Reviewer’s report

Title: Clinical Implications and Characterization of Group A Streptococcus Infections in Adults with Cystic Fibrosis

Version: 0 Date: 04 Sep 2015

Reviewer: Peter Gilligan

Reviewer's report:

BMC Pulmonology 2015-60

General comment

This manuscript describes a retrospective study examining the role of group A streptococcus (GAS) in pulmonary exacerbation in adult CF patients. Not surprisingly, GAS is found quite infrequently in adult CF patients with the organism detected in 15 patients in a study period of 37 years. Further there is no evidence that this organism is involved in the chronic infectious process that occurs in CF patients. However there is a bit of data suggesting that it rarely is involved in pulmonary exacerbations in a quite small subset of CF patients. The data is mainly negative.

Specific comments

1. It appears from table 2 that in only 4 patients (and 5 episodes) was pulmonary exacerbation associated with GAS since the other 3 patients had other organisms well described in the literature to cause CF pulmonary exacerbation. Of the 4 GAS only patients, 2 had what was characterized as severe exacerbation, the definition of which was hospitalization and IV antimicrobial. Since these patients were not evaluated for the presence of viruses such as influenza, it is unclear with the severity of illness in these two was due to GAS although given the well-recognized pathogenicity of GAS, it is quite feasible that it alone could be responsible for exacerbation. The authors should comment in their discussion about the possibility at least of severe exacerbation associated with GAS could be secondary to viral agents which were not sought in this study.
2. The authors' discussion of ceftazidime activity against GAS on pg 3 of the discussion Ln 24-26 is pure nonsense and should be eliminated. First ceftazidime is not used to treat GAS ever, secondly the breakpoints for ceftriaxone and ceftazidime are different so they can not be compared by showing extremely large zone series for ceftazidime and "sensitive" for ceftriaxone. This is the kind "data" presentation that lacks rigor and scientific validity and should be avoided.

3. The authors try to "fluff up" their paper by characterizing the isolates for quorum sensing molecules, different enzymes and PFGE. Molecular typing is better accomplished by emm typing rather than PFGE. Why clinicians reading this paper would care about quorum sensing and production of different enzymes in this organism especially when there are no clinical correlates stated is unclear.

4. In Materials and method: What is a "Wallac Victor2 and who manufactures it?

5. In phenotypic and genotypic characterization of GAS: GAS carriage is well described in the literature. The more cogent point might be that GAS carriage was infrequent in this population rather than that it occurred. Since there is so little data about carriage presented, perhaps nothing at all should be said about it.

6. Para 1 discussion: When the number of deaths are stated, it is likely reference 23 is an incorrect citation. Should it not be reference 11 here as well?

7. Para 2 discussion: Most reference material do not list GAS as a common cause of CAP. It would seem that 11% of CAP is due to GAS is very much an overestimation. Frankly I can not remember the last time we had an autopsy culture of the lungs positive for GAS and if the mortality is 20 to 38% than we should see it perhaps as often as once or twice a year. This entire paragraph is an overstatement.

8. Discussion para 3: "at one point 5% of patients isolated GAS. This seems improbable given that looking at table 3 the most isolates I see in a single year is 3.
Does that mean you have only 60 patients in your cohort? Perhaps this statement should be re-thought.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

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:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below.

If your reply is yes to any, please give details below.

I declare that I have no competing interest

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal