Reviewer’s report

Title: Comparison of Supreme laryngeal mask airway versus endotracheal intubation for airway management during general anesthesia for cesarean section: a randomized controlled trial

Version: 1 Date: 08 Mar 2019

Reviewer: Warwick Ngan Kee

Reviewer's report:

General Comments:

This is an interesting study that compared the use of the Supreme Laryngeal Mask Airway (SLMA) versus endotracheal intubation (ETT) in patients having general anesthesia for elective caesarean delivery. The use of supraglottic airways for caesarean delivery is an area of current controversy so the study addressed an area that is very clinically relevant. The study appears to have been well conducted and the manuscript is well presented. My main concerns relate to the statistical methods used and the interpretation of the results. I will offer my opinion below but I would recommend consultation with a statistician to confirm.

The study used an equivalence design which may not be appropriate when considering the conclusion that the SLMA is an acceptable alternative airway to ETT. The equivalency design was based on determining whether first insertion rate for ETT was within the equivalence boundary centered on first success estimate for SLMA. As I see it, this is incorrect; the equivalence boundary should be based on the estimated success rate for ETT. However, given that the failure rate for ETT is very small (0.4%, reference #2) I would expect a much larger sample size would be required. Additionally, I do not understand why an equivalence design was chosen. Given that ETT is the accepted standard, a non-inferiority design may be more appropriate. This would also need to be based on the estimated success rate for ETT so the corresponding sample size again would need to be very large.

The implication of the above is that even though this was a relatively large study, it may still be underpowered for the primary outcome.
Specific Comments:

Background.

This is very long. I would recommend reducing the length and focusing on the main issues and justification of the study. Much of the commentary can be deleted or moved to the Discussion.

Methods:

P8L14. It is very interesting that the SLMA is the routine method of airway management for GA caesarean delivery at the hospital. It may be useful to add a comment how long and for what reason.

P8L34. The study was conducted from 2013-2014. Why has it taken so long to submit?

P9L2. Please give more details on cricoid pressure here. Who performed it and how was it standardized?

P9L2. Why was a range of propofol from 2-3 mg/kg used? Please specify in results whether there was any difference in propofol dose between groups.

P9. Please specify the head position and type of pillow.

P10. The criteria for successful placement for ETT do not seem to be as well defined as for SLMA. In particular, was a 60s time limit imposed for ETT and what was done if this was exceeded? I would recommend basing the analysis on success within the same time limit for both groups.

P11L39. The obstetricians were requested to reduce fundal pressure during delivery. Is this standard practice. This has important implications for the external validity of the findings.

Results:

P14L29-32. Please include actual data for success rates.

P14L44. "we felt that this might not be clinically relevant". Subjective comments should not be included in Results. Please move to Discussion.
Discussion:

P18L19-22. "the current practice of endotracheal intubation for Caesarean section should still be advocated…” This seems to contradict the stated routine practice by the authors of using SLMA.

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

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Please indicate the quality of language in the manuscript:

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