Reply from authors: The association of intraoperative end-tidal carbon dioxide with the risk of postoperative nausea and vomiting

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To the Editor:

We thank Dr. Lang Sun and Dr. Yi Feng for their interest in our recent publication [1]. As per their concerns, the sensitivity and specificity for post-operative nausea and vomiting (PONV) of lowest EtCO₂ < 32 mmHg were low as 50.6% and 69.2%. However, our study did not aim to develop new model to predict the risk of PONV. Our study had been conducted to generate the hypothesis that avoiding intraoperative hypocapnia may be beneficial to reduce its risk. Thus, we presented not just the robustness of the association between lowest EtCO₂ < 32 mmHg and the incidence of PONV, but the dose–response on the intraoperative lowest EtCO₂, and also the duration of EtCO₂ < 32 mmHg. Cochrane statistical methods group stated that the presence of a dose–response gradient may increase confidence in the findings of observational studies [2].

They also commented on a variety of confounders which may have a potential to skew results. More sophisticated epidemiological model may be persuasive to convince the findings. However, instead, we have been conducting the preliminary interventional study to assess the effect of avoiding

intraoperative hypocapnia (UMIN000030987). The finding of observational study often differed with the one seen in interventional study [3]. We believe that our finding should be refuted or confirmed by the interventional study.

Finally, we have agreed that the optimal strategy with bundled care should be suggested in the prevention and treatment of PONV.

References

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2. <https://training.cochrane.org/handbook/current/chapter-14> (confirmed on 8 Jan 2020)
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