Reviewer's report

Title: Hyperinflation deteriorates arterial oxygenation and lung injury in a rabbit model of ARDS with repeated open endotracheal suctioning

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Reviewer: Ning Ding

Reviewer's report:

This is an interesting manuscript that explores the effects of hyperinflation on pulmonary kinetics, hemodynamic parameters, lung morphology, as well as circulatory and pulmonary profile of inflammatory cytokine in a saline lavage-induced surfactant depleted rabbit model of ARDS with repeated OES undergoing mechanical ventilation. The manuscript shows that hyperinflation is able to worsen the pulmonary kinetics, lung morphology and expression of pulmonary TNF-# and IL-8 levels in ARDS model undergoing mechanical ventilation with repeated OES.

Nevertheless, there are still a few minor questions that need to be addressed by the authors.

1) In the discussion, the description of methodology used in the present study is too complicated and elaborated, please simplify it.

2) When discussing the involvement of TNF-alpha and IL-8 (para 3, page 18), the authors are recommended to refer to several recent publications by Ding N, et al (particularly PLoS ONE, 2013, 8(9): e74633 and J Trauma Acute Care Surg, 2012, 72(1):162-168.) that intensively analyzed the mechanism of cytokines in ARDS/VILI.

3) For better understanding the figure, a concised experimental protocol is recommended to add in Figure 1 legends.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.