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Reviewer A

This study reviews laryngectomy data over 6 years in a population of roughly 1.3 million and compares rates of laryngectomy, neck dissection and timing from symptom onset to seeing a primary care physician, referral to ENT, biopsy and surgery.

Study design, analysis and conclusions are very sound.

My only comment that I would recommend that the first paragraph of the conclusion is more strongly worded to reflect that Victoria had the longest and strictest Covid lockdown regulations of any state in Australia and likely in the world. It is possible that this strongly enforced and protracted lock down influenced results in Victoria compared to other parts of the world and indeed even within Australia.

Authors' Response: Thank you for this feedback, authors have updated the manuscript to more strongly reflect the lockdown restrictions and their impact on healthcare in the opening paragraph of the discussion. A further amendment regarding future research has also been included in the conclusion in conjunction with feedback from Reviewer B.

Change(s) in the Manuscript:

Lines 190-196 revision; *"On the 16th of March 2020, Victoria declared a 'State of Emergency,' following the declaration of a pandemic by the World Health Organisation. Restrictions were imposed from March 2020 until February 2022 and included strict limitations to travel distance, gathering sizes, as well as mandatory quarantine following even potential exposures to the virus. The COVID pandemic temporally changed healthcare delivery over this period. Each Australian state had individualised implementation of lockdown in both duration and level of restriction to community and healthcare – making both the COVID experience and laryngectomy data heterogenous and challenging to directly compare, .* ~~*Due to implementation of state-based restrictions, the pandemic affected Australian cities differently, thus data is heterogenous and often difficult to directly compare between states or even nationally.*~~ *"*

Lines 264-267 revision*; "Our study suggests* ~~*lends support to the conclusion*~~ *that advanced laryngeal cancer observed during the pandemic, was most likely due to a delay in treatment occurring at a primary health level. Service delivery at tertiary centres also remains insufficient to meet the backlog of demand in the wake of the pandemic. This highlights the importance of further research evaluation of service delivery at both primary and tertiary levels in understanding the impact of policy changes and crisis resource allocation on healthcare diagnoses and outcomes. Given the uniqueness of each Australian state restrictions throughout the pandemic, a future study providing comparison of numbers would provide a more granular analysis of the impact of COVID on healthcare systems.* ~~*and unfettered access to primary care physicians despite health restrictions relating to pandemics to prevent delays and more advanced disease at diagnoses.*~~

Reviewer B

Comments for the Authors:

1. Statistical Analysis (Lines 114-115):

   · The Statistical Analysis section in METHODS is confusing. The authors assumed a normal distribution but used the Mann-Whitney U test for comparison of means. Please clarify the reasons for this choice.

Authors' Response: Authors have not assumed a normal distribution, hence the selection of a Mann-Whitney U test. Authors do acknowledge that the preceding phrasing is confusing, and it has therefore been amended to provide clarification

Change(s) in the Manuscript:

Lines 136-139 revision*; "*~~*Forgoing assumption of normal distribution, C*~~*ontinuous variables were reported as mean and median, normal distribution was not assumed."*

2. Timelines and Data Discrepancies:

   · Lines 160-161: The appointment time from referral increased from 32 days during the pandemic to 64 days post-pandemic. This is worth discussing but is missing in lines 222-223.

Authors' Response: Statistic regarding post-pandemic time to ENT appointment has been included in the discussion, as well as a rationale for this trend.

Change(s) in the Manuscript:

Lines 247-253 revision*; "Prior to the pandemic, patients who eventually underwent laryngectomy were seen within an average of one week from receipt of referral, compared to a one month wait during the pandemic and over two months in the aftermath. We explain these findings in part due to constraints placed on health service workers in the setting of the pandemic and the restrictions particular to Victoria. There was a distinct effort in all public hospitals to reduce face-to-face outpatient clinic numbers with a reliance on telehealth in an effort to reduce the spread of the virus and protect medical, nursing and administration staff. Despite*

reversal of the most stringent restrictions in March of 2022 service delivery did not return immediately to 'pre-pandemic standards and the healthcare system in Victoria remains overburdened by a backlog of referrals. "

- Lines 240-243: The manuscript states that advanced tumors were most likely caused by "delay in treatment occurring at a primary healthcare level." While I agree, there was also a delay from referral to ENT appointments, even post-pandemic, which should be discussed.

