Author’s response to reviews

Title: Effect of endotracheal tube lubrication on cuff pressure increase during nitrous oxide exposure: a laboratory and prospective randomized controlled trial

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Effect of endotracheal tube lubrication on cuff pressure increase during nitrous oxide exposure: a laboratory and prospective randomized controlled trial

Dear Dr. Guangde Tu:

Thank you very much for your email of July 9, 2019, regarding our manuscript, “Effect of endotracheal tube lubrication on cuff pressure increase during nitrous oxide exposure: a laboratory and prospective randomized controlled trial”, and the valuable comments of the reviewer. I attach here both our revised manuscript, and our point-by-point response to the editor’s comment. I highlighted changes to the manuscript in RED.
We feel that the revised manuscript is a suitable response to the comments and is significantly improved over the initial submission. We trust that it is now suitable for publication in BMC Anesthesiology.

Thank you in advance for your kind consideration of this paper.

Sincerely yours,
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Response to the reviewer

1. Table 2 needs to be deleted as data has been reported in the text.

Thank you very much for your comment. However, we strongly want to emphasize the importance of Table 2, because the actual values of the time span in the 2 groups have not been reported in the text. In the text, just P-value have been documented. Table 2 is the most important content in our manuscript. Thus, Table 2 cannot be deleted.

2. It is not clear why authors used K-Y jelly instead of other lubricants that are used routinely in medical practice.

Thank you very much for your comment. As you pointed out, we added the reason why we chose KY jelly in this study in P.14, L12 - 14 in the revised manuscript as below.
In the current and previous study [10], we used K-Y™ jelly instead of other lubricants that are also used in clinical practice, because K-Y™ jelly appears to be the most frequently used lubricant in a clinical setting in Japan.

3. Other available options to avoid increase in ETT cuff pressure while N2O is used needs to be discussed.

Thank you very much for your comment. As your recommendation, we added other options to avoid the problem and furthermore clinical significance of ETT cuff pressure increase during N2O anesthesia in the discussion section in P.14, L3 – 11 in the revised manuscript as below.

The increase in ETT cuff pressure due to N2O diffusion is a well-known risk during general anesthesia using N2O [13-15]. N2O diffusion induces hyperinflation of ETT cuff, causing an increased risk of tracheal barotrauma [4, 5]. Therefore, ETT cuff pressure increase when using N2O for general anesthesia has been one of the major concerns in clinical practice. Previous reports described some methods to avoid the increase in ETT cuff pressure during N2O anesthesia. Combes X et al. [4] reported that filling ETT cuff with saline prevented the cuff pressure increase during N2O anesthesia. Furthermore, Karasawa F et al. [16] demonstrated that inflating ETT cuff with a N2O gas mixture prevented such increase. However, these methods are not common in clinical practice.