

## Peer Review File

**Article Information:** <https://dx.doi.org/10.21037/ajo-22-24>

### Reviewer A

This is a retrospective review of the presentations of peritonsillar abscess at a major tertiary referral center in Sydney.

There is limited data within the current literature regarding the management of peritonsillar abscess in Australia.

Given that this is a common presentation in emergency departments, I think that this adds to the available literature and publication is warranted.

**Reply:** Many thanks for your kind review.

### Reviewer B

Peritonsillar abscess and cellulitis is a common ENT emergency presentation. Little exists in the Australian literature. This paper looks at a 5-year retrospective review of management of Peritonsillar infections in a tertiary Australian hospital. It looks to determine if this hospital had consensus with regards to investigations and management.

#### **Introduction:**

**Comment 1:** Line 51: incidence rate - the primary data source for this figure isn't citation 1 -- incidence comes from this paper:

Herzon FS, Harris P. Mosher Award thesis. Peritonsillar abscess: incidence, current management practices, and a pro-posal for treatment guidelines. Laryngoscope. 1995;105(8, pt 3) (suppl 74):1-17.

**Reply 1:** Agreed, this reference is now included.

**Changes in the text:** Reference changed in line 56.

**Comment 2:** Line 53 - pathogenesis - suggest reference 19 is a better citation regarding pathogenesis

**Reply 2:** Agreed.

**Changes in the text:** Reference changed as suggested in line 59.

**Comment 3:** Line 71 - determine if consensus - this should be specifically addressed in the discussion with then a recommendation in the setting of the findings

**Reply 3:** This has been addressed in the conclusion. We have recommended that there is no utility for routine use of CT scans and swabs, however further prospective studies are needed to address the medical and surgical management of PTAs.

**Changes in the text:** CT and swab recommendations included in lines 300-309.

## **Methods:**

**Comment 4:** Line 92 - The assigning of patients with no data on smoking and alcohol to the nonsmoker or drinker category may have biased the results and undervalued nonsmokers and nondrinkers - suggest this is discussed within limitations - particularly given that smokers have an increase risk on previously published data.

**Reply 4:** We agree with this statement.

**Changes in the text:** Statement included in limitations section in lines 291-293.

**Comment 5:** No demographics on ethnicity - proportion of first nation peoples. Is it possible for the authors to provide this demographic (would allow comparisons with the NZ paper on the rates in Maori patients)

**Reply 5:** This data has now been extracted and included.

**Changes in the text:** Ethnicity included in methods (line 98) and results (line 121).

**Comment 6:** No data on history of recurrent tonsillitis or representations for recurrence. This could have been useful data to have collected.

**Reply 6:** We certainly agree with the above points, however information on history of recurrent tonsillitis and representation was not consistently included in patients' files.

**Changes in the text:** Acknowledged. No changes made.

**Comment 7:** Where sensitivities of the microbiology collected? This could be relevant to why some physicians prescribed metronidazole additionally to penicillin?

**Reply 7:** Although bacterial swab microbiology, culture and sensitivities (MCS) were sent for 37% of patients, the sensitivities were not routinely reported. For example in an isolate of Group A Streptococcus, the comment that followed was "*susceptibility testing is not routinely performed due to this isolate's predictable susceptibility pattern...*" Furthermore, these antibiotics were prescribed empirically on admission, without any microbiology result.

**Changes in the text:** Acknowledged. No changes made.

## **Results:**

**Comment 8:** Although the authors provide mean and median ages they haven't provided the range. Can the authors confirm that this was an adult only cohort and didn't include children? Background on Nepean Hospital within the introduction would also help the reader understand the demographics of the patients studied and thus relevance to their own population.

**Reply 8:** Age range included, as well as background on Nepean Hospital which includes both adults and children.

**Changes in the text:** Age range included in line 122, and background on Nepean Hospital included in the introduction in lines 70-80.

**Comment 9:** Line 119 -With regards to antibiotic use 51% received benzene alone with 37% having additional metronidazole, data within table 4 - might be worth stating this in body of results - this is important given that antiobiotic guidelines suggest penicillin alone therefore only 50% of cases are following the guidelines. The availability of sensitivities would then be useful in case bacteria are found to be beta-lactamase producers and thus requiring the addition of metronidazole.

