 20, 2022.
doi: 10.21037/atm-22-309
View this article at: https://dx.doi.org/10.21037/atm-22-309

We read with great interest the recent published study by Ji and colleagues entitled "*Efficacy and safety of neostigmine for neuromuscular blockade reversal in patients under general anesthesia: a systematic review and meta-analysis*" (1). They demonstrated that neostigmine is effective and safe for neuromuscular blockade reversal in patients under general anesthesia. We appreciate Ji and colleagues for the valuable study. However, after a careful learning of the literature, we would like to pay attention to some important missing aspects in the study.

First, sensitivity analysis commonly is performed by removing one study at a time to assess the effect on the pooled results (2). In the results of sensitivity and publication bias analysis section, the authors performed the sensitivity analysis only by removing Xu *et al.*'s study (3), which reduced the I^2 statistic from 92% to 86% indicating steady results of the meta-analysis. However, we believe that the interpretation of the results is false. The authors should evaluate the effect on the overall pooled mean difference (MD) not I^2 after removing Xu *et al.*'s study.

Second, in the study by Yao *et al.* (4), the dosage in the neostigmine group was 20 μg/kg showed in Table 1. However, after carefully reviewing the Figure 8 in this study, we find that Yao *et al.*'s study was enrolled in the subgroup of dosage ≥40 μg/kg. Therefore, we believe the data should be further revised to validate the accuracy.

In short, Ji *et al.* revealed a significant issue with regard to the efficacy and safety of neostigmine for neuromuscular blockade reversal in patients under general anesthesia. However, the data should be further revised to validate the conclusions because of the concerns above.

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://atm.amegroups.com/article/view/10.21037/atm-22-309/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.

^ ORCID: 0000-0002-5036-799X.

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Cite this article as: Wu J, Yang J, Hu Z, Zhao A, Guo Y. Is neostigmine safe and effective for neuromuscular blockade reversal in patients recovering from general anesthesia? Ann Transl Med 2022;10(8):498. doi: 10.21037/atm-22-309

