Peer Review File

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Reviewer A

Some queries on the paper:

Page 5 line 226 – typographical error? – "Unspecified"
Reply: word deleted

A comment on the discussion – if only 2 patients in the review, had flexible nasendoscopies, how were the rest of the patients diagnosed with partial or complete airway obstruction diagnosed? What were the criteria used in diagnosing airway obstruction? (CT findings, symptoms et) And the 2 pts who had FNE, did any of them have airway obstruction? Can this be further discussed in the discussion?
Reply: Thank-you for the comment on airway obstruction. After a re-review of the 17 reported cases of airway obstruction there is poor reporting on the difference in complete vs partial airway obstruction. Reported diagnosis of airway obstruction was from clinical examination, imaging or a combination of both. As such we have amended discussion around airway obstruction to reflect "reporting a degree of airway obstruction".
Changes in text
(lines 195-197): Airway obstruction of any degree was reported in 17 (23.3%) patients with no significant difference between anterior and posterior lingual abscess (19.6% vs 29.6%, p=0.326, Table 2).
(lines 318-322): We reported no significant difference in airway obstruction for an anterior versus posterior abscess.

In regards to the cases undergoing FNE, both cases reported no airway obstruction.
Changes in text (lines 351-353): whereby only 2 cases reported the use of nasoendoscopy with no airway obstruction reported (6,52).

The antibiotic prescribing table – the total number of patients exceed that of the number of patients in the study. Perhaps some of these patients were receiving 2 antibiotics/combination antibiotics and were tallied separately. It would be more accurate to list the number of patients per combination antibiotic regimen rather that individual antibiotics.
Reply: Thank-you for the suggestion, you are correct many patients were reported to receive 2 or more antibiotics. This option was considered by the authors at the time of writing as a way to present the antibiotics prescribed. However, after data extraction there was numerous variations in prescribing patterns and combinations seen. 25 different combinations alone were seen in patients receiving 2 or more antibiotics (see below data excerpt). Due to this we decided to present the data as the frequency of each antibiotic prescribed independent of combination and number of patients receiving.

	A	B
1	Amoxicillin + Cloxacillin	1
2	Amoxicillin-clavulanic acid + ceftriaxone	2
3	Amoxicillin-clavulanic acid + Clindamycin	3
4	Amoxicillin-clavulanic acid + Metronidazole	4
5	Ampicillin-cloxacillin + metronidazole	5
6	Ampicillin-sulbactam + vancomycin	6
7	Cefazolin + ceftriaxone + metronidazole	7
8	Cefazolin + metronidazole	8
9	Ceforanide + amikacin + metronidazole	9
10	Ceftriaxone + Cephalexin	10
11	Ceftriaxone + clindamycin	11
12	Ceftriaxone + clindamycin + amikacin	12
13	Ceftriaxone + metronidazole	13
14	Ceftriaxone + metronidazole + amoxicillin	14
15	Ceftriaxone + metronidazole + amoxicillin-clavulanic	15
16	Cefuroxime + metronidazole	16
17	Cefuroxime + metronidazole + Amikacin	17
18	Clindamycin + ceftriaxone	18
19	Clindamycin + vancomycin	19
20	Penicillin + gentamicin + metronidazole	20
21	Phenoxymethylpenicillin + metronidazole	21
22	Piperacillin + clindamycin + Linezolid	22
23	Piperacillin-tazobactam + clindamycin	23
24	Piperacillin-tazobactam + teicoplanin	24
25	Trimethoprim-sulfamethoxazole + clindamycin	25
26		

Otherwise, a well-written and well-researched article.

Reviewer B

Overall, an interesting topic and great systematic review of the management of lingual abscesses. Although there are a few numerical errors in data, grammar, and inconsistent use of British English which need to be addressed below before further consideration of publication.

Figures and tables

1.Figure 2

-Remove grid lines from figure

-Use British English, dyspnoea & sialorrhoea rather than dypnea and sialorrhea

Reply: Grid lines removed from figure, changed to British English (dyspnoea and sialorrhoea)

2.Figure 3

-Flow diagram for lingual abscess management? workup? etc.

-e.g., rather than eg:

Reply: Title changed to “Figure 3. Flow diagram for lingual abscess workup and management”

3.Table 1

-Again, use British English

Reply: Changed to British English (dyspnoea and sialorrhoea)

-Ensure symptoms and signs % total adds to 100% in total. Otherwise, state more than one symptom per patient may apply

Reply: In the literature one or more signs and symptoms were reported in patient presentation

attributing to the >100% in the table. This has now been stated in the article
Changes in text (Line 285): Patients with a reported lingual abscess may present with one or combination of signs and symptoms (Table. 1).

