Reviewer’s report

Title: A severe case of Streptococcal pyogenes empyema following influenza A infection

Version: 0 Date: 13 Nov 2018

Reviewer: Victor Huber

Reviewer's report:

Comments for the authors of BMC Pulmonary Medicine manuscript number PULM-D-18-00508: The authors of BMC Pulmonary Medicine manuscript "A severe case of Streptococcal pyogenes empyema following influenza A infection", present an interesting case report on an incidence of empyema that was associated with influenza virus and S. pyogenes. The presentation of the course of illness, treatments implemented, recovery, and overall evidence of healing from the infection provide insight into the clinical situation associated with these severe infection, and add insight into interventions that can be used to limit deaths. Overall, the study is of interest, and below are some comments that I would like the authors to consider during the revision process.

General Comments:

1. It was not clear whether the patient was suffering from a co-infection or a secondary infection. The timing of the infection was difficult to follow, as was the terminology used. Specifically, the authors refer to this as a co-infection, which implies the presence of both virus and bacteria simultaneously, while the case report indicates that the patient was diagnosed with influenza A virus and treated with oseltamivir (twice daily), and symptoms improved (see page 3). Respiratory symptoms were then presented two days after treatment was finished, at which point the bacterial infection was diagnosed. Could the authors please indicate the time between diagnosis of influenza and diagnosis of bacteria? How long was oseltamivir used? Did the patient test negative for influenza before bacteria and/or was the patient still positive for influenza when testing for bacteria was performed? In many cases of secondary bacterial infection, it is clear that patients begin recovery and then are susceptible to a true secondary infection. Is this what happened in this case?

2. The authors may want to re-visit the literature on empyema in association with influenza and S. pyogenes. Specifically, please review a recent article by Ochi et al (Case Rep Ped, 2018) and an olderone by Ampofo et al. (Pediatr Infect Dis J, 2010) to review and report more clearly on others that have seen similar clinical situations. Similarly, the authors may want to review some of the recent review papers and primary articles where influenza infection has been associated with S. pyogenes, presenting primarily as pneumonia, and comment on the incidence of this co-and secondary infection scenario.
3. While I could understand the article as written, editing of the text for proper word usage and sentence structure would be appreciated.

4. In Table 1, could the authors please include the range of normal values for the tests indicated so that readers can clearly identify which values are outside of the normal ranges.

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.

Yes

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.

Not relevant to this manuscript

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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