Peer Review File

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Reviewer A

This is an interesting study and it appears that the patients were fairly similar between superomedial pedicle and inferior pedicle. But more explanation is needed from the authors about how it was decided which patients had which pedicle. Also it would be important to clarify if there were two different surgeons and how the cases were divided. It is now accepted that bottoming out may well be more surgeon dependent - ie not removing enough inferior parenchyma.

- Thank you for the comment. All procedures were performed or directly supervised by the same senior surgeon (PDS). No randomization was performed, however, as you correctly pointed out, patients groups were homogeneous. All patients were consecutive and the division in two groups reflects the predominance of one technique (IFP) over the other (SMP) during the first examined period, progressively shifting the indication towards SMP reduction according to leading surgeon preference. Text has been modified accordingly (page 7 line 132)

Although the suprasternal notch to nipple distance is important - it is not the preoperative distance that counts (except for ensuring that the patients in each group were well matched). What is more important is the preoperative measurement as to where the new nipple position was marked. It would be important for the authors to include this measurement rather than the preoperative measurement since the authors are comparing what happens over time.

- Thank you for the comment. Patients were similar in terms of SN-N distance, resection weight removed and BMI. Making the groups surposable. We agree on your point in stating that a key point to address bottoming out is the NAC position. However in all cases NAC was centered on the Pitanguy point matching on the mid arm position. Text has been modified page 8 line 172.

The authors are also describing a medial pedicle and not a true superomedial pedicle. The pedicle is based on the vertical limb which is actually a medial pedicle from a

blood supply standpoint.

- Thank you for the comment. We follow the superomedial technique according to Hall Finlay et al, with pedicle deepithelialized from the mid line and medially, with inferior undermining to allow cranial rotation.
  Hall-Findlay EJ. Vertical breast reduction with a medially-based pedicle. Aesthet Surg J. 2002;22(2):185-94.

The authors should also define what they mean by "ptosis" and "pseudoptosis" because these words mean different things to different surgeons.

- Ptosis and pseudoptosis were considered as according to Regnault et al. Pseudoptosis refers on the breast part down the line connecting nipple and IMF. The reference has been added, page 8 line 154.
  Regnault P. Breast ptosis. Definition and treatment. Clin Plast Surg. 1976;3(2):193-203.

Finally in these times where most breast reductions are performed on an out-patient basis it would be important for the authors to explain why patients were kept in the hospital for an average of three days.

- Thank you for the comment. In our department, breast reductions considered were covered by insurance, allowing postoperative hospitalization of 1-2 nights.

Reviewer B

This is a small series of reduction mammaplasties performed at a single institution comparing inferior pedicle to superomedial pedicle reduction mammaplasties. The authors compare postoperative results and find that the sternal notch to nipple distance remains about the same but the nipple to IMF distance is longer in the inferior pedicle group, thus concluding that the SMP technique provides better long term results. Their visual assessments are also better. The two groups appear to be fairly well matched. The authors do not state what the selection process is for IP vs SMP. Is there something about the group that is different? Is it surgeon preference? If so, then the difference in outcome might be surgeon related, experience etc. This has to be addressed otherwise I do not think that this is a fair comparison because the

selection bias would influence the results.

- Thank you for the comment. As stated in the previous response, all procedures were performed or directly supervised by the same senior surgeon (PDS). No randomization was performed, patients groups were homogeneous. All patients were consecutive and the division in two groups reflects the predominance of one technique (IFP) over the other (SMP) during the first examined period, progressively shifting the indication towards SMP breast reduction according to leading surgeon evolving preference. Text has been modified accordingly (page 7 line 132)

Reviewer C

The manuscript concerns a retrospective study of 58 patients who underwent bilateral breast reduction with either a superomedial pedicle technique or an inferior pedicle technique. The women were followed for 24 months and the changes in breast measurements, occurrence of complications and aesthetic results were evaluated.

The study has an interesting scope and the authors should be complemented for their design of this clinically relevant study with clearly stated endpoints. I do however have some concerns regarding the methodology and the manuscript:

Major corrections

1) As this is a retrospective study, it is prone to bias. I recommend that the limitations of the study are elaborated in a dedicated section in the discussion.