Authors' Response: Amendment has been made to the conclusion with a view to addressing this, in conjunction with further changes below from 'Conclusion' section of Reviewer B/A comments.
Change(s) in the Manuscript:
***Lines 264-267 revision**; "Our study suggests ~~lends support to the conclusion~~ that advanced laryngeal cancer observed during the pandemic, was most likely due to a delay in treatment occurring at a primary health level. Service delivery at tertiary centres also remains insufficient to meet the backlog of demand in the wake of the pandemic. This highlights the importance of further research evaluation of service delivery at both primary and tertiary levels in understanding the impact of policy changes and crisis resource allocation on healthcare diagnoses and outcomes. Given the uniqueness of each Australian state restrictions throughout the pandemic, a future study providing comparison of numbers would provide a more granular analysis of the impact of COVID on healthcare systems. ~~and unfettered access to primary care physicians despite health restrictions relating to pandemics to prevent delays and more advanced disease at diagnoses.~~*

3. Statistical Reporting:

- RESULTS Section: The section lacks actual p-values. Exact numbers should be provided instead of simply stating ≥0.05.

Authors' Response: Acknowledged and p-values amended throughout RESULTS section.
Change(s) in the Manuscript:

- Lines 141-144: The lack of comparison p-values makes it difficult to support the stated differences or non-differences.

Authors' Response: Stated lines do not correspond to results section but comparison p-values have now been provided.
Change(s) in the Manuscript:
***Line 173-174 revision;** "...pre-pandemic to 54% during the pandemic, though this was not statistically significant (X^2 = 3.4, p = 0.18 ~~≥ 0.05~~)."*

4. Content Organization:

- Lines 135-135/140-141: These lines should be included in the METHODS section.

Authors' Response: Lines 135 and 140-141 already fall under sub-heading Statistical Analysis in the Materials and Methods section of the manuscript
Change(s) in the Manuscript: *No changes made to the manuscript*

- RESULTS Section (e.g., lines 159-162) should contain only factual statements. Opinions should be placed in the Discussion section.

Authors' Response: We thank the reviewer for this comment. Lines 159-163 left unchanged as the definition of salvage is contextually required and represents a factual statement. More opiniated sentences/phrases have been removed as suggested.
Change(s) in the Manuscript:

- ***Lines 170-171 revision**; "A ~~notable~~ shift away from definitive chemo/radiotherapy (CRTx) treatments and towards primary surgical intervention…"*
- ***Lines 176-178 revision;** "….prevalence of concurrent neck dissections was also demonstrated in the pandemic and post-pandemic groups (X^2 = 0.04, p ≥ 0.05), ~~likely as a result of the overall higher TN staging assessments seen in these strata~~."*
- ***Lines 183-186 revision**; "~~Challenges in timely engagement with ENT services was also noted in lengthening of~~ Average time from referral to ENT appointment~~ time~~ lengthened significantly from less than one week pre-pandemic, to approximately a month during the pandemic and almost two months in its wake. ~~Reassuringly,~~ Once connected with ENT…."*

5. Methodological Clarity:

- METHODS Section: Provide a clearer explanation of how the rates of TL/LP surgeries were calculated and compared.