**Reply 9:** We have now included the breakdowns as suggested.

**Changes in the text:** Percentages added in line 150 as recommended.

**Comment 10:** Table 4. - of the 25% who had no surgical treatment did they have abscess or just cellulitis?

**Reply 10:** From the documentation on the electronic medical record, these patients had cellulitis.

**Changes in the text:** Acknowledged. No changes made.

**Comment 11:** Interesting that only 37% were sent for microbiology given 75% had surgical intervention. Could this represent no pus found on aspiration or I and D?? In which case are the authors undercalling cellulitis and overcalling abscess?? - would be interesting to know what proportion of surgically treated cases actually had identification of frank pus.

**Reply 11:** In this study, peritonsillar abscess has been defined as visual detection of pus. Even though pus had been aspirated or visualized on incision and drainage, not all were swabbed and sent for MCS, hence why its utility has been questioned in this study.

**Changes in the text:** Acknowledged. No changes made.

**Comment 12:** Line 137 - Where these PTA just misdiagnosed cancers? Worthy of discussion

**Reply 12:** Tonsillar cancer briefly mentioned in diagnosis section of discussion.

**Changes in the text:** Sentence added in lines 172-173.

#### **Discussion:**

**Comment 13:** Line 154 - The Liverpool tool is used for diagnosis; it would be interesting if the authors applied this tool to their cohort and determined its sensitivity. If this isn't achievable then discussion if this is a tool worth introducing into their setting may be worthy of discussion.

**Reply 13:** Discussion of the utility of this tool has been added.

**Changes in the text:** Utility of this tool discussed in lines 194-195.

**Comment 14:** line196 - throat swabs are not the same as aspirates or pus swabs - may need clarification. The results from this study should be able to recommend the appropriate abs use based on their local experience. - sensitivities however aren't mentioned

**Reply 14:** We agree with throat swabs not being the same as aspirates or pus swabs – this has been clarified. Furthermore, swab sensitivities were not routinely reported. For example in an isolate of Group A Streptococcus, the comment that followed was “*susceptibility testing is not routinely performed due to this isolate’s predictable susceptibility pattern...*”

**Changes in the text:** “Throat” deleted in line 239.

**Comment 15:** Line 209 - antibiotics after clinical improvement, what does this statement mean?

**Reply 15:** Clinical improvement in this instance relates to the signs and symptoms of peritonsillar abscess/cellulitis as previously described.

**Changes in the text:** We have clarified clinical improvement as being related to improvement in signs and symptoms as seen in line 256-257.

**Comment 16:** Reference 1 discusses that medical treatment is equally effective as surgical treatment to treat PTA and, in some ways, superiorly as patients require less analgesia and shorter admissions. Can the authors comment on how their study correlates with this paper and should treatment algorithms consider the effectiveness of medical management as first line treatment.

**Reply 16:** This study does not compare the efficacy of medical vs surgical management of PTAs and hence is difficult to correlate our findings with it. However, we have added this statement given it adds further information on the difference between medical vs surgical management.

**Changes in the text:** Statement included in lines 249-251

**Limitations** - see above

**Comment 17:** Would like to know how the authors feel this study would lead to changes within their own department and more broadly with regards to management of PTA - could they incorporate Liverpool tool into their practise. Could the authors propose a management pathway?

**Reply 17:** This study recommends against the routine use of swabs and CT scans which could be a suggestion to adopt by our institution. However, in order to propose a valid management pathway, we recommend further prospective studies.

**Changes in the text:** CT scan and swab recommendation added in lines 300-309. Utilizing LPS in our practise has been mentioned in lines 194-195.

**Comment 18:** Recognition that unilateral tonsillar changes may represent malignancy.

**Reply 18:** Suggestion added.

**Changes in the text:** Sentence added under tonsillectomy and tonsillar malignancy section in lines 172-173.

**References** worth considering including in discussion:

**Comment 19:** 2 papers have been published by a group in NZ (likely from the same data source), given this is probably the only other Australasian epidemiological data and one was published in the AJO I would encourage the authors to consider including in their discussion.

Johnston J, Stretton M, Mahadevan M, Douglas RG. Peritonsillar abscess: A retrospective case series of 1773 patients. *Clinical otolaryngology*. 2018;43:940-944.

Johnston J, Hardcastle T, Clark ST, Mahadevan M, Douglas RG. Peritonsillar abscess in New Zealand Māori: a retrospective case series. *Australian Journal of Otolaryngology*. 2021 Dec 31;4.

And another audit from NZ that might be worth including:

Love RL, Allison R, Chambers ST. Peritonsillar infection in Christchurch 2006-2008: epidemiology and microbiology. *N Z Med J* 2011;124:16-23.

**Reply 19:** Thank you very much for highlighting these. We have included the second and third references as suggested.

**Changes in the text:** Second reference mentioned in lines 281-282. Third reference mentioned in line 180.