Reviewer's report

Title: Effects of different flow patterns and end-inspiratory pause on oxygenation and ventilation in newborn piglets: an experimental study.

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Reviewer: Emanuela Zannin

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Dr. Carlos Ferrando and colleagues compared different ventilatory flow patterns in terms of oxygenation and ventilation in healthy newborn piglets. The authors concluded that there were no differences in blood gasses, lung mechanics and ventilation among the different flow patterns that were evaluated.

The study for well designed and the authors were very thorough in the way the measurements were performed and the results are reported.

As the authors pointed out in the discussion, a limitation of the present study is that it was carried out on healthy and homogeneous lungs, while different responses to different flow pattern may be more relevant in presence of non-linearities and heterogeneity of the time constants.

Major Compulsory Revisions

1. Instead of comparing the experimental conditions in pairs I would have performed the statistical analysis by ANOVA with some post-hoc test if statistical significance was reached.

2. The way of reporting results is redundant. Table 1, figure 2 and figure 3 report quite overlapping information.

3. Has resistance been measured? I would aspect that resistance could be influenced by the flow pattern.

4. Were the animals paralyzed? If not, the accurate measurement of compliance requires an oesophageal probe.

Discretionary Revisions

ABSTRACT

- VDalv/VTalv has not been defined on first appearance

REFERENCES

- In ref 11, the authors are underlined

TABLES

- Table 1 is not very useful, I think that the possible combinations of sequences is clear enough from the text
Table 2 and 3: I don’t see the need of reporting p values for all the comparison when the overall difference is not statistically significant

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I have no competing interests in relation to the paper I am reviewing