Reviewer’s report

Title: Intravenous superoxide dismutase as a protective agent to prevent impairment of lung function induced by high tidal volume ventilation

Version: 0 Date: 08 Nov 2016

Reviewer: Stefano Baglioni

Reviewer’s report:

In this very interesting paper, Nan-Chun Wu e coauthors explore the protective effect of SOD on lung impairment due to high volume ventilation in an animal model. In general the paper is well written, the aims are properly described and the results are relevant, but the article is too long and some section (methods and discussion) should be significantly reduced.

Major comment: Sod degrades O2 to hydrogen peroxide. Adding SOD has had variable effectiveness in reducing oxidant damage in experimental systems, in some cases SOD enhances lipid peroxidation and membrane damage and in others it limits lipid peroxidation and membrane injury; the concentration of free iron and catalase influence this opposite effect; the author could comment this point.

2- discussion should be drastically shortened (9 pages are really too for a paper). I invite the authors to concentrate the discussion on the principal point of their work, the efficacy of SOD on reducing lung inflammation, ventilatory impairment and lung injury; also the modifications of NO level is a very interesting point.

3- results the difference on baseline pH in the three groups are significant? If yes this point should be specified.

4 figure 3. It's not clear in my opinion

MINOR COMMENT: in abstract, row 10 should be indicate high tidal volume (HTV).

In methods, row 50, Peep used was 0; the authors should explain because use a 0 PEEP level.

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 am able to assess the statistics

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

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