Authors' Response: Acquisition of rates of both TL and LP surgeries are given in lines 115-123 (Data Acquisition) of the manuscript; "Data was accessed from the electronic and scanned medical record of Austin Health between January 2022 and September 2023……Participants were stratified based upon surgical treatment date. 'Pre-pandemic' patients were defined as TL/LP surgical management between December 1st, 2016 and December 31st, 2019, 'pandemic' patients as January 1st, 2020 to January 31st, 2022 and 'post-pandemic' patients as February 1st, 2022 to September 1st, 2023. 28 patients were identified as eligible for inclusion and their records were reviewed retrospectively. 11/28 patients (39%) were stratified as pre-pandemic, 13(47%) as pandemic and 4(14%) as post-pandemic (Table 1.)"

Comparison of rates of TL and LP surgeries are summarised in lines 137-138 (Statistical Analysis) of the manuscript; "One-way ANOVA analysis and Chi-squared goodness of fitness test (X2) were utilised to analyse demographic differences across strata."

Change(s) in the Manuscript: No changes made to the manuscript.

6. Abbreviations and Definitions:

- Abbreviations: All abbreviations (e.g., "SCC" or "SD") should be defined in full the first time they appear in the manuscript, even though they are well known.

Authors' Response: Manuscript has been reviewed and missed abbreviations amended.
Change(s) in the Manuscript:
Line 129 revision*;*
"…appointment) were collected from Electronic Medical Records (EMR)."
Line 148 revision;
"…treatment date was 71 years (standard deviation (SD) 63 – 78). Most patient's history included squamous cell carcinoma (SCC) risk factors of…"
Line 240 revision;
"…simple imaging modalities available to primary care physicians such as ultrasound and Computer-Tomography (CT) may not readily…"

7. Limitations:

- Acknowledge the limitations more explicitly, especially regarding the small sample size and potential recall bias in patient-reported symptom duration.

Authors' Response: The authors acknowledge the importance of these limitations in interpretation of a restricted data set. Limitations section of discussion has been amended to emphasize these points.
Change(s) in the Manuscript:
Lines 255-260 revision*; "This study does have a number of limitations. It is estimated that only around 60 laryngectomies occur per year in Victoria ~~(with no centralised database),~~ allowing only 28 patients to analyse over six years at our centre. This finite number of datapoints makes broad generalisation of this analysis challenging. One of the aims of this study was to examine if the COVID-19 pandemic resulted in patients seeking help from a medical practitioner later, and if this in turn meant that they were diagnosed with more advanced disease on presentation. However, lack of a centralised database of laryngectomies in Victoria necessitates reliance on retrospective qualitative measures such as patient/GP recall of symptom onset, rather than quantifiable measures and is therefore likely to be less accurate. ~~retrospectively, determining the exact time from onset of symptoms to the day the patient first presented to a GP is challenging.~~ Creation of a centralized database of laryngectomies in Victoria and/or Australia would be essential in advancing research in this field."*

8. Conclusions:

- The conclusions should be more cautious given the study's limitations, emphasizing the need for further research.

Authors' Response: - Acknowledged and conclusion section amended in conjunction with feedback from reviewer A. Kindly also see above revision to discussion section which further emphasizes limitations.
Change(s) in the Manuscript:
- Lines 264-267 revision*; "Our study suggests ~~lends support to the conclusion~~ that advanced laryngeal cancer observed during the pandemic, was most likely due to a delay in treatment occurring at a primary health level. This highlights the importance of further research evaluation of service delivery at both primary and tertiary levels in understanding the impact of policy changes and crisis*

resource allocation on healthcare diagnoses and outcomes. Given the uniqueness of each Australian state restrictions throughout the pandemic, a future study providing comparison of numbers would provide a more granular analysis of the impact of COVID on healthcare systems. ~~and unfettered access to primary care physicians despite health restrictions relating to pandemics to prevent delays and more advanced disease at diagnoses.~~

9. Figures and Tables:

- Ensure all abbreviations in figures and tables are clearly labeled.

