Peer Review File

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Reviewer A

A retrospective study comparing two different techniques for tonsillectomy. The study has a large number of cases that were treated by the same surgeon in all cases. Despite being a retrospective study, the paper is well-written and has a good statistical analysis. The subject is also very pertinent. Therefore, we suggest approval for publication.

Reviewer B

I congratulate the authors. This is an outstandingly written and crafted paper, easy to read and understand. Although they have clearly stated the apparent limitations of the research, it provides valuable knowledge and insight into Bizact tonsillectomy techniques compared with other hot dissection techniques, economic benefits, and outcomes. This is a very worthwhile addition to our knowledge base on the subject.

Editorial Comments

Title

1. According to the objective and study design of the research, it is recommended that the author change the title to “Rates of post-tonsillectomy hemorrhage between BiZact™ and bipolar tonsillectomy – a retrospective study” (just for your information).

Reply 1: The title of the paper has been modified as per the reviewer’s recommendations.

Abstract

2. It is recommended that authors form the abstract into the following four sections: 1) Background and Objective, 2) Methods (including the study design and method), 3) Results, and 4) Conclusion.

Reply 2: The objective and background are now one parargraph. The study design is now a part of the “Method” section. The syntax and grammar have been edited to provide flow. Please see Abstract section Page 2-3.

3. Line 29-30 “BiZact™ is a novel tonsillectomy device that offers distinct safety advantages over conventional tonsillectomy devices.” It is advised that the authors remove this sentence, the safety advantages also include, to some extent, lower complications. this statement is inappropriate to describe in the Background.

Reply 3: The presumptuous statement on BiZact device has been removed from the ‘Background section’.

4. Please briefly supplement the study design (cohort, case-control, or cross-sectional study), participants’ inclusion and exclusion criteria, measurement methods of parameters, and statistical methods in the Abstract-Methods. In addition, the authors grouped the participants, please report the basis of the grouping and the number of people in each group.

Reply 4:

1. I have included the study design “retrospective…cohort study” in the abstract-method section. Lines 34-35.
2. The statement for return to theatre was removed due to word limits.
3. The statistical method “a two-tailed Fisher Exact test” is now mentioned. Lines 39-40.

4. The Stammberger classification is now included. Lines 37-38
5. The selection “inclusion and exclusion criteria” for this study has now been added. Lines 38-39.
6. The basis of patient grouping and cohort sizes are included in the Figure 1 and Table 1. And further elaborated in the logistics regression pargraph in “Results-Main text”

5. The primary outcomes obtained by the research should be supported by the P value, not just the 95% CI.

Reply 5: The p-values are now also included in the results section.

Introduction
6. Lines 94-96 “While the safety profile of BiZact™ profile has been demonstrated….” If it is only described as safety, it will make readers mistakenly think that the lower complications of the BiZact™ profile have been demonstrated. Please rewrite this sentence and cite the reference.
Reply 6: The sentence has been rewritten with references included. We have emphasized the fact that previous studies have shown equivocal bleed rates between BiZact, and removed the wording around “safety”. Lines 97-99
“Although some studies on BiZact™ have demonstrated comparable rates of PTH to other ‘hot’ techniques, it comes at a significantly higher cost compared to traditional bipolar devices and without a proven reduction in patient morbidity.(7-9)”

7. Given that there is a similar article (PMID: 37129013, 35500397) in this field, we think it is necessary to list the existing research evidence before this study.
Reply 7: Both PMID 37129013 by Boyuan Mao and PMID 35500397 by Garrett Ni, have now been referenced much earlier in this manuscript. We have included their reference in the “Introduction” instead of the discussion. Please refer to the modified sentence in Reply 6. Line 99.

Methods
8. Please provide a succinct overview of the surgical procedure (BiZact™ tonsillectomy and bipolar tonsillectomy) in the methods section, for the reference of younger doctors.
Reply 8: An overview of how the surgeon performs his bipolar and BiZact tonsillectomy has been added and is described in Lines 116-125.

