Reviewer's report

Title: Clinical outcomes associated with Staphylococcus aureus and Pseudomonas aeruginosa airway infections in adult cystic fibrosis patients

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Reviewer: Cristina Cigana

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Major Compulsory points

1. The greatest issue is the choice to include CF patients positive to both S. aureus and P. aeruginosa in the group named “PA patients”. They cite some papers indicating that “PA+SA co-infections are associated with diminished survival, greater decline in lung function and increased airway inflammation in CF children [16, 36, 37]”. They justify their choice with the small size of this group, that did not allow them to perform any subgroup analyses. It should be considered that this group included 50 patients (10 patients co-infected). The other groups, namely “SA only” and “no PA/SA” included 20 and 14 CF patients respectively, thus they were characterized by smaller numbers in comparison to the “PA” patients. Co-infected patients should be excluded from the “PA” group, and the analysis performed again with the new groups.

2. Patients with MRSA are included in the group “SA”. It has been described that CF patients with MRSA have worse clinical outcomes or more treatments in comparison to those with SA (Ren et al, Pediatr Pulmonol 2007; Sawicki et al, Pediatr Pulmonol 2008; Muhlebach et al, JCF 2011). Did the authors included patients with MRSA in the “SA only” group? If this is the case, authors should comment.

3. Adjusted models should be considered for draw results and conclusion in the abstract.

4. The conclusions are too “speculative”. The majority of patients acquire PA early in life. Thus it is hard to think that SA could protect CF patients from PA acquisition in adulthood.

Minor essential revisions

1. Please, authors should explain what an acronym stands for as it appears in the text (e.g. CRP in the Abstract, then explained in the Introduction, or FEV1 in the Abstract and Introduction, then explained in the Methods).

2. In general, the paper would benefit from an edit.

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