Author's response to reviews

Title: Endotracheal tube cuff pressure assessment maneuver induces drop of expired tidal volume in the postoperative of coronary artery bypass grafting

Authors:

Douglas W Bolzan (dwbolzan@yahoo.com.br)
Solange Guizilini (s_guizilini@yahoo.com.br)
Sonia M Faresin (faresins@pneumo.epm.br)
Antonio CC Carvalho (carvalho.dmed@epm.br)
Angelo AV De Paola (depaola@uol.com.br)
Walter J Gomes (wigmotes.dcir@epm.br)

Version: 2 Date: 2 April 2012

Author's response to reviews: see over
Dear Dr Vipin Zamvar

The Journal of Cardiothoracic Surgery Editorial Team

Please find below the point-by-point the required revisions:

Reviewer 1:

Reviewer's report

Title: Endotracheal tube cuff pressure assessment maneuver induces drop of expired tidal volume in the postoperative of coronary artery bypass grafting

Version: 1 Date: 12 March 2012

Reviewer's report:

The study submitted to the Journal of Cardiothoracic Surgery is new and very interesting. The text is concise and clear and the conclusions are sound.

There are no Major Compulsory Revisions to be made. Minor Essential Revisions are:

1. The authors should comply with the up-to-date guidelines of reporting, and therefore should inform the period of the study and the method of recruitment of the patients. We assume the sample comprised all consecutive patients admitted in a given period, and this should be stated in the Methods section.

   Reply: Thank you for the comment and your consideration is very important. Therefore, the study period and more detailed information about the recruitment method were included in the Methods section. The sample consisted of patients underwent cardiopulmonary artery bypass grafting consecutively enrolled from February of 2005 to March of 2010 in a prospective way, according to the inclusion criteria.

2. The authors should have the text revised by a native English speaker in order
to avoid expressions like "to the own", "fact to connect" and "according to technique".

Reply: We thank the reviewer, the correction was implemented and the text revised.

Except for these minor problems, the text is good and should be published. There are no Discretionary Revisions to make.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: I have no conflicts of interest to disclose.

Reviewer 2:

Reviewer's report Title: Endotracheal tube cuff pressure assessment maneuver induces drop of expired tidal volume in the postoperative of coronary artery bypass grafting

Version: 1 Date: 13 March 2012

Reviewer's report:

The question posed is new and well defined. Is unpublished study about the cuff pressure measure and alterations on expired tidal volume in CABG.

The methods are appropriate and well described, and the work is possible to replicate. Is routine cuff pressure monitoring protocol in many ICUs and the knowledge about the best protocol for CABG patients is of the great clinical importance.

The data are controlled and the number of patients is very consistent (n:488) and the results can be extrapolated.
The manuscript was written in a clear and objective data and the writing is acceptable.

The title and abstract accurately convey what has been found.

1. As suggestions, I recommend include in yours results more information about the level values of CP (table 2). The main function of the ETT cuff is to seal the airway, preventing aspiration of pharyngeal contents into the trachea and leaks around the cuff, and lower values are undesirable than and overinflation can promote tracheal wall ischemia, stenosis and tracheoesophageal fistulae. You can demonstrate the behavior of the CP through cutoff value of recommend values (e.g. CP<20cmH2O; CP 20-30 cmH2O and CP>30cmH2O) and explorer in your discussion.

**Reply:** Thank you for the comment. The higher cuff pressure was only a finding of our study, secondary to volume of air injected into the cuff to prevent air leakage. The objective of our study was to evaluate the cuff pressure performance and expired tidal volume after pressure manometer attachment to the pilot balloon, and not the isolated behavior of achieved cuff pressure.

2. I recommend include in your study a brief paragraph about the limitations and your suggestions about the clinical applications this study.

