Reviewer’s report

**Title:** Perioperative incidence of airway obstructive and hypoxemic events in patients with confirmed or suspected sleep apnea - A prospective, randomized pilot study comparing propofol/remifentanil and sevoflurane/remifentanil anesthesia

**Version:** 1 **Date:** 05 Dec 2017

**Reviewer:** Jonathan Ball

**Reviewer’s report:**

Thank you for the invitation to review this manuscript.

The authors describe a prospective, single centre, blinded, randomised study of the effects of 2 different general anaesthetic regimes on the severity of sleep disordered breathing in a cohort of patients with known or suspected mild to moderate OSA. They found no significant effect or either anaesthetic regime on the severity of OSA on the first post-operative night.

**Comments**

The power calculation appears to make rather optimistic assumptions and I strongly suspect that this study is significantly underpowered.

The primary statistical analysis comparing the median values of both the 2 regimes before and after is, I believe, flawed. The correct analysis should be to compare the differences between before and after studies in each individual. I would recommend an expert statistical opinion on this point.

The severity of OSA in the sevoflurane group appears to be significantly lower than the propofol group making the comparison between the 2 groups invalid?

I suspect, looking at the presented data that the authors found no effect of any GA regime on any patient thus the above concerns aside, their conclusions may still hold.

Additional but unmeasured confounders should be included in the discussion. These include the dose of opiates received post discharge from the PACU and chronic alcohol consumption history.

It would be useful to know if there were any post-operative complications in any of the patients and whether the incidence of these overall compares favourably or unfavourably with expected incidence rates.

**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.

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 recommend additional statistical review

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

Acceptable

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