Reviewer's report

Title: Strategies to prevent postoperative lung dysfunction after open heart operations

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Reviewer: Theodoros Karaiskos

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Cardiopulmonary bypass still remains the cornerstone for safely completing most of the cardiac operations nowadays. The authors Apostolakis et al. address in this review article a very important and timely issue, which is the postoperative lung dysfunction as a consequence of lung injury during cardiopulmonary bypass (CPB). The use of CPB during cardiac operations is associated with a systemic inflammatory reaction that leads to lung failure manifested as interstitial pulmonary edema. As a consequence of the above patients have prolonged intubation time and increased mortality.

The authors have struggled over 110 studies which have nicely distributed in sections through their article. By reading the article it becomes obvious that lung dysfunction is a multifactorial complication still being under further investigation. However, they propose some measures that could help in avoiding this complication although with a week strength of evidence.

I have a few minor suggestions concerning their article:

1/ The title of the article should be named “Strategies to prevent intraoperative lung injury during cardiopulmonary bypass”, since this is the topic being addressed.

2/ In the page 6 of the article, row 16 “cannot” instead of “could not”, row 17 “can abolish” instead of “could abolish” row 18 “it is not able” instead of “is not able”, row 23 “has been observed” instead of “could be observed”.

3/ In page 7, last row “comparatively” instead of “comparative”

4/ In page 8, row 1 “since” must be changed with “in terms of” for example.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

'I declare that I have no competing interests'