Authors' Response: Abbreviations in tables and figures have been amended in supplementary WORD file provided in reply email for final review.
Change(s) in the Manuscript:
Table 1 revision; *~~HTN~~ Hypertension, ~~GORD~~ Gastro-oesophageal reflux disease, ~~T2DM~~ Type 2 Diabetes Mellitus, ~~IHD~~ Ischaemic Heart Disease*

- The numeric data in Figure 1 does not match the data stated in lines 131-134. The authors stated that pre- and post-pandemic, the most common site was the larynx, but in Figure 1, the post-pandemic larynx was the least common. This discrepancy might be due to the unequal time frames between periods. Please revise Figure 1 for clarity.

Authors' Response: Authors acknowledge that although these lines do correspond correctly to the data displayed in Figure 1, this sentence is confusing to the reader. It has therefore been revised.
Change(s) in the Manuscript:
Lines 155-158 revision; *"Comparison of primary malignancy site and intervention rates between strata are given in Figure 1. ~~Pre- and post-pandemic the~~ The larynx was the most common site of primary malignancy ~~site was laryngeal~~ in both the pre- and post-pandemic strata (64% and 75% respectively), however, during the pandemic the majority of patients ~~had~~ presented with malignancy of multiple upper aerodigestive tract structures (38%).*

- Consider rearranging the order in Figure 3 to have pre-pandemic at the top, followed by pandemic, and then post-pandemic for better readability.

Authors' Response: Agree with reviewer suggestion that matching the layouts of Figures 1 and 3 would improve readability. Order of Figure 3 bars has been revised in supplementary WORD file provided in reply email to show 'Pre-pandemic' at the top and 'post-pandemic' at the bottom.
Change(s) in the Manuscript:
Figure 3 bar order amended in supplementary WORD file, no changes made to formal manuscript

- Lines 157-158 and Figure 3: The "time between symptom onset to referral XXX ENT" is not depicted in Figure 3. The data (215, 52, 32 days) refers to the time from symptom onset to seeing a GP. Please clarify this in the figure.

Authors' Response: Manuscript incorrectly states Austin Health service instead of GP, this has been corrected
Change(s) in the Manuscript:
Lines 181-182 revision*; "Average time between symptom onset and GP review ~~referral to Austin Health service~~ was substantially higher during the pandemic at 215 days, compared to 52 days pre-pandemic and 32 days post-pandemic.*

Editorial Comments
1. Abstract:

- all acronyms to be written in full eg EMR , SCC, TL/LP are all used in the abstract section - please use full term the first time it is used, including within the abstract.

Authors' Response: Acknowledged and abstract amended with abbreviations expanded. Subsequent acronym use in introduction correspondingly amended
Change(s) in the Manuscript:
- ***Lines 76-77 revision****; "In a retrospective Electronic Medical Record (EMR) audit, 28 patients were identified as having undergone a total laryngectomy (TL) or laryngophargectomy (LP) for management of Squamous Cell Carcinoma (SCC) at Austin Health between December 2016*
- ***Line 86 revision****; " lengthening of mean time from symptom onset to General Practitioner (GP) referral from 52 days pre-pandemic, to 215 during*

- ***Line 125 revision; "****presenting to ~~General Practitioner~~ (GP) services"*

Line 182 revision; "*primary malignancies who underwent total laryngectomy ~~(TL)~~ or laryngopharyngectomy ~~(LP)~~ at Austin"*

2. Background:

- The background should include why this study was designed and the aim - it requires rewriting to be more concise and ensure the aim of this study is consistent across the paper:

abstract"This study undertakes a retrospectively analysis of the data to assess if this observed increase in laryngeal cancer presentation during the pandemic occurred and what factors were responsible. "

Vs introduction:"Anecdotal observation of increased laryngectomies performed at our hospital during the pandemic prompted exploration of the possible impact of the COVID-19 on patients receiving treatment for laryngeal cancer within this tertiary metropolitan referral centre introduction"

The aim should be identical in both, and needs to be clearer eg

"The aim of the study was to assess changes in the rate of laryngectomy over the pandemic period and to identify the underlying factors contributing to these changes.

