Reviewer’s report

Title: Cluster randomised comparison of the effectiveness of 100% oxygen versus titrated oxygen in patients with a sustained return of spontaneous circulation following out of hospital cardiac arrest: a feasibility study. PROXY: Post ROSC OXYgenation Study

Version: 0  Date: 24 Jul 2018

Reviewer: Patrick Sulzgruber

Reviewer's report:

Within this manuscript Thomas and coworkers aimed to determine the feasibility of completing a cluster-randomised clinical trial to determine if titrated oxygen therapy for 1 hour after ROSC improves outcome compared with use of 100% oxygen in a paramedic based setting. The scientific question is interesting. However, there are major concerns with respect to the design of the study and presentation of results that need to be considered.

MAJOR COMMENTS

Comment 1: The "Methods" section of the manuscript needs to be described in a more detailed and structured way.

Comment 2: The manuscript lacks information about the local emergency medical service including whether it is solely paramedic based or covering pre-hospital physicians.

Comment 3: How were paramedics screened for eligibility? Were there any inclusion or exclusion criteria, or just an unselected sample of volunteers? If so, this might be an selection bias of the present analysis. I recommend to include those information in both "Methods" and "Discussion" section, since I feel it is crucial for both a proper interpretation of the results and reproducibility of the trial.

Comment 4: Do the authors have any explanation why only 29% of all available paramedics agreed to participate? I am curious whether the obtained subgroup of paramedics is representative for a general "paramedic" population.

Comment 5: Since a reliable saturation trace (as the key data) was obtained in only 22/35(69%), I am unsure how the authors could complete data collection in 33 patients. How was the oxygen saturation assessed in those remaining 11 individuals? This needs to be clarified.

Comment 6: The authors need to describe how primary outcome data was assessed. How was data on 90d survival obtained? Contacting the patient or hospital?
Comment 7: I am unsure whether the presented data indicate that amongst UK paramedics is feasible to perform a trial of titrated oxygen in the first hour following ROSC after OHCA. On the one hand only 29% of all paramedic were willing to participate in the trial, on the other hand the intervention was initiated in 77% and continued for the full 60 minutes in only in 16 cases. Those issues need to be addressed within the "Discussion" section in a critical fashion.

Comment 8: Percentages need to be presented within the provided tables.

MINOR COMMENTS

Comment 9: I recommend to submit "Figure 1" as a supplementary file.

Comment 10: Page 1, Line 38: Please clarify the reference.

Comment 11: The authors state "During the study period 624 (38%) patients received a resuscitation attempt." It is unclear on what the percentage refers to.

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.

Yes

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 am able to assess the statistics

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Please indicate the quality of language in the manuscript:

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