Reviewer’s report

Title: An unusual case of infective pneumocephalus: case report of pneumocephalus exacerbated by continuous positive airway pressure

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Reviewer: Namita Jayaprakash

Reviewer's report:

This is an interesting case of pneumocephalus, S. salvarius meningitis, sinusitis and possible osteomyelitis. The authors identify that the novelty of this case lies in the association with sinusitis and osteomyelitis. In the introduction, the authors make a connection of CPAP and pneumocephalus with a rare case of previously undescribed sinus wall osteomyelitis. The rest of the manuscript however seems to tell the story of this rare case of S. salvarius sinusitis, likely osteomyelitis and finding of pneumocephalus that may have resulted from nocturnal CPAP use. The authors should clearly identify the association they are trying to highlight with this manuscript in the introduction. The way it is currently written presents an association that seems a little disconnected from the rest of the manuscript.

The diagnosis of osteomyelitis in this patient seems to have been made on imaging and not based on biopsy as the patient was not deemed to be a surgical candidate. It is not till much later in the discussion that the CT evidence of osteomyelitis becomes clear to the reader (page 9 lines 4-6). However on page 8 lines 47 - 57 the manuscript suggests that the ENT surgeon's diagnosis was in fact sinusitis with meningitis. The authors should make the link to osteomyelitis more clear as this seems to be a pivotal point for the novelty of this report.

The authors never address why CPAP was permanently stopped in this patient despite the recommendation in the literature that CPAP be stopped for a period of 6 - 8 weeks followed by re-evaluation for possible re-introduction. It is unclear if the authors in fact mean that CPAP was stopped in this patient for the duration of therapy for sinusitis, osteomyelitis and meningitis or
whether in fact CPAP was stopped 'permanently' as the patient's OSA was evaluated and felt to not require CPAP therapy.

Further, there are several minor grammatical concerns the authors should address and revise:
Page 5 line 44: 'Patient GCS...' should be 'Patient's GCS'
Page 5 line 49: take out 'exhibited' so sentences reads as '...clonus and hyper reflexia throughout.'
Page 7 lines 6-11: The CT report findings seem to be taken directly from a radiology report and the authors should consider summarizing the findings in grammatically correct sentences rather than short phrases that are questionably copied and pasted from the radiology report. Alternatively the radiology report should be cited as such.
Page 10 line 2: '...a recent studies...' or '...recent studies...'? 

The conclusion is strong and the reason why this case is interesting to report in the literature. The introduction of this manuscript however is slightly disconnected from this conclusion and could easily be revised.

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?
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