- "This study undertakes a retrospectively analysis of the data". - **this sentence is bad grammar and is more appropriate within the methods**:-(retrospective analysis.)

Authors' Response: Background section of abstract amended as suggested. Retrospective analysis statement removed from background as suggested, already referenced in methods section.

Change(s) in the Manuscript:

Lines 73-75 revision; *"~~This study undertakes a retrospectively analysis of the data to assess if this observed increase in laryngeal cancer presentation during the pandemic occurred and what factors were responsible.~~ The aim of this study was to assess the impact of the pandemic on the laryngectomy rate and to identify the underlying factors contributing to these changes."*

3. Methods:

- There should be no results in the methods. Thus within the abstract methods remove the 28 patients. Methods describe how these patients were identified for the study and then analysed . 28 is a result.

- "These patients were assigned 'pre-pandemic', 'pandemic' or 'post-pandemic' stratification based upon date of surgical intervention and comparative analysis undertaken to determine significant differences in demographics, disease characteristics, treatment strategies and timing between key events between strata. " **this sentence is far to long and poor grammar. Change to :**

Patients were stratified into 'pre-pandemic,' 'pandemic,' and 'post-pandemic' groups based on the date of surgical intervention. Comparative analyses were performed to assess differences in demographics, disease characteristics, treatment strategies, and timing of key events across these periods."

Authors' Response: Participant numbers/stratification removed from methods and inserted into results section. Lengthy sentence structure amended as suggested with thanks for revision

Change(s) in the Manuscript:

- ***Lines 76-78 revision****; "In a retrospective EMR audit, ~~28~~ patients were identified as having undergone a total laryngectomy or laryngopharyngectomy for management of SCC at Austin Health between December 2016 and September 2023."*
- ***Lines 197-199 revision****; "~~28 patients were identified as eligible for inclusion and their records were reviewed retrospectively. 11/28 patients (39%) were stratified as pre-pandemic, 13(47%) as pandemic and 4(14%) as post-pandemic (Table 1.)"~~*
- ***Lines 222-223 revision****; "Between December 2016 and August 2023, 28 patients underwent either total laryngectomy (TL) or laryngopharyngectomy (LP) at Austin Health and their records were reviewed retrospectively.-11/28 patients (39%) were stratified as pre-pandemic, 13(47%) as pandemic and 4(14%) as post-pandemic (Table 1.)"*
- ***Lines 78- 81 revision; "****~~These patients were assigned 'pre-pandemic', 'pandemic' or 'post-pandemic' stratification based upon date of surgical intervention and comparative analysis undertaken to determine significant differences in demographics, disease characteristics, treatment strategies and timing between key events between strata.~~ Patients were stratified into 'pre-pandemic,' 'pandemic,' and 'post-pandemic' groups based on the date of surgical intervention. Comparative analyses were performed to assess differences in demographics, disease characteristics, treatment strategies, and timing of key events across these periods."*

4. Results:

- The total number of patients ie 28 is a result and goes here.
- "Notably higher " is a subjective term. Either this is significantly higher and your statistics support this or just say "higher"
- The sentence structure makes the results difficult to read suggest change to :

"During the pandemic, the incidence of advanced (T4a/b) disease was 75%, compared to 45% and 54% in the pre- and post-pandemic periods, respectively. The rate of TL/LP surgeries increased to 6.5 annually during the pandemic, compared to 3.5 and 2.5 in the pre- and post-pandemic periods. Additionally, the mean time from symptom onset to GP referral extended from 52 days pre-pandemic to 215 days during the pandemic, before returning to 32 days post-pandemic."

