Author's response to reviews

Title: Intraoperative ventilation: incidence and risk factors for receiving large tidal volumes during general anesthesia

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Author's response to reviews: see over
To: BMC Anesthesiology Editor

Re: Intraoperative ventilation: incidence and risk factors for receiving large tidal volumes during general anesthesia_resubmission

Dear BMC Anesthesiology Editor:

We are submitting for your consideration the revised manuscript.

We believe have addressed all of the reviewers’ suggestions (please see attached). We would like to thank them for their useful suggestions that have considerably improved the original manuscript.

We look forward to your response.

Thank you on behalf of myself and my co-authors.

Sincerely,

Ana Fernandez-Bustamante, M.D., Ph.D.
RESPONSE TO REVIEWERS’ COMMENTS

REVIEWER 1

Major Compulsory Revisions:
1. Methods: Why is the group VT 8–10 ml/kg left out of the data? I would advise the authors to present either 2 groups (VT > 10 ml/kg and < 10 ml/kg) or 3 groups (VT > 10 ml/kg, VT 8–10 ml/kg, VT > 10 ml/kg). – We are showing the 3 groups in the revised version.

2. Results: the relationship of PBW and ABW to tidal volumes is shown in figure 1 as scatter plot in the results. To me this representation does not underline de results. Presenting the correlation coefficients in the text would suffice. – Done.

3. Results: in Figure 2 the PBW and the heights of the groups are shown. As PBW is a function of the height; the figures of latter could be left out. – We are aware on the apparent redundancy of these plots from the effect of height on the PBW calculation. However, since the PBW formula is not a straightforward mental calculation, our intention with showing the height plots is to provide the anesthesiology clinicians with an easier reference for quick ventilatory set up. In our opinion, both plot sets (PBW and height) provide useful and complementary information.

4. Also Figure 2 does not clearly portrait the data; box plots would be recommendable for these data. – Since box plots are for continuous numeric variables but not for proportions we assume that the reviewer refers to bar charts, so we have modified the chart type. We agree and thank the reviewer for this suggestion.

5. Discussion: The authors conclude that PBW is not routinely considered for intra–operative ventilation. This conclusion will undoubtedly be correct, but it is not easily extracted from the results. – We have slightly modified our conclusions.

Minor Advised Revisions:
1. Background: the authors quote many references in the first 8 lines. It would be better to choose some major references and leave the less matching articles out. – We have eliminated several references.

2. Background: the authors mention that hypercapnia is a potential adverse effect of LPV. However, is this really the case (see ARMA-trial and Hickling et al, 1994)? – We have deleted the word “adverse”. We acknowledge that permissive hypercapnia is not necessarily a contraindication or reason to avoid LPV in most
patients, but the concerns in providers for it as well as for atelectasis are well documented in the literature. How well founded or relevant these concerns are is out of the scope of this manuscript, so we have avoided a deeper discussion.

3. Methods: Why was there chosen for ventilation > 4 hours? – Explanation added in the methods section.

4. Methods: The reason for the cut-off point of 8 ml/kg in the lower tidal group can be argumented better. There are articles available to support this choice (e.g. ARMA-trial). – Explanation added.

5. Methods: Please describe the applied ventilatory modes. Are these all volume controlled? – Ventilatory modes information has been added to the results section.

6. Results/discussion: In the results the authors describe a significant increase of transfusion of blood products in the large VT group. However they do not discuss this result in the discussion. What could be the reason for this finding? – We have added that point to our discussion section.

7. Discussion: the authors mention the ventilation with large VT was larger than expected. What did the authors expect? This would be interesting to add to the introduction. – Added.

8. Discussion: the authors mention the wide range of VT used (in mL and mL/kg). It would be nice to add these numbers to the results. – Information added to the results section.

9. Discussion: Also they mention “Despite a better correlation of VT with the PBW in the large VT subgroup, the VT values were still excessive”. This conclusion gives the impression that in the large VT group VT of 10 ml/kg were given after calculation of the PBW. I would advise to alter the sentence or leave it out. – We have modified this sentence.

REVIEWER 2
Major Comments
1. The authors chose a cutoff of 8 mL/kg tidal volume despite the "standard" recommendation of 10 mL/kg. Why was this chosen? Was it chosen a priori or after data analysis? – This information has been added to the methods section.

2. There are comparisons between the < 8 ml/kg and > 10 mL/kg groups. What happened to the "in-between" 8-10 mL/kg group? – The 8-10 mL/kg group has been added.

3. What happened to the patients who required ongoing mechanical ventilation in the ICU. I wonder if ICU physicians may be more inclined to use low tidal volumes than anesthesiologists. These data need to be included in the analyses. – The most complete information that we have been able to obtain has been added to the results section.
Minor Comments
1. The first sentence in Results section paragraph 2 does not make sense. Please clarify. – Done.