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: 04 Aug 2018

Reviewer: Janet Bray

Reviewer's report:

This study examined the feasibility of running an oxygen titration RCT post-OHCA in the prehospital environment. There are some details, results and discussion missing from the manuscript. Of note the EXACT pilot study has been published in Resuscitation but is not cited or discussed in the manuscript. The paper also does not provide much information about the safety of the intervention. Other issues are:

1) There are a few typos in background.

2) Full patient inclusion and exclusion criteria are not described.

3) The timing of first titration is not described, or how long paramedics were instructed to wait before next level of titration.

4) What happened if patients became hypoxic? What level of oxygenation was acceptable?

5) What is SWASFT?

6) How were paramedics randomised?

7) Why was paramedic participation so low? This requires discussion and implications for feasibility.

8) What were the criteria for exclusion in 37 patients?

9) Shouldn't Figure 2 feature rates of ROSC in rather than resuscitated in excluded box? Why did you included cases not seen by PROXY paramedics - how were these cases "assessed for eligibility" as per box above? And both groups are down as "allocated to intervention".

10) It is unclear why 8 patients didn't receive allocated intervention?
11) Figure 2 - end of text in follow-up box is hidden - just says "poor"

12) Tables 1 and 2 groups are labelled arm a and arm b - not clear which group is which?

13) Table 1 - needs to have n(%).

14) Table 1 - do you have information on rhythm, aetiology, downtime, oxygen saturation, airway type?

15) What level of oxygen titration was achieved?

16) Why don't the outcomes match those on the trial registration site?

17) Table 1. There are large differences between groups that are not mentioned.

18) Table 2. There are large differences in survival between the two groups even with this small sample size. This requires discussion and implications for main study.

19) What were the rates of re-arrest in each arm?

20) There is virtually no discussion. What were the differences between your study, the Young and Bray studies?

21) Please elaborate on methods of measuring tissue and brain oxygen in discussion.

**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.

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I am an investigator on the EXACT study.

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