- Whole numbers should also be included with the percentages

Authors' Response:

- Patient numbers and stratification relocated to results as above
- Suggest sentence structure amended with thanks for revision
- Whole numbers added as well as percentages

Change(s) in the Manuscript:

- ***Lines 222-223 revision***; *"Between December 2016 and August 2023, 28 patients underwent either total laryngectomy (TL) or laryngopharyngectomy (LP) at Austin Health and their records were reviewed retrospectively.-11/28 patients (39%) were stratified as pre-pandemic, 13(47%) as pandemic and 4(14%) as post-pandemic (Table 1.)"*
- ***Lines 82-87 revision;*** *" ~~Compared to the pre and post pandemic strata, both the number of patients presenting with advanced (T4a/b) disease (45% and 54% respectively) and the rate of TL/LP surgeries performed (3.5 and 2.5 annually respectively) were notably higher during the pandemic with a T4a/b incidence of 75% and an operative rate of 6.5. Delays to patient review at a tertiary centre were also observed in the lengthening of mean time from symptom onset to GP referral from 52 days pre-pandemic, to 215 during the pandemic, and returning to 32 days in it's wake.~~ During and post the pandemic, the incidence of advanced (T4a/b) disease was 54% (n = 7) and 75% (n = 3), respectively compared to 45% (n = 5) pre-pandemic period. The rate of TL/LP surgeries increased to 6.5 annually during the pandemic, compared to 3.5 and 2.5 in the pre- and post-pandemic periods. Additionally, the mean time from symptom onset to GP referral extended from 52 days pre-pandemic to 215 days during the pandemic, before returning to 32 days post-pandemic."*

5. Conclusion:

- Remove any first person prefix " our" . The conclusion should be more concise and avoid repetition, the term " it is presumed " raises uncertainty which we would recommend avoiding in an abstract:

The following is recommended :

"This study suggests that the COVID-19 pandemic significantly delayed referrals for laryngeal carcinoma in Australia, likely due to patients' reluctance to present with upper respiratory symptoms to General Practitioner (GP) services. Despite unchanged referral-to-treatment times, the delay in initial GP referrals appear to have resulted in an increased incidence of advanced disease at presentation. These findings underscore the critical need for uninterrupted access to primary healthcare to prevent delays in cancer diagnosis and treatment."

Authors' Response: Happy to accept proposed revision, conclusion amended accordingly

Change(s) in the Manuscript:

- **Lines 88-129 revision**; "*~~Our findings suggest that referral of patients with laryngeal carcinoma was significantly delayed during the pandemic. In Australia, patient referrals to specialist care mandates an initial primary healthcare assessment in order to be valid. The time from presentation to the tertiary referral centre was significantly higher during the pandemic but the time to review following referral, diagnosis and definitive treatment did not change significantly between pre-pandemic, pandemic and post-pandemic periods. It is presumed that the upper respiratory tract symptoms which, are often displayed by patients with laryngeal cancers, were also an exclusion criterion for not presenting to General Practitioner (GP) services resulting in this observed delay. These findings reinforce the importance of uninterrupted access to primary health care in Australia for the appropriate screening of patients and referral to a tertiary Head and Neck service to prevent a delay in the diagnosis of cancers and the associated poorer outcomes with more advanced disease.~~ This study suggests that the COVID-19 pandemic significantly delayed referrals for laryngeal carcinoma in Australia, likely due to patients' reluctance to present with upper respiratory symptoms to General Practitioner (GP) services. Despite unchanged referral-to-treatment times, the delay in initial GP referrals appear to have resulted in an increased incidence of advanced disease at presentation. These findings underscore the critical need for uninterrupted access to primary healthcare to prevent delays in cancer diagnosis and treatment."*

6. Introduction:

As stated above on the abstract ensure that the aim of the study is consistent in both the abstract and therein text.

Authors' Response: Abstract amended as per earlier suggestion.