9. Please report whether the P value was a one-sided or two-sided test and provide the software used for statistical analysis and its version.

Reply 9: This is a two-tailed study and is now included in the main body as well. Lines 187-188.
“All analyses used R version 4.2.1”. We have mentioned the version in the methods section in the main body and abstract. Lines 192-193.

10. How long is the learning curve for surgeons performing BiZact™ tonsillectomies?

Reply 10:
Surgeon’s Perspective: After 20 years of bipolar experience, there is not much of a learning curve for BiZact since the method is similar. The BiZact presents a cleaner cut and utilizes less wattage.
Registrar’s Perspective: Anecdotally, registrars and junior doctors have found BiZact™ to be much easier to learn compared to bipolar. The reasons include, an easier time identifying the extracapsular plane and a reduced incidence of a bloody surgical field.

Literature search: In terms of operative speed, a learning curve is typically reached after 9 tonsillectomies. Another study has shown plateauing effects with operative speed. In

our further literature search, no studies have addressed the association between PTH rates and the number of BiZact™tonsillectomies performed. There are large retrospective studies with other tonsillectomy methods but none relating to BiZact™, which may be an area of interest for future research. We have referenced the only 2 available studies on the learning curve for BiZact™.
"Lines 92-94 " A surgeon's familiarity with the BiZact™ device can directly influence surgical performance, with one study suggesting a plateaued learning curve after the 9th BiZact™ tonsillectomy.(5, 6)"

11. What were the motivating factors behind the surgeon's transition to BiZact™ tonsillectomies? Were there any specific adverse events, complications, or disadvantages associated with the traditional technique that influenced this decision?
Reply 12: The transition of tonsillectomy techniques occurred after a senior surgical colleague urged the surgeon in our study to try the new BiZact™ device, saying it had changed his practice. Prior to this recommendation bipolar was the preferred technique for tonsillectomies for our surgeon. The reasons for maintaining ongoing use with BiZact™is explained in Reply 10 and reflected in our study outcomes.

12. During the period from January 2018 to October 2020, were all patient candidates for BiZact™ tonsillectomies, or were there specific criteria for patient selection?
Reply 12: Patients of all ages were included regardless of indication this statement has been included in the inclusion criteria. The only exclusions were of unilateral tonsillectomy or those for oncological reasons. We have now mentioned this in the methods section of the abstract and main body.

13. Could you please provide a more detailed description of the surgeon's qualifications and experience, beyond just stating "extensive experience"?
Reply 13: The surgeon is a dual fellowship trained Otolaryngology Surgeon. He was trained in the United Kingdom and here in Queensland Australia. He also has 10 years of consultant experience. This experience has now been described in the "Methods" section in the main body of the manuscript.

Results
14. Please use a flow chart to present a specific process for including participants, from the initial selection of potentially eligible patients to the final inclusion of patients, with reasons for any exclusion. For your information, here is an example of our sister journal (See Figure 1): https://qims.amegroups.com/article/view/92472/html.
Reply 14: Figure 1, a selection flow chart has now been created.

15. Please add the baseline information of the patients, including their demographic (not just the considered age and gender) and clinical characteristics. Usually, a baseline table is applied.
Reply 15: Table 1 has now been created. This provides the mean age and the age ranges. The age groups and the relevant cohort sizes have also been included. Age and gender were the only collected datapoints readily available to us in our retrospective study.

16. Why only age and sex were included as covariates?
Reply 16: Age and sex were the only consistently accurate variables available to us. Other demographic variables were not consistently available for retrospective collection, especially as most patient charts were archived in off-site paper-based system. Ethnicity was considered but was not available in most patients. Only in recent patients with the incorporation of electronic medical records and in those who re-presented with bleeds was ethnicity details available. No meaningful statistics for ethnicity e.g. First Nations, could be made.

