Reviewer’s report

Title: Aspergillus fumigatus during COPD exacerbation: A pair-matched retrospective study

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Reviewer: Silvia Terraneo

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Aspergillus fumigatus during COPD exacerbation: A pair-matched retrospective study

Summary of the study

Tong X and colleagues performed a retrospective pair-matched study in order to investigate the clinical features of Aspergillus colonization from the LRT samples of COPD patients, analyse the risk factors for Aspergillus spp. isolation and summarize the clinical treatment choices and outcomes of COPD patients with AC.

I think that the study aims are interesting and I would like to read data about this field. However the review of the manuscript revealed some aspects that call for revision:

Major

Abstract
The abstract, as the whole manuscript would improve by English editing. The aims of the paper must be improved: the short-term outcomes, for example, were one important aim and has to be reported. I suggest making whole abstract more linear.

Methods:
The most important point about the whole paper is: how did you diagnose Aspergillus colonization? I mean, how did you exclude the possibility of ABPA? CPA? Simple
aspergilloma? Did you search the presence of clinical symptoms suggestive of CPA or ABPA? Did you perform chest X-rays and how were its findings? Afterwards I suggest bettering explaining where did you find patients' data. What are "patients' data files"? Did you follow the patients after the exacerbation?
Within how many days were LRT samples collected?
Ethical: retrospective studies need ethical approval. In the response to editors you wrote that the data used in this study were part of another project, which was approved by your ethic committee. This needs to be reported in the paper, in methods section. Is this a retrospective analysis of a prospectic database?

Results:
The figure about "the study group" belongs to Results section and needs a figure capture. I could not find Results about multivariate analysis of risk factors for the isolation of Aspergillus, and survival curves. Why?
Table 1 I suggest reporting all class GOLD.
Table 2 in which day were laboratory examination collected? At admission? I could not understand FiO2 results. Did you mean Pa/Fi?
Table 3 what does "combination identification of pathogens" mean? Was a microorganism isolated only in 12/23 patients? I suggest reporting p value also for single pathogens.
Table 4 do you have any data about the class of the antibiotics? I suggest to explicit them in table 4 (what does it mean ≥1?). I suggest reporting p value also for single steroid therapy (systemic and ICS). I am not sure that combination between im/ev and inh could be an interesting information. Dose: I suggest inserting the route of administration in "dose of usage" (im, inhaled).
How do you define "remission time"? It must be cleared in Methods. I suggest verifying the unit of measurement of bronchodilators.

Discussion:
The first part of the discussion needs to summarize the main results of the paper. In addition the discussion is not fluent. After the results, novelty and comparison with literature should be addressed in a clearer way.
Minor
Table 1 FEV1% (OQR) I think there is an error. Are functional values pre or post bronchodilators?

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
Please indicate the quality of language in the manuscript:
Needs some language corrections before being published

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