Change(s) in the Manuscript:

- ***Lines 73-75 revision;*** *"~~This study undertakes a retrospectively analysis of the data to assess if this observed increase in laryngeal cancer presentation during the pandemic occurred and what factors were responsible.~~ The aim of this study was to assess the impact of the pandemic on the laryngectomy rate and to identify the underlying factors contributing to these changes."*

7. Methods:
Line 182 -

"28 patients were identified as eligible for inclusion and their records were reviewed retrospectively. 11/28 patients (39%) were stratified as pre-pandemic, 13(47%) as pandemic and 4(14%) as post-pandemic (Table 1)" **this is all results not methods - please remove from methods and move into results**

Authors' Response: Amended as per previous suggestion.

Change(s) in the Manuscript:

- ***Lines 197-199 revision****; "~~28 patients were identified as eligible for inclusion and their records were reviewed retrospectively. 11/28 patients (39%) were stratified as pre-pandemic, 13(47%) as pandemic and 4(14%) as post-pandemic (Table 1.)~~"*
- ***Lines 222-223 revision****; "Between December 2016 and August 2023, 28 patients underwent either total laryngectomy (TL) or laryngopharyngectomy (LP) at Austin Health and their records were reviewed retrospectively.-11/28 patients (39%) were stratified as pre-pandemic, 13(47%) as pandemic and 4(14%) as post-pandemic (Table 1.)"*

8. Results:

There appears to be inconsistent presentation of p values -many comments of differences in % but not backed up with statistical analysis. It is likely many of the findings will not be statistically significant given the small sample size and it is ok to report this but it is important to point out that many of these don't reach statistical significance and then important that this is mentioned in the limitations of the study within the discussion.

Whole numbers as well as % should be presented.

Line 214 - "notably" is a subjective term, please either remove or say statistically significant and provide statistics

Line 201'Salvage' is defined as laryngectomy performed following RTx/CTx with curative intent, usually in context of locoregional recurrence - **this isn't a result and should be moved into the methods as how the authors defined a salvage procedure.**

Line 204 "appreciably' also subjective , remove and just state lower

Line 207:"The AJCC system is utilised to stage malignancies, estimate prognosis and guide consistent selection of best treatment for individual patients." **This should be placed into the methods ie The AJCC system was used….**

Line 210 -"A proportional increase in the number of patients presenting with high stage (T4a/b) malignancies in the pandemic and post-pandemic groups (54% and 75% respectively) compared to pre-pandemic (45%) is demonstrated. " **what was the pvalue? This is given for the preceding paragraph on salvage differences and the authors should be consistent in the way they are presenting data. Especially with this point as it is the one mentioned in the abstract.**

Line 233 - "dramatically" remove as is subjective and not actually supported by statistical analysis.

Line 240 - "A distinct rise in prevalence of concurrent neck dissections was also demonstrated in the pandemic and post-pandemic groups ($X^2 = 0.04$" **include the numbers with this statement. Given this one of the only statistically significant findings presented in the results the authors should include this within the abstract. It provides some evidence to support the increased disease severity proposed by the authors.**

Table 1 - what does UTA stand for - needs definition with in table header or footnote

Table 2 - TL/LP either use full term or add definition to header ot footnote - tables need to be able to stand alone from main body of text

Authors' Response:

- Statistical analysis and p-values have been provided for all presented percentages. Study size is already referenced as a limitation of the study in the discussion section in lines 392-394; "This study does have a number of limitations. It is estimated that only around 60 laryngectomies occur per year in Victoria ~~(with no centralised database),~~ allowing only 28 patients to analyse over six years at our centre. This finite number of datapoints makes broad generalisation of this analysis challenging."
- Whole numbers included alongside percentages
- Line 214 revised above to exclude word notably
- Tables 1 and 2 modified according to suggestions (abbreviations corrected) Provided in separate attachment to reply email in Word format as previously requested

- Use of subjective language amended
- Acknowledged with thanks for picking this up. Data analysis now added to manuscript correspond with T4a/b percentages across strata
- Regarding neck dissection data. Numeric values and pecentages added. X^2 reviewed by corresponding author and analysis re-run due to a detected error. Has been amended accordingly in manuscript (result remains statistically significant). Abstract also amended to reflect the significance of this result as suggested in conjunction with earlier manuscript changes above.

