Peer Review File

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Reviewer A

The authors have presented their initial experience with a model of care that was new for their department/unit. The title should be changed to reflect exactly this, such as 'our initial 6-year experience' or 'our first 203 cases' etc.

Reply: thank you for your comment, please see change in title in line 4

Other (mostly grammatical) changes to be considered include:

1. Line 31. "to a single-service ablative and reconstructive head and neck surgery" is very clunky. Line 44 "single-service head and neck surgical free flap reconstruction model" is much less clunky, for example.
    1. Thank you for your insightful comment.
    2. Changes have been reflected in line 33.
2. Line 81. "towards single service reconstruction" should be replaced with "towards a single service reconstruction model".
    1. Thank you for your comment.
    2. Changes have been made in line 89.
3. Line 155. remove "and 3.5% other" as it is superfluous.
    1. Thank you for your comment.
    2. Changes have been made in line 163.
4. Line 164. "ALT free flap" should read "an ALT free flap.
    1. Thank you for your comment.
    2. Changes have been made in line 171.
5. Line 170 "Two (1.0%) return to theatre were" should read "Two (1.0%) return to theatre cases were". Line 171. should follow by replacing 'for' with 'that being they returned for further surgery in the form of a'.
    1. Thank you for your valuable comment.
    2. Changes made in line 179.
6. There was a statistically significant association between flap failure and operation time noted. This seems to be because 2/3 failures were in laryngopharyngectomy cases, which is an intrinsically long procedure with a complex reconstruction required compared to other cases. Should it not be noted, therefore, that hypopharynx/larynx (ie. total laryngopharyngectomy) cases forms 14% of the data set yet contributed to 66% of the complications? This should be commented on.
    1. Thank you for your insightful comment.
    2. Your comment has been reflected on line 317.
7. Further grammatical errors are in lines 172. 183. 184. 186.; these were missing the words 'cases', 'cases', 'the', and 'a'.
    1. Thank you for your comment.
    2. Changes made in line 182, 191, 192, 194.

8. Line 207. comments on chyle leaks, and seems to be the start of a paragraph that is missing in error.
    1. Thank you for your comment.
    2. Sentence added to paragraph in line 200.
9. Line 247. "this improves both time-to-treat metrics and post-operative patient care" should either be referenced, or made to be a less conclusive, more intentionally vague comment.
    1. Thank you for your valuable comment.
    2. Sentence edited in line 293.
10. Line 274. "with cases of arterial thrombosis, twisted pedicle, and anatomical compression following" should be removed - it is superfluous. Line 275. then can follow with "cases of failure due to vein thrombosis were in flaps inset with a single vein anastomosis"
    1. Thank you for your insightful comment.
    2. Sentence edited in line 326-327..
11. LIne 281., and following, outlines the success rate of the salvage free flaps in this study- or more correctly, the single salvage free flap. This should be explained more clearly.
    1. Thank you for your valuable comment.
    2. Please see changes in line 332.
12. Line 294. "ICU while tracheostomy tube is in situ" should read "ICU whilst a tracheostomy tube is in situ" or similar.
    1. Thank you for your comment.
    2. Please see changes made in line 345.
13. Line 161. should have a 'the' preceeding "external jugular vein".
    1. Thank you for your comment. Changes made in line 168.

Otherwise, the authors should press on with improving this manuscript. It is important for us all to present our results, and especially our data as it pertains to a new procedure in a new setting.

- Reply: Thank you for your valuable comment. We have run more multivariate analysis and have made efforts to present more data relating to flap failure, compromise, complications and length of stay.

Reviewer B

Whilst the authors have executed an admirable 6-year audit, this paper adds little to the literature and is more for internal hospital M&M audit review.

- Reply: We appreciate your comment. In Australia, at least, this is a unique practice set up. Given this fact, and that there is push in other jurisdictions to adopt a similar practice model, we believe it is important to report our data and compare that to current literature to ensure non-inferiority of this approach. We have outlined the multiple benefits, in our opinion, of our approach and in this research can confirm these benefits are not at the detriment of surgical outcomes. We have adjusted our

conclusion and results to highlight some of the important results from our large series. We have run statistical analysis to identify factors influencing free flap outcome and made efforts to best present them in the results.