- We agree with the reviewer, a limitation paragraph has been added (page 16 line 359).

2) It should be clarified how patients were selected for either a superomedial or inferior pedicle-based breast reduction. Were the patients consecutively enrolled during a specific period where one or the other technique was predominant, or were the patients selected on a case-by case basis based on the use of technique during the same period? I assume that the patients in this study were not randomized, which means that there is a potential risk of selection bias. This should be addressed in the methods section as well as included in a limitation section in the discussion.

- Thank you for the comment. As stated in the previous response, all procedures were

performed or directly supervised by the same senior surgeon (PDS). No randomization was performed, however patients groups were homogeneous. All,patients, patients were consecutive and the division in two groups reflects the predominance of one technique (IFP) over the other (SMP) during the first examined period, progressively shifting the indication towards SMP breast reduction according to leading surgeon evolving preference. Text has been modified accordingly (page 7 line 132)

3) "Only patient with complete follow-up were included in the study." How many patients did not complete the 24 months follow-up? Discuss the magnitude of loss-to-follow-up and how this might have affected your results. All patients undergoing either superomedial or inferior based pedicle technique should be included in the study and then the authors should specify how many of the patients did not complete the follow-up period. If the loss to follow-up is more than 5% of included patients it compromises the quality of the study and should therefore be addressed in a limitation section.

- Two patients (one in each group) did not complete the requested follow-up and were therefore excluded from the study. This information is added in the result section (page 10 line 208).

4) Please clarify and rephrase the following: "The same measurements were recorded during the follow-up period in the outpatient clinic by a plastic surgery resident blinded to the study, particularly at 2 weeks, 6 months and 24 months post-op." How is blinding carried out in this study? If the resident is assisting the consultant surgeon during these operations how can they be blinded to the breast reduction technique used? The blinding of the examining surgeon evaluating the aesthetic outcome is not clearly stated either. Is this the same surgeon who performed the operation?

Thank you for the comment. Indeed, plastic surgery residents were aware of the technique performed during the surgery, as the operative report was available during patient's consultation. However, residents were blinded to the study of technique comparisons, as measurements were assessed routinely in the outpatiens clinic.

5) The conclusions of the study are based on a very low number of included patients. It could be argued that the lack of significance between the two groups is due to the relatively small sample size, why no definitive conclusion can be drawn in terms of safety and aesthetic result. This should be elaborated in the discussion.

- We agree with the reviewer, study limitations are discussed in the newly added section (page 16 line 359).

Minor corrections

1) The manuscript would benefit from language editing to improve phrasing and grammar. I recommend the authors to avoid abbreviations and instead write the word in full length e.g. post-op to postoperative.

- We apologize for the imprecision. The text underwent an extensive revision process and we hope we fixed all major issues.

2) Please include NAC necrosis as an outcome measurement in table 4. NAC necrosis is important when reporting on safety especially when evaluating techniques based on two different pedicles and therefore with a variation in the vascular supply.

- Larsen, Andreas, et al. "Breast Reduction with Deskinning of a Superomedial Pedicle: A Retrospective Cohort Study." Journal of Plastic, Reconstructive & Aesthetic Surgery (2020).

- Antony, Anuja K., et al. "A matched cohort study of superomedial pedicle vertical scar breast reduction (100 breasts) and traditional inferior pedicle wise-pattern reduction (100 breasts): an outcomes study over three years." Plastic and reconstructive surgery 132.5 (2013): 1068.

- Table 4 has been modified has requested.

3) The authors are using the Visual Analog Scale for patients and the surgeon to evaluate the aesthetic result based on clinical photos. This is to my knowledge not a validated measurement tool for this purpose. I recommend the authors in future studies to use a validated tool like BREAST-Q for reduction/mastopexy to evaluated patient satisfaction.

- Pusic, A. L., Klassen, A. F., Scott, A. M., Klok, J. A., Cordeiro, P. G., & Cano, S. J. (2009). Development of a new patient-reported outcome measure for breast surgery: the BREAST-Q. Plastic and reconstructive surgery, 124(2), 345-353.

- We thank you for the suggestion and we totally agree with the reviewer.