Change(s) in the Manuscript:
-No changes made to the manuscript

- Lines 236-239 revision; *"The larynx was the most common site of primary malignancy ~~site was laryngeal~~ in both the pre- and post-pandemic strata (64% (n = 7) and 75% (n = 3) respectively), however, during the pandemic the majority of patients ~~had~~ presented with malignancy of multiple upper aerodigestive tract structures (38%, n = 5).*
- Lines 241-243 revision*; "Prior to the pandemic, salvage procedures were performed more frequently (55%, n = 6 of cases) than primary laryngectomy (45%, n = 5). During and post-pandemic the proportion of salvage laryngectomies procedures was appreciably lower (23% n= 3, and 25% n = 1, of cases respectively)*
- Lines 248-250 revision*; "A proportional increase in the number of patients presenting with high stage (T4a/b) malignancies in the pandemic and post-pandemic groups (54% n = 7, and 75% n= 3, respectively) compared to pre-pandemic (45% n = 5) is demonstrated.*

- Lines 240-241 → relocated to line 207; *"…was taken as January 30th. Salvage' is defined as laryngectomy performed following RTx/CTx with curative intent, usually in context of locoregional recurrence. Patients who underwent salvage laryngectomy…"*

- Lines 254-255 revision; *"The rate of LP compared to TL procedures also rose ~~dramatically~~ from just 18% (n = 2) pre-pandemic to 54% (n = 7) during the pandemic, though this was not statistically significant ($X^2 = 3.4$, $p = 0.18$ ~~≥ 0.05.~~*

- Line 243 revision; *"salvage laryngectomies procedures was ~~appreciably~~ lower (23% and 25% of cases respectively)"*

- Lines 246-247 relocated to line 187; *"…Committee on Cancer (AJCC) guidelines. The AJCC system is utilised to stage malignancies, estimate prognosis and guide consistent selection of best treatment for individual patients. MDM recommendations were…."*

-Lines 248-250 revision; "*A proportional increase in the number of patients presenting with high stage (T4a/b) malignancies in the pandemic and post-pandemic groups (54% and 75% respectively) compared to pre-pandemic (45%) is demonstrated ($X^2 = 0.77$, $p = 0.38$)."*
- Lines 257-259 revision; "*A significant rise in prevalence of concurrent neck dissections was also demonstrated in the pandemic and post-pandemic groups (85% n = 11, and 100% n = 4, respectively), compared to pre-pandemic (45% n = 5)($X^2 = 6.34$, $p = 0.01$)".*
- Lines 82-87 revision; " ~~*Compared to the pre and post pandemic strata, both the number of patients presenting with advanced (T4a/b) disease (45% and 54% respectively) and the rate of TL/LP surgeries performed (3.5 and 2.5 annually respectively) were notably higher during the pandemic with a T4a/b incidence of 75% and an operative rate of 6.5. Delays to patient review at a tertiary centre were also observed in the lengthening of mean time from symptom onset to GP referral from 52 days pre-pandemic, to 215 during the pandemic, and returning to 32 days in it's wake.*~~ *During and post the pandemic, the incidence of advanced (T4a/b) disease was 54% (n = 7) and 75% (n = 3), respectively compared to 45% (n = 5) pre-pandemic period. The rate of TL/LP surgeries increased to 6.5 annually during the pandemic, compared to 3.5 and 2.5 in the pre- and post-pandemic periods. A significant rise in neck dissection frequency was also revealed in the pandemic and post-pandemic groups (85% n = 11, and 100% n = 4, respectively), compared to pre-pandemic (45% n = 5)($X^2 = 6.34$, $p = 0.01$). Additionally, the mean time from symptom onset to GP referral extended from 52 days pre-pandemic to 215 days during the pandemic, before returning to 32 days post-pandemic."*