To draw conclusions, a comparator group of 2 team H&N Free Flap cases compared to 1 team H&N Free Flaps is requisite. Generalizability is lacking, in the absence of more than one site, and internal validity is compromised by lack of a comparator or control at the site.

- Reply: Thank you for your comment. We acknowledge the lack of comparator at the site but obtaining that data would not be logistically possible. We have tried to overcome this by comparing our outcomes to the broader literature. As mentioned above, we believe this confirms non-inferiority of this approach. See line 266, 333, and 334.

Discussion and Conclusions are over-reach (for example, the first purported advantage of a single surgical team is reduced clinic visits, and clinic follow ups weren't even included in the audit).

- Reply: We accept this may be true in the context of a single-centre retrospective review. We've adjusted the discussion and conclusion to be less dogmatic and hence more reflective of the data.

Editorial Comments

Reporting checklist

1. Please kindly fill out the STROBE Checklist attached. The relevant page/line and section/paragraph number in the manuscript should be stated for each item in the checklist. You can find an example of a filled checklist at https://jtd.amegroups.com/article/view/69281/rc.

- Reply: We thank you for your valuable comment.
- Changes in text: line 119-121 and attached STROBE checklist.

Note: It should be noted that once your manuscript is accepted, the reporting checklist you provided will be published as additional information for readers. The checklist will not be used as a tool for judging the suitability of manuscripts for publication, but it is intended as an aid to authors to entirely and transparently let reviewers and readers know what authors did and found.

Abstract

2. We recommend author include in the Abstract Background that the conventional head and neck surgical free flap reconstruction model is a shared responsibility of otolaryngology and plastic surgery. Emphasizing the main point of this study: the single-service head and neck reconstruction model.

- Reply: We thank you for your valuable comment.
- Changes in text: line 42-46.

3. You need to briefly supplement the participants' inclusion and exclusion criteria, measurement methods of parameters, outcome indicators, and statistical methods in the Abstract Methods.

-Reply: Thank you for your comment.
-Changes in text: line 47-51

4. Line 44-45 “Flap area and operation time were also identified as factors influencing hospital length of stay.” Including the relevant data in the abstract.
-Reply: Thank you for your comment.
-Changes in text: line 63-64

Methods
5. Outline the patient inclusion and exclusion criteria in points, such as the patient inclusion criteria: 1, 2, 3…. Furthermore, those with missing records were excluded, which could have introduced considerable selection bias.
-Reply: Thank you for your comment.
-Changes in text: line 140-144

6. Is every surgery done by the same crew? How experienced are the surgical personnel? If more than one group of surgeons is involved, how can the impact of various teams' operations on the outcomes be guaranteed?
-Reply: Thank you for expressing your concerns. Operations were performed by the same group of highly skilled otolaryngology surgeons, who underwent microvascular fellowship in a high-volume centre.
-Changes in text: line 169-182

7. The conclusion of the study is that a single-service head and neck surgical free flap reconstruction model is obtainable. Might it be possible to provide a succinct overview of the surgical procedure in the methods section, for the reference of younger doctors?
-Reply: Thank you for your comment.
-Changes in text: line 169-182

8. Can statistical power be ensured with the presented sample size? We kindly suggest providing the sample size calculation in Methods. Is it based on statistical or practical considerations?
-Reply: Thank you for your comment. Sample size used (N=200) was based on practical considerations – all RAH patients undergoing free flap reconstruction between September 2015 and August 2021 by the Otolaryngology, Head and Neck Surgery Unit.
-Changes in text: line 192-195