-Suggest separating complete from partial airway obstruction as complete usually requires securing the airway +/- surgical management treatment compared to partial which may be managed medically
Reply: After a re-review of the 17 reported cases of airway obstruction there is poor reporting on the difference in complete vs partial airway obstruction. Reported diagnosis of airway obstruction was from clinical examination, imaging or a combination of both. As such we have amended discussion around airway obstruction to reflect "reporting a degree of airway obstruction".
Table changed to state "airway obstruction"

-Regarding predisposing factors, "Not known" Idiopathic or not mentioned in papers. Please clarify and correct in table
Reply: The label "not known" was used in relation to papers reporting no known cause or mechanism for the formation of lingual abscess. Several papers did comment on poor oral hygiene however did not state any correlation during discussion. Due to the rarity of cases predisposing factors are not well described across the literature. This has been changed in the table to reflect
Changes in text (Table 1): Changed to "Not specified"

-Explain why the risk factors column doesn't add to 100% in total
Reply: During data extraction discussion of risk factors across case reports was sparse or neglected completely. The three reported are due to being stated in more than one case report across the review and deemed by the authors as important to include in clinical variables: these being oral hygiene, immunocompromised and DM. For the remaining cases no specific risk factor was mentioned. Risk factor title has been amended
Changes in text (Table 1): Reported risk factors

-Explain why the imaging column modalities doesn't add to 100% in total
Reply: 5 studies (Kim 2006, Pallagatti 2012, Kulkarni 2013, Kuge 2017, Mesolella 2020) report patients undergoing 2 different imaging modalities during work-up. This has now been stated in the article.
Changes in text (Line 326): Several studies reported patients undergoing more than one imaging modality during investigations (27,36,39,46,52).

-Regarding airway management column, need to separate number of oral ETT from nasal ETT
Reply: Separated ETT and NTT in table 1

-Elaborate on morbidities
Reply: Added morbidity types as reported in the literature to table 1

4.Table 2
-Table 2 title needs re-wording to make sense

Reply: Title changed to “Table 2 - Comparison of anterior and posterior lingual abscess on clinical variables and outcomes (*p<0.05)”

-Management column numbers don’t add up to 100% in total. Please explain why
Reply: Several studies outlined utilization of both aspiration and incision and drainage which accounts for >100% total for management options. This has now been stated in the article
Changes in text (Line 353): In some cases, patients underwent both aspiration and subsequent incision and drainage if resolution was not achieved with one management technique (3,25,33,34,35,38,44).

-Need a footnote to explain the gram-negative cover antibiotics and broad-spectrum antibiotics
Reply: Several studies reported antibiotic therapy as “broad spectrum” without stating specific antibiotic regime either in combination or isolation. Due to the broad range of prescribing patterns and combinations we categorized prescribing into three groups for analysis purposes. As discussed in the article almost a quarter of cases did not report specific antibiotic. Development of further guidelines may result in later comparison of specific antibiotics and combinations rather then braod categories. The footnote has been added
Changes in text: Footnote Table 2:
*classified as broad-spectrum if stated or prescribed chepholsporin, quinolones and antimetabolites in varying combinations eg: ceftriaxone + cephalexin, amoxicillin-clavulanic acid + ceftriaxone
^classified as penicillin + gram negative if prescribed aminopenicillins with beta-lactamase inhibitor +/- gentamicin eg: ampicillin-sulbactam, ampicillin-cloxacillin, penicillin + gentamicin,

5.Table 3
-Title doesn’t make sense and needs re-wording
Reply: Title re-worded
Changes in text: Table 3. Summary of isolated pathogens in cases of lingual abscess

-Table 3
-Please re-word title to make sense
Reply: Re-worded :”Table 3. Summary of isolated pathogens in cases of lingual abscess”

-Arrange pathogen column by most common to least common
Reply: Table rearranged by most to least common

6.Table 4
-Please arrange antibiotics by most common to least common
Reply: Table rearranged by most to least common

Main manuscript
-Lines 65-66 need to specify what the “were” was
Reply: Changed to “A total of 53 studies with 73 cases of lingual abscess were identified.”

-British English to be used
Reply: Changed to sialorrhoea

-Line 69 “compared to anterior” please add abscess.
Reply: abscess added
Changes in text (lines 67-70): Clinical presentation of otalgia and sialorrhoea was significantly more likely in a posterior located abscess, along with involvement of the epiglottis compared to anterior abscess ($p<0.05$)

-Line 116 Please state the mortality rate improvement
Reply: A hypothesized improvement in mortality rate was stated by Schweigert and colleagues with improvements in antibiotic treatment and imaging. The sentence has been amended to reflect this
Changes in text (lines 115-118): now in the modern era with antibiotic treatment and advanced imaging techniques an improvement in overall mortality rate is difficult to determine due to limited case reports (8).

Methods
-Please state the time period of the literature search
Reply: Time period of literature inclusion added
Changes in text (line 144): All articles within the published literature between 1970 and 2022 were eligible for inclusion.

-Line 167 Please clarify what “(1-53)” means
Reply: 1-53 is citing the included studies yielded from the literature search. The referencing has been moved to the end of the sentence.

