Reviewer’s report

Title: Successful Eradication of Newly Acquired MRSA in Six of Seven Patients with Cystic Fibrosis Applying a Short-Term Local and Systemic Antibiotic Scheme

Version: 0 Date: 15 Jun 2017

Reviewer: Carlos Echevarria

Reviewer's report:

This is a retrospective case series of patients with CF who have been found to be MRSA positive. This is an important area and there is ongoing work to identify optimal treatment strategies for MRSA eradication. In this paper, the treatment regime is clearly described and is associated with a high rate of MRSA eradication. The authors correctly identify some of the weaknesses in their study, namely the small numbers, lack of a control arm and its retrospective nature.

The following issues need consideration:

1) The authors use the term chronic colonization at the start and then "newly infected" in the methods. It would be worth being consistent with terminology, and perhaps a brief line or two considering the term colonization versus infection.

2) Were consecutive patients selected? If not, how were they identified - were they selected based on certain criteria? Were there patients that were treated but lost to follow up? Did any patients decline to be admitted to hospital to have this therapy? Further information would be helpful in determining the success rate of treatment of those offered treatment.

3) How was new colonization defined? One-off culture, or multiple samples? To confirm eradication, did all those patients have the same investigation modality (i.e. those that had positive sputum then had negative sputum rather than negative oropharyngeal swabs). If both were performed, I suggest "and/or" is added to "bacterial cultures of sputum" just prior to the results, line 46.

4) It would be worth commenting on the importance of MRSA diagnosed on sputum culture versus oropharyngeal swabs.

5) There is evidence to suggest that MRSA acquisition is not associated with a greater rate of decline in lung function in adults, and that incident detection of MRSA is not associated with a changing rate of FEV1% predicted decline (suggesting it is a marker of more severe disease).[1,2] This is worth discussing for balance.
6) As mentioned above, rate of change in FEV1% predicted is more informative than change in FEV1% pred. Is this information available to be added to the results?

7) Could further information be supplied regarding the patients, such as mutation type and measures of disease severity.

8) Why were patients swabbed? Was this part of monitoring or did the patients have symptoms suggestive of infection? Did eradication lead to an improvement in symptoms?

9) There is no mention of the (very) recent Muhleback paper, which is a randomized trial which shows an effective eradication therapy.[3]

[1] Persistent methicillin-resistant Staphylococcus aureus and rate of FEV1 decline in cystic fibrosis. Dasenbrook EC et al. AJRCCM 2008


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.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

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.

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