Reviewer's report

Title: Respiratory acidosis during bronchoscopy-guided percutaneous dilatational tracheostomy: impact of ventilator settings and endotracheal tube size

Version: 0 Date: 04 Jun 2019

Reviewer: Ruediger Noppens

Reviewer's report:

Dear authors,

Thank you very much for working on this clinically relevant topic! The number of PDT has been continuously rising over the last couple of years, but surprisingly nobody reported the impact on ventilation and gas exchange.

Specific comments:

1.) I suggest to have a native speaker of professional service to edit the manuscript for language - some sentences and expressions used seem off.

2.) Why did the authors not decide on a randomized approach to this trial?

3.) Please include information about the flexible bronchoscope used for this study.

4.) Page 5. Line 5. Please include the study hypothesis. Why was the trial conducted, and what was the hypothesis?

5.) Please include in the Methods section when REB was approved and include the registry number of REB.

6.) It is not clear how informed consent can be obtained from a ventilated patient that is likely under some form of sedative? Please provide more information on the process of obtaining informed consent.

7.) Please discuss the advantages and disadvantages of using pressure controlled ventilation in such a setting. Would change to volume controlled ventilation not provide more reliable ventilation (6 ml/kg vs. 12 ml/kg) during PDT? What is the pulmonary pressure during the procedure? Does the measured PIP reflect the pulmonary pressure?
8.) Why was a flexible endoscope with a diameter of 5.5mm chosen? An, e.g. 4 mm scope would not have obstructed the airway as significant? Please address this in the discussion section.

9.) Please include in the discussion section LMA as an alternative to using an ETT during PDT to avoid the demonstrated problems.

10.) It is not clear why the authors decided on including transcutaneous CO2 and paCO2 values in this trial. These are excellent data but do not fit the purpose of this trial. Please include this aspect to the introduction and study hypothesis as a secondary outcome parameter if you wish to include these data.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
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