Reviewer’s report

Title: PROtective Ventilation with a low versus high Inspiratory Oxygen fraction (PROVIO) and its effects on postoperative pulmonary complications: protocol for a randomized controlled trial

Version: 0 Date: 29 May 2019

Reviewer: Ana Kowark

Reviewer's report:

The authors are presenting an interesting study protocol for a RCT analysing the difference between lung-protective ventilation with a FiO2 of 30 % vs. 80 % in patients undergoing abdominal surgery.

Please revise the manuscript by an English speaker. There are several unclear sentences and very long sentences. Here are only some examples:

1. Abstract: "The role of inspiratory oxygen fraction (FiO2) in the strategy is currently not clear and remains disputable, despite liberal oxygen administration and hyperoxia is demonstrated to be associated with respiratory mechanism changes and increased mortality in ventilated patients."

2. on page 4 "Inconsistent with what most of us thought, there's no significant difference in pulse oximetry, oxygenation index and functional residual capacity for several time-points with 30% or 80% FiO2 in a prospective study on FiO2 perioperatively [21]."

3. On page 5: „Patients are also excluded if they are need of re-surgery and/or mechanical/circulatory assistance, consent for other clinical studies, known pregnancy, and with a body mass index (BMI) of > 30 kg/m2."

4. Page 5: „Researchers including the data collector and the data analyzer are all blinding to the randomization arm,..." it has to be are all blinded or will all be blinded...

5. On page 5 „Postoperative visits and outcome assessment will be taken by a blinded investigator..." it has to be: will be performed by...

6. Page 7: After extubation, patients will be sent to the PACU" it has to be: „will be transferred to..." And it hast o be they will receive standard monitoring.... o rare you going to ask them, whether they want standard monitoring?

Methods:
On page 7: you describe your rescue recruitment maneuver with: Paw 30 cmH2O for 30s. On which reference does this maneuver base?

Please add a section for SPIRIT checklist item #27

Figure 1: Why are you presenting the postop FU only for day 1,3,7,30 ? I thought you will follow up the patient daily until POD 7?

SPIRIT checklist:
Please add item page numbers for # 3, #5c
Please update the indicated page numbers according to your manuscript

**Level of interest**
Please indicate how interesting you found the manuscript:

An article of importance in its field

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

Not suitable for publication unless extensively edited

**Quality of figures**
All images and figures within the manuscript should be genuine i.e. without evidence of manipulation. No specific feature within an image may be enhanced, obscured, moved, removed, or introduced. If you have concerns about the veracity of the figures you should choose the first option below.

**Statistical review**
Is it essential that this manuscript is seen by an expert statistician? If so, please give your reasons in your report.

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.
I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal

Were you mentored through this peer review?

No