17. Please provide the quantified results and associated parameters of measurement uncertainty as appropriate (e.g., confidence intervals) and avoid providing only the results of statistical hypothesis tests (e.g., P values) because they do not convey important information about statistical effects. In addition, the data in the paper and the charts display the same number of decimal points, e.g. Lines 155-156"…post-tonsillectomy bleed (OR 0.635, confidence interval [CI] 0.401-1.00)." and the data in Table 1 can be unified as (OR 0.64, confidence interval [CI] 0.40-1.00, P=0.043) (note: revision needed for results and tables).

Reply 17: The data in Table 2 and the results section have been corrected. The decimal points are now consistent with the recommendations from comment 23. The p values, OR and confidence intervals are all included in the results section e.g "*BiZact™ tonsillectomy demonstrated a significantly lower proportion of patients needing a return to theatre compared to bipolar tonsillectomy (p=0.02, OR 0.17, [CI], 0.02-0.85).*"

18. Lines 168-169 "As the effect of age was non-linear, the patients were grouped into three categories: children (ages ≤ 10), adolescents (ages 11-20), and adults (ages > 20)." Please add a citation for grouping.

Reply 18: The age groups have now been corrected as per the World Health Organization guidelines and definitions for children, adolescents and adults. Children (ages <10), adolescents (ages 10-19), and adults/young adults (ages > 19). Minor adjustments were made. A citation for WHO's definition of adolescence has been added. Due to the shift in age groups, minor adjustments were made to the data and values, and the numbers have been adjusted. Fortunately, there were no changes to the conclusions. Line 214.

19. We recommend authors consider transforming Figure 2 into a table and including the interaction result data in the table.

Reply 19: Figure 2 has now been transformed into table 4. The interactions table 3, has been left unchanged. Once we considered the format and flow of the paper Table 3 was left as is and the interactions was not integrated into Table 4.

20. It is suggested to remove Figure 1 as it is identical to Table 1 (Mean time to bleed in days).

Reply 20: The previous Figure 1: mean time to bleed has been removed.

21. Please add a column to Table 3 to provide actual P values.

Reply 21: Upon further confirmation with our statistician the Pr (>Chisq) values in this table, is the statistical probability of obtaining a chi-squared value greater than the one shown and is thus equivalent to the p-value analysis. The heading of Pr (>Chisq) has been modified to "P-value" to reflect this for the readers.

Other concerns

22. A statement should be included at the end of the Introduction: "We present the following article in accordance with the STROBE reporting checklist".

Reply 22: This has been added to the last line of the introduction – main body. Line 102.

23. We recommend author revise the form of the P-value in the report:

If P<0.001, please report "P<0.001";

If 0.001≤P<0.01, please report the specific P-value to 3 decimal places, e.g., "P=0.001", "P=0.009";

If P≥0.01, please report the specific P-value to 2 decimal places, e.g., “P=0.01”,

“P=0.06”, “P=0.10”, “P=0.90”;

If P>0.99, report “P>0.99”.
Do not round P-values, do not report 'not significant' simply because the data is greater than an arbitrary value, and do not report only vague bounds such as P<0.05.

Reply 23: All decimal points have been adjusted per the above recommendations.

24. Please kindly cite relevant references in the three sentences below:
Line 252 “Recent **studies** have also shown…”
Line 254“Many **papers** have favoured…”
Line 301 “Human **studies** on bipolar electrocautery…voltage applied.”
Reply 24:
1. Line 252-254 have been summarized as one sentence.
This has been rewritten with references “Numerous papers have favoured traditional HD methods, such as monopolar diathermy, bipolar diathermy, harmonic scalpel and coblation tonsillectomy, demonstrating equivalent morbidity to CD and while concurrently decreasing operative time and intraoperative bleeding.(22-26)”
Lines 287-290.

2. Line 301. Our literature search was unable to identify any papers on bipolar thermal spread in human tissue, as a result, hence the statement, and a lack of evidence in this area.