Reviewer’s report

Title: Increased permeability-oedema versus atelectasis in pulmonary dysfunction after trauma and surgery: a prospective cohort study

Version: 1 Date: 13 April 2007

Reviewer: D John Doyle

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Review of Pulmonary dysfunction after trauma and surgery

A. B. Johan Groeneveld

Atelectasis, acute lung injury (ALI), and adult respiratory distress syndrome (ARDS) are all too common problems in modern intensive care units. Unfortunately, current means to distinguish these entities remain far from satisfactory, with the result that efforts to tease out contributors to each of these forms of pulmonary pathology remains an important undertaking. In particular, atelectasis is frequently easily treated using lung recruitment maneuvers while the management of ALI and ARDS utilizes rather different approaches. This explains the importance of the present study.

One potential criticism of the study is a lack of homogeneity in the surgical patient population, (bone surgery, cancer surgery, esophageal surgery etc.) and the relatively small numbers of patients studied. To the credit of the author, these and other important limitations are clearly identified in the manuscript. However, I do not believe that these are fatal study limitations, and I believe this report would nevertheless make a useful contribution to the open access literature.

Readers not familiar with radioactive tracer techniques to measure pulmonary leak index and thermal-dye techniques to measure extravascular lung water may find themselves overwhelmed at the complexity of this study. While the manuscript is generally well-written, it took me some time to sort through the many issues that the author attempted to discuss in this complex study. Since I suspect other readers will face similar problems, I think that it would be helpful to add additional didactic material, such as some paragraphs elaborating on the PLI technique, the lung injury score, and the estimation of extravascular lung water. While it is true that appropriate citations to these are provided in the manuscript, since open access online publication does not face the same page limitations that paper journals face, I think that expanding the manuscript to include more didactic materials would be very helpful. This material might even be included as an appendix if so desired.

I would like to use this review to raise another issue of potential interest to this journal’s readership. Would the author be willing to make available his original spreadsheet data publicly available for other researchers to explore? For instance, researchers may wish to consider alternate means to analyze the study data, such as employing advanced statistical techniques not in common use by the clinical community.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

None.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

None.

Discretionary Revisions (which the author can choose to ignore)

I regard all of my suggestions as discretionary.
What next?: Accept after discretionary revisions

Level of interest: An article whose findings are important to those with closely related research interests

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