Reviewer’s report

Title: Hypoxia and hypotension in patients intubated by physician staffed helicopter emergency medical services - a prospective observational multi-centre study

Version: 0 Date: 10 Apr 2017

Reviewer: Scott MacDonald

Reviewer's report:

Excellent work done on the important topic of prehospital tracheal intubation. My thanks for your dedication and hard work to add to the medical literature in this area.

The manuscript is on solid ground, technically and with respect to the writing and flow. The findings are presented clearly and succinctly. The accompanying tables and diagrams are suitable.

The coordination of 21 different helicopter emergency services collecting data over 1 year is an impressive feat, and that alone makes this paper relevant to add to the medical literature.

As a reader, I struggled to determine the significance in the primary purpose - comparing trauma to non-trauma patients requiring airway management. From the purest sense, reading the outcomes for all comers in airway management was more relevant for me than the comparison, and the paper lacked an actual control group, to my eye.

I would also like to see a power calculation, if the theme of the paper is to remain the comparison between the two groups, so the reader is readily aware that the paper was appropriately powered to detect a difference between the groups in the areas showing no difference.

A couple of specific comments/suggestions:

1. Lines 109-111: I wasn't sure if the statement made here was regarding RSI specifically or "all airways" and whether the "in-hospital" comparison was environment specific in the referenced articles (ED, OR, etc). Please clarify in the text for better readability.
2. Lines 118-121: The end of line 118-119 requires a reference, or a combination with the following statement (which is what I recommend for better flow).

3. In the definition of hypotension, it would have been nice to also see relative hypotension included, but I understand this is more difficult to create standard data collection. I was wondering whether the data could be managed for comment on this, but understand that is likely outside the scope of this paper.

Again, many thanks for your work and dedication to complete this project. It was interesting and added confirmation to a growing body of literature about providing expert airway management in the prehospital setting.

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

No

**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.

Not relevant to this manuscript

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

Acceptable
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