Author’s response to reviews

Title: Comparison of the reconstruction of through-and-through cheek defects involving the labial commissure following tumor resection using four types of local and pedicle flaps

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Author’s response to reviews:

Reviewer #1: Language Review - excellent
Also an excellent and very interesting paper
Thank you!

Reviewer #2: The authors present a retrospective Evaluation of various pedicled flaps after Ablation of buccal soft tissue including the oral commissure. The paper lauds the advancements of pedicled flaps in times of often excessive use of microvascular flaps and illuminates results in a difficult facial region. Although the aim of the paper is worthy to be published, some rather important Points must be adressed.

1. The paper shows distinct linguistic flaws and should be revised by a native english-speaking lector.

A: The English in this document has been checked by at least two professional editors, both native speakers of English.

2. The authors should include an evaluation of surgical complications such as flap loss or partial flap necrosis. They state that complication rate was low, but as long as "low" is not objectively categorized, this Information is worthless.
A: No major complications developed in any patient. One flap failures occurred and no significant difference was observed in the rate of flap among the A-EF, SFIF, PMMF, and TIMF groups. Hemorrhage, orocutaneous fistulas and dehiscence in donor-site occurred in one (20%), two (21.5%), one (11.1%), and three (23.1%) cases in the A-EF, SFIF, PMMF, and TIMF groups, respectively. An urgent exploratory operation was performed to stop the bleeding when a hemorrhage occurred. The flap failures, orocutaneous fistulas and dehiscence in donor-site were treated successfully with debridement.

<table>
<thead>
<tr>
<th>Local complications</th>
<th>Hemorrhage</th>
<th>Orocutaneous fistula</th>
<th>Dehiscence in donor-site</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (20.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>1 (12.5)</td>
</tr>
<tr>
<td>1 (12.5)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>1 (11.1)</td>
<td>1 (7.7)</td>
<td>0 (0.0)</td>
<td>2 (15.4)</td>
</tr>
</tbody>
</table>

3. The esthetic results (as shown by some photographs) were mostly categorized as "2 - satisfactory". In the light of the shown cases, the judgement of "satisfactory results" might be a rather subjective assessment. How were the esthetic results judged? Who made the judgements? The Patient? The surgeon? Both? The same applies to the functional results.

A: All patients were followed for at least 3 months postoperatively by a panel of three surgeons to assess the esthetic results, orbicularis oris function, and speech function.

4. The Discussion section is rather a repetition of the results but does not make any statements regarding the strengths and weaknesses of the study. Literature regarding the topic is rather dealt with in the introduction-section of the manuscript.

A: 1. The four types of pedicle flap were reliable and safe.

2. We believe that four types of flap have major roles in surgery for different clinical stages: the A-EF is suitable for reconstructing defects in clinical stage II disease; the SFIF for clinical stage II or III disease; the PMMF for clinical stage III or IV disease; and the TIMF for stage rCS III or rCS IV disease.

3. The esthetic results, orbicularis oris function, and speech function were significantly better in the A-EF group than in the other three groups, which might be related to the less advanced clinical stage....
5. Generalizability of the conclusions is limited regarding a number of 35 included examinees. The authors should possibly think about creating the paper in style of a comprehensive Review of the literature along with a case series regarding their own surgical results.

A: We used 18 articles to comprehensively review and discuss the case series of our own surgical results.

Reviewer #3: The authors have to be commended for this work. The manuscript is very well written. All sections are clear and concise and the literature list is sufficient. The presented cases are well treated. In all cases a high level of surgical skill was required to achieve the results. The pictures are of sufficient quality.

Please address the following aspects to improve the scientific level of the study:

Please clearly state the purpose of the study. Is there a focused research question?

A: 1. Reconstruction of through-and-through cheek defects involving the labial commissure following cancer ablation is a surgical challenge.

2. This study compares the outcomes of A-EF, SFIF, PMMF, and TIMF pedicle flaps for reconstructing through-and-through cheek defects involving the labial commissure following cheek cancer ablation.

In the year 2018 we should refrain from just presenting our results in a descriptive manner. I understand that the outcomes of 35 patients who presented with buccal SCC of VARIOUS stages and treated with DIFFERENT flap designs are compared. It goeses without saying the e.g. PMMF is too voluminous for stage I resection defects. Therefore - as depicted in table I - they were not used in those cases. Vice versa, A - EFs were not used for extensive defect reconstruction.

OK!

The idea of a study, however, is to research the performance of e.g. a certain type of flap for the reconstruction of differently sized resection defects and then compare the outcomes (e.g. functional, esthetic or surgical) OR to investigate the outcomes of different types of flaps in THE SAME defect geometry in order to find out which technique is most suitable. In this study, basically, 4 groups have been created (Stage I - IV disease OR A - EF, PMMF, SFIF, TIMF) side by side. The choice of flap was done before study inclusion (problem of retrospective study) with primary respect to the defect size. Thus, the study is a descriptive compilation of your results. The statistical evaluation of the data presents obvious findings.
A: Yes, this is a retrospective study; the statistical evaluation of the data presents obvious findings.

Please avoid sentences like this one: "Since the patients in the PMMF and TIMF groups were at more advanced tumor stages compared with the A-EF and SFIF groups, the treatment in the PMMF and TIMF groups was more complicated than in the A-EF and SFIF groups, and the dissections were wider."

A: Our results showed that the patients in the PMMF and TIMF groups were at more advanced tumor stages compared with the A-EF and SFIF groups, the treatment in the PMMF and TIMF groups was more complicated than in the A-EF and SFIF groups, and the dissections were wider.

In my opinion the PMMF and TIMF groups were created because the SCC patients presented at higher stages. Therefore the resection was more extensive, the dissection was more complicated and THEN the patients were assigned to the PMMF/TIMF group due to the defect geometry. Please change accordingly throughout the manuscript.

A: Right!

What you could do instead is write e.g.: "Patients in the PMMF and TIMF group presented with reduced esthetic/functional results when compared to those in the SFIF group" I hope I made myself clear in this matter.

A: Right!

Please do NOT correlate the prognosis of the patients to the choice of flaps AT ALL!!! You are mentioning the correct underlying reason: larger tumor = assignment to PMMF/TIMF group = worse prognosis. Please respect!

A: Right!

However, there is a great practical use of this work. I suggest restructuring the work away from a descriptive/clinical study to a surgical manual/advice. Your results show that the PMMF, the SFIF and the TIMF can be used for defects after resection of SCC of stage II and above. I suggest comparing the differences between those groups in more detail. It is clear that the harvesting times for a distant pedicled flap like the PMMF are higher than the time needed for
local flaps like the A-EF. (Please eliminate redundant information from the manuscript). At the end of the work clear guidelines should be provided. Some guidelines are already given in the discussion and conclusion. I suggest extending this section by using your well designed case reports and highlighting the pros and cons of your reconstructive approaches.

A: 1. We believe that four types of flap have major roles in surgery for different clinical stages: the A-EF is suitable for reconstructing defects in clinical stage II disease; the SFIF for clinical stage II or III disease; the PMMF for clinical stage III or IV disease; and the TIMF for stage rCS III or rCS IV disease.

2. However, creating a foldable TIMF is more complicated and takes more time than A-EF and SFIF or PMMF.