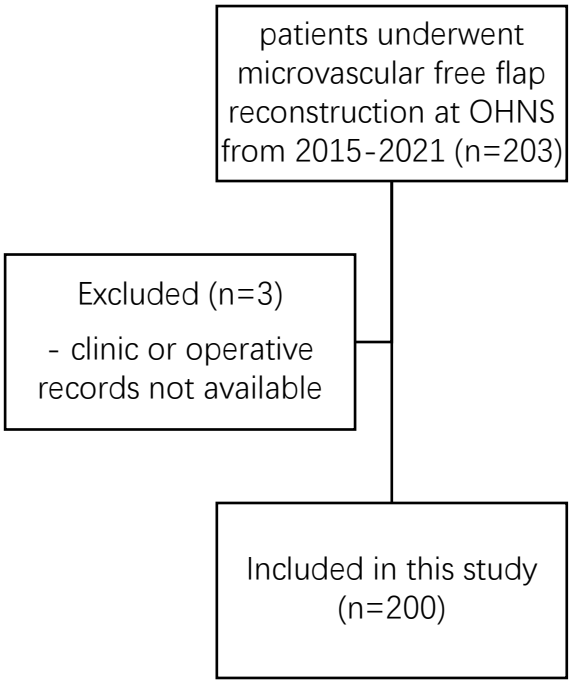
9. Please report whether the P value was a one-sided or two-sided test. Please also report the methods to describe the categorical and continuous variables.
-Reply: Thank you for your comment. All P values were for a two-sided test. Categorical variables were described using frequency and percentage, normally distributed continuous variables were described using mean and standard deviation and skewed continuous variables were described using median and interquartile range.
-Changes in text: 213-217.

10. “The primary outcome was free flap survival… Secondary outcomes included surgical complications (donor site, recipient site), … limited to the initial admission.” These two paragraphs don’t belong to the “Statistical analysis”. Please add “outcome measures” as one of the subheadings.
-Reply: Thank you for your comment.
-Changes in text: line 184-189

Results
11. We recommend authors 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 example, how many people were excluded because of regional flap reconstruction surgery? For your information, here is an example of our sister journal (See Figure 1): https://qims.amegroups.com/article/view/92472/html.

-Reply: Thank you for your comment. We have selected patients from our microvascular flap database within the HN department at the RAH. Plastics patients were not included in this database from the start. Therefore, there were only 3 exclusions which were due to incomplete data. I have generated a flow chart however unsure if this will add value to the manuscript.

Figure 1,



12. In the “Study variables” section in the Methods, many covariate variables were collected, but in Table 1, only age, gender, BMI, ASA, and comorbidities were listed. Please provide more characteristics and information related to the outcomes.
-Reply: Thank you for your comment.
-Changes in text: table 1

13. Please add a table to present the univariate results described in the “Free flap donor site complications” section. Additionally, why not further conduct multivariable logistic regression analysis? This also applies to the results of the “Length of stay” sections (this refers to multivariable linear regression).
-Reply: Thank you for your comment. multivariate binary logistic regression model was not performed for donor site complications or flap failure as there were not sufficient sample size to avoid sparse data problems. However, multivariate regression model was performed for the length of stay versus various predictors.
-Changes in text: line 280, Appendix 1. Table 6.

14. We recommend that authors present the data of Lines 175-179 (“There was a statistically significant association…failure”), Lines 194-199 (“Free flap donor site complications …site complications”), and Lines 209-213 (“With every unit increase…(P=0.099-0.925)”) in one table.
-Reply: Thank you for your comment.
-Changes in text: appendix 1,2,3

Other concerns
15. Please give the full name of ASA and OHNS in the keywords.
-Reply: Thank you for your comment.
-Changes in text: please see line 76 keywords.

16. Lines 177-178 “co-morbidities (P=0.118-1.0)”, you can change it to “co-morbidities (P=0.118-0.99)”. Regarding the “(mean difference=0.044; 95%CI 0.01, 0.02, P=0.0175)”, the data seems wrong, since the range of 95%CI doesn’t include the value of the mean difference. Please check to ensure the accuracy of the results. Additionally, in Lines 215-218, please use “4 [IQR 2, 5]” to present the results.
-Reply: Thank you for your comment. Results are corrected to mean difference=0.044; 95%CI 0.008, 0.081, P=0.0175).
-Changes in text: line 278, 342, 333-336

17. We recommend author revise the form of the P-value in the report:
If $P<0.001$, please report “P<0.001”;
If $0.001 \leq P<0.01$, please report the specific P-value to 3 decimal places, e.g., “P=0.001”, “P=0.009”;
If $P \geq 0.01$, 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: Thank you for your comment.

-Changes in text: all p-values reviewed and changed.