Reviewer's report

Title: Lung virome in mechanically ventilated patients: a pilot study

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Reviewer: Marcus Panning

Reviewer's report:

Nazareth and colleagues aimed to describe the lung virome of ventilated patients with and without respiratory symptoms admitted to intensive care units in the Lisbon area.

They performed real-time PCR on mini-bronchoalveolar lavage samples for a number of viral respiratory pathogens and compared the detection rates among the two groups.

The study is of interest as it sheds light on the presence of viral respiratory pathogens which might be present in the lung. Technically, the study used a prospective-observational approach.

This brings me to the first point. The major issue of concern is that the inclusion criteria remain vaguely described. E.g., no information is given if patients assigned to the group without respiratory symptoms had respiratory infection shortly before admission to the ICU. In addition, it would be informative to know the definition of respiratory infection (i.e. influenza-like illness, fever etc.). To better appreciate the relevance of viral detections in lung specimens it might also be of interest to include throat/pharyngeal swab samples from the same patient.

Minor points:

Do the authors have information on influenza vaccination history?

The authors aimed to describe the lung virome (title) but used a limited number of RT-PCR assays for respiratory viruses only. Although the authors mention this in the discussion I would suggest to delete the term virome from the manuscript/title and replace it by detection of respiratory viruses or alike. In this respect, the objectives/conclusions need to be modified since only common respiratory viruses were detected and no attempts with an unbiased approach using metagenomics analysis were used.

There are some typos scattered across the manuscript, e.g. Abstract, line 38 "respiratory sincytial virus", Mini-BAL procedure, line 48 "throught", Discussion, line 56 "analised"…

Data analysis: Although mentioned, correlation of two parameters has not been shown in the manuscript. Please consider to delete the respective paragraph.

The authors conclude that respiratory viruses seem to replicate in the lung environment. Without using cell culture to isolate virus this conclusion seems rather far-fetched.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

No

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
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