**Reply:** This query was also addressed and more information has been added to the Discussion.

**Level of interest:** An article of outstanding merit and interest in its field.

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Reviewer 3:**

**Reviewer's report**

Title: Endotracheal tube cuff pressure assessment maneuver induces
drop of expired tidal volume in the postoperative of coronary artery bypass grafting

**Version:** 1  **Date:** 13 March 2012   

**Reviewer's report:**

Manuscript: Endotracheal tube cuff pressure assessment maneuver induces drop of expired tidal volume in the postoperative of coronary artery bypass grafting

Thanks for asking me to review this well written manuscript. This is an interesting and relevant paper to the area of knowledge. In it, the authors attempt to evaluate the impact of endotracheal tube cuff pressure assessment maneuver on the expired tidal volume in the postoperative coronary artery bypass grafting. They concluded that cuff pressure assessment maneuver induces drop of expired tidal volume.

**Major Compulsory Revisions**

1. **Abstract.** In it, the authors should make a clear description of the data measured (specially, when ETV was obtained).

   **Reply:** Regarding the reviewer's question, the description of the data measured is fully described in the abstract, as follow: “After intensive care unit arrival, the cuff was fully deflated and then progressively inflated by air injection, to promote a minimal volume to occlude the trachea. To assist the cuff inflation and the air leakage identification, the graphical monitoring of the volume-time curve was adopted. After 20 minutes a first cuff pressure evaluation was performed (P1) and a second measurement (P2) was taken after 20 minutes with an analog manometer. ETV was obtained always pre and post P1 measurement”.

2. **What does ETT? It first appears.**

   **Reply:** Thank you for the comment, the “ETT’ spell out was provided.

3. **There is no reference that to support the minimal occlusive volume technique.**
Reply: Thank you for the comment. More detailed information about the cuff inflation technique was provided by suggestion of another reviewer, and the reference that supports the cuff management was included.

4. Inclusion criteria: patients with previous oral intubation could be undergone to study? Its outcomes are the same?

Reply: All study patients underwent elective first-time coronary artery bypass grafting. Therefore, none of them was submitted to prior intubation. In addition, all patients with difficult intubation (two or more trials) were excluded. As a result of various intubation attempts may occur trauma and consequently upper airways swelling, which would entail interference in our results.

5. Finally, the major issue of the present manuscript is the superficial discussion about the clinical impact of the drop of the ETV in about 52 mL.

Reply: This query was addressed and more information has been added to the Discussion.

Minor Essential Revisions

6. Standardization of the tables is important. Different of table 3, in table 2 the p value is in the legend.

Reply: Thank you for the comment, your suggestion is pertinent and the table’s standardization was provided.

7. Additionally, statistical tests should be presented in the legend too.

Reply: Following the periodic standards, the statistical tests employed are mentioned in the specific section.

Discretionary Revisions

8. I think would be more interesting that the authors presented the main outcomes through figures.
Reply: We believe that the data presentation on tables in this case makes easy the reader’s understanding.

Level of interest: An article of importance in its field.

Quality of written English: Acceptable.

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.

Reviewer 4:

Reviewer's report □ Title: Endotracheal tube cuff pressure assessment maneuver induces drop of expired tidal volume in the postoperative of coronary artery bypass grafting
Version: 1 Date: 14 March 2012□

Reviewer's report:

Dear authors,

1. The article presents a clinical relevance for those working and studying patients on mechanical ventilation. I would suggest a better description of the methodology of the study regarding the inflation of the cuff. Please describe the technique used to adjust the volume of air injected.

   Reply: Thank you for your comment and more detailed information about the cuff inflation technique has been provided in the text.

2. The rest just an observation: the definition of the abbreviation ETT is missing in the summary of the article.

   Reply: Thank you for the comment. We would like to apologize for the absence of
this information, the “ETT” spell out was provided.

Level of interest: An article of importance in its field Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: I declare that I have no competing interests.

Thank You,

Prof. Dr Solange Guizilini
Cardiology Discipline, Escola Paulista de Medicina, Federal University of São Paulo, São Paulo, Brazil