Reviewer’s report

Title: Intracranial actinomycosis of odontogenic origin masquerading as auto-immune orbital myositis: a fatal case and review of the literature

Version: 1 Date: 14 Aug 2019

Reviewer: Hannamari Välimaa

Reviewer's report:

General comments:

Thank you for the thorough answers to my comments. Now having had the answers I understand that the only finding suggestive of actinomyces infection was the brain autopsy sample with gram positive filamentous bacteria. Therefore, actinomycosis diagnosis is probable but actinomyces was not definitely shown to be the causative agent. The authors should bring this up as a weakness/incertainty of the study in the discussion. The appearance of the timeline has greatly improved in revision!

Detailed comments:

1. Line 46. Autopsy showed actinomycotic meningoencephalitis > Autopsy showed bacterial aggregates suggestive of actinomycotic meningoencephalitis
2. Line 63. Actinomycetacae > Actinomycetaceae
   Not all genera in this family are known to belong to the commensal flora of the oropharyngeal cavity. Actinomyces, Nocardia and Streptomycyes are not the three genera of Actinomycetes/Actinomycetaceae. Please correct the facts and update the bacterial classification or leave it out of the manuscript.
3. Line 67. As the actinomycosis diagnosis was based only on the staining result in the autopsy brain sample, the word "presumed" should be moved in front of the word "intracranial", i.e. "presumed intracranial and intra-orbital actinomycosis…"
4. Line 88. Borrelia burgdorferi > Borrelia burgdorferi, Treponema pallidum > Treponema pallidum
5. Line 117. Staphylococcus aureus > Staphylococcus aureus
6. Line 138. "…of abnormal…" > should it be "…or abnormal…"
7. Line 158. Regarding classification, please remove the beginning of the sentence and start the sentence by "Actinomyces and Nocardia…"
8. Line 159. Actinomycetaceae > Actinomyces
9. Line 161. microaerophilic > microaerophilic, Actinomyces requires > Actinomyces species require
10. Line 254. Targeted assays for which micro organisms?
11. Line 285. …the first report of actinomycotic orbital…. > …the first report of probable actinomycotic orbital….
12. Please go carefully through the manuscript and the timeline for possible additional typos#neral
comments:

**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.

Unable to assess

**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.

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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