-Line 174 Round up mean age to whole number including SD
Reply: Changed mean aged and SD to whole number
Changes in text (lines 179-180): Of the seventy-three patients diagnosed, the mean age was 42 ($\pm$ 19)

Results
-Please clarify reported symptoms percentages. Not sure as a reader if some cases had more than one symptom as cumulative percentages don’t add to 100%
Reply 3: In the literature one or more signs and symptoms were reported in patient presentation attributing to the >100% in the table. The percentages are referring to each sign/symptom in relation to the total number of lingual abscess cases (n=73).
Changes in text (Line 285): Patients with a reported lingual abscess may present with one or combination of signs and symptoms.

-Line 190-191 Separate “complete or partial airway obstruction” in each anterior and posterior lingual abscess
Reply: With regards to the above airway obstruction discussion, table 1 has been change to state

"airway obstruction"

-Line 226 Please remove typo "unspecified"
Reply: word deleted

-Line 234 "Antimicrobial stewardship" would imply supervising appropriate antibiotics based on ID recommendations for infections. If this was not the case then I would state there was no difference in antimicrobial prescribing practices
Reply: sentence re-worded
Changes in test (lines 241-243): There was no significant difference in antimicrobial prescribing practices between an anterior versus posterior lingual abscess ($p>0.05$, Table 2).

Discussion:
-Line 265 Round up age to whole number
Reply: Changed mean aged and SD to whole number
Changes in text (lines 273): and an average age of 42 (±19).

Editorial Comments

1. Please change the title to "Clinical decision making for anterior and posterior lingual abscess: a meta-analysis" or something else.
Reply: Title has been changed

2. In the Abstract, results were only supported by p value. Please also add the summary estimate and confidence/credible interval.
Reply: The appropriate values have been added to the abstract.
Changes in text: Abstract: Results

3. The title tells us the aim was to study the clinical decision-making difference. Then, in addition to the common imaging modality, results about management options or treatments should be stated in the Abstract. Or the authors could consider classifying the outcomes as primary and secondary.
Reply: Results related to clinical decision making (drainage, pathogens, antimicrobials) have been added to the abstract
Changes in text: Abstract: Results "No significant difference was seen between anterior and posterior lingual abscess in relation to drainage management, isolated pathogens, or antimicrobial prescribing."

4. "The formation of a lingual abscess is likely due to the dysfunction and/or … and mechanisms associated (1). An abscess located anteriorly may be…such as pharyngitis/tonsilitis and infected thyroglossal cysts (1,10,11)". Please note that all references should be listed in sequential order. The authors jump from reference 1 to reference 10,11 and from there to 8 and 57. This is improper. All the references should be reordered accordingly to ensure the proper citation sequence (numbered 1-57 in the main text).
Reply: All citations have now been placed in sequential order and reference list updated accordingly

5. Please report how many reviewers collected data from each report, whether multiple reviewers worked independently or not (for example, data collected by one reviewer and checked by another), and any processes used to resolve disagreements between data collectors.
Reply: Data extraction method has been added
Changes in text: (Lines 155-156)
"For included studies, data extraction was conducted independently by one author and crosschecked by another"

6. It's stated "Risk of bias in individual studies was not assessed". For meta-analysis or systematic review papers, the quality appraisal is mandatory. For the authors' reference, here is the method used to assess risk of bias of case report and case series studies. Please refer to the weblink to download the appraisal checklist of them: https://jbi.global/critical-appraisal-tools. The authors could also read the guidance about how to use this checklist on it.
Subsequently, please specify the methods used to assess risk of bias in the included studies in the Abstract and the main text, including details of the tool used, how many reviewers assessed each study and whether they worked independently. It's also highly recommended to use a table to summarize the risk of bias of each study in each question and overall study-level risk of bias.
Reply: Thank you for the comment on appraisal for articles included. The lead author has subsequently gone over the collected data and used the above standardized tool for case report and case series to assess for risk of bias. Any concerns were crosschecked by secondary authors for advice. A supplementary table will be added to the submission
Changes in text
Abstract (lines 63-64) "Risk of bias was assessed using a standardized tool."
Main (lines 150-153) "The Joanna Briggs Institute checklist, standardized tool to assess risk of bias for case reports and case series was used to assess for risk of bias and is provided in Figure S1 (7).

7. Please also report the statistical description methods of categorical variables in the Methods.
Reply: Categorical variable were analyzed using the Chi-square test
In text lines 165-167 (Methods)
"The differences between proportions for anterior and posterior abscess groups were analysed using Chi-square test and a student t-test for categorical and continuous variables, respectively"

8. Similar to comment 2, please present the key results with precise data and their precisions in lines 186-220.
Reply: precise data has been added to the results section eg: patient numbers/percentages
Changes in text: Results section lines 183-220

9. "Forty-two articles were case reports and 11 were case series, reporting on a total of 73 cases of lingual abscess". The authors should cite the case reports and case series here. This is essential for those who wish to double-check these results.
Reply: Citations for included articles moved to this line
Changes in text: reference added at end of above sentence (line 180), (1-5,8-55).