

## Peer Review File

Available at <http://dx.doi.org/10.21037/tp-19-178>.

### Reviewer A

This is generally a well written article and conducted in standard way. some detailed comments are enclosed in the PDF file (editor: transcribe as follows).

1.The transition should be described in the method section.

A: As your suggestion, we have added this in the methods. Thank you!

2.Compared to what did they have higher mortality rate?

A: we have revised the aim and conclusion of the paper.

3.How did you determine who will receive HFOV or APRV? Must be clarified.

A: Thanks for your question, this is a retrospective study, and the HFOV or APRV was used randomly to those patients.

4.How did you express this when the data were skewed?

Suggest to add a reference for standard statistical description (Zhang Z. Univariate description and bivariate statistical inference: the first step delving into data. Ann Transl Med. 2016;4(5):91. doi:10.21037/atm.2016.02.11).

A: Thanks for your kindness. we have added the reference.add " and median when they were skewed" in the text.

5. You should include patients who did not transition to either APRV or HFOV; otherwise, there is no comparison. This must be done before publication.

A: Thanks for your good suggestion. As we described this study was retrospective, the aim of this paper is to investigate the effects of HFOV and APRV as a rescue therapy, therefore, we did collect all the simv patients.

### Reviewer B:

The authors evaluated the effect of High-frequency oscillatory ventilation and airway pressure release ventilation in children with acute respiratory distress syndrome. I have the following concern regarding the present study.

1. What's the aim of this study? The authors said the aim of the study was to investigate the relationship between HFOV or APRV and children. What's the meaning? The relation between ventilator mode and patient? The study design is also uncertain. The authors only told us which patients were enrolled in the study. I can't understand the aim of this study. Maybe they wanted to compare the difference

between HFOV and APRV according to the Methods? But why CMV, APRV and HFOV were selected in the manuscript? When and how to convert the ventilator mode from CMV to APRV/HFOV? Please elaborate the study design in the manuscript. Moreover, the authors should present CONSORT formula even if its retrospective.

A. We have revised the aim of the study. we aim to describe the effects of the application of HFOV and APRV as rescue ventilatory support in children with moderate and severe ARDS. In the study all children were transitioned from SIMV to either HFOV or APRV for 48h or longer after failure of SIMV. Whe patients suffered from persistently elevated PIP ( $\geq 35$  cmH<sub>2</sub>O), oxygenation difficulties (inability to decrease FiO<sub>2</sub> to  $\leq 0.60$  despite increasing PEEP), or ongoing hypercarbia (PaCO<sub>2</sub>  $\geq 80$  or pH  $< 7.25$ ), we prompted the consideration of changing the ventilation mode of HFOV or APRV as a rescue therapy. In china, when critical patient was hospitalization in ICU, consort formula was signed routinely and it was kept in medical record by hospital.

2. The study was approved by the Ethics Committee of Children's Hospital of Zhejiang University School of Medicine. Please provide the ethics number.

A: we have prepared the ethics approval and will send it to the editorial.

3. What is CMV? Conventional mechanical ventilation? Not control mechanical ventilation? Or SIMV in the manuscript? Please depict the mode in detail.

A: Thanks for the suggestions, we had revised the CMV, and described SIMV in the text.

4. Some of the statistical analysis methods are wrong. For example, Which method was used to evaluate mortality? Why selected 47 patients? The sample size was enough? Please present the evidence after calculation.

A: We had modified the "40" as "40%", the mortality was by the continuity correction chi square test. This is a retrospective study, and the aim of this study is to investigate the effects of high-frequency oscillatory ventilation (HFOV) or airway pressure release ventilation (APRV) as an rescue therapy on children with moderate and severe acute respiratory distress syndrome, so we collected past 5years data and analyzed these data.

5. There is a large number of English grammar and syntax errors in the manuscript. Please edit the manuscript by someone whose native language is English.

A: Thanks for your kindness, we have polished the language.

6. There were some spelling mistakes in the manuscript. For example, in Line 69, Page 3, "The informed consents...from all parents."? Not "patients"?

A: thanks for your suggestion, we have revised the mistakes of spelling. The patients in our study were children, who were guarded by their parents or guardians.