Peer Review File

Article information: https://dx.doi.org/10.21037/abs-23-69

Reviewer A

Although it is a retrospective cross-sectional study, and the sample size is relatively small, it was well-conducted, well-written, and well-discussed. The results are interesting, convincing, and according to what is expected in the literature.

Reply: Thank you for your valuable opinion.

Reviewer B

Dear authors, thank you for handing in your manuscript. OPS vs BCS is an interesting topic.

Unfortunately, the paper has several serious flaws. Therefore, I recommend to reject it. Nonetheless, I would like to give you some recommendations.

The study design has a methodological bias. In fact, the authors compare two techniques that have their own indications. it would have been more useful to compare the satisfaction of patients with an indication for BCS but undergoing OPS. In fact, the OPS is higher on the reconstructive scale than the BCS.

Reply: We thank you for these recommendations. We agree that each technique has its own indication and we have further highlighted in the key findings as well in the manuscript that OPS is higher in the reconstructive scale than BCS. However, we believe that the presented comparison is relevant due to the high number of women undergoing BCS who later will experience an inferior cosmetic outcome and who, indeed, would have benefited from OPS in the first place. Our study confirms that despite being higher on the reconstructive ladder, OPS is just as safe a surgical option than BCS and it offers a more pleasing aesthetic outcome.

Reviewer C

Thank you for this interesting work. However, there are open questions and recommendations.

Reply: We thank the reviewer for the valuable and thorough review and we agree that the suggested alterations will improve the manuscript.

1. I would recommend putting all citations at the end of the sentences. This allows a smoother reading of the text

Reply: We have put almost all citations at the end of the sentences as suggested. In the cases where they are kept we try not to distort the original meaning (e.g. in the discussion).

2. Why did you exclude patients with quadrantectomy and tumorectomy? Where is the difference to the other surgeries? Quadrantectomy is a classic indication for OPS.
   Reply: We have discussed this manner and we agree and have thus deleted the sentence and replacing it with the following:
   Exclusion criteria were: patients who declined participation in quality and patient security work and mastectomies including BCS converted to mastectomy.

3. Which definition of OPS did you use. The consensus definition of the american society of breast surgeons has explored more than 30 definitions. (Ann Surg Oncol (2019) 26:3436–3444 https://doi.org/10.1245/s10434-019-07345-4)
   Reply: We used the definitions of the Danish Breast Cancer Society (ref 5 and 11), we have added it to the methods section

4. The classification of oncoplastic levels is missing here. According to the consensus of the ASBS, a local tissue rearrangement is an example for Level I OPS. I think these techniques are the minimum that should be used for defect coverage according to BCS. I am therefore surprised that 65 patients should not have received any defect coverage after BCS. This should be presented more clearly and, if necessary, a distinction made between BCS with tissue rearrangement and higher-grade OPS techniques.
   Reply: we have added the definition the methods section.

5. Unfortunately, no resection weight of the BCS group was provided. is this impossible to supplement with histopathological reports?
   Reply: We agree that this would strengthen work. However, unfortunately, as it is not a part of the routine in the laboratory of the department of Pathology to weigh the resected tissue, we do not have these data. This has been added to the text (please refer to the Methods section).

6. It should be emphasised more clearly that further resection margins do not offer increased oncological safety. There is some impression that larger resection volumes can be achieved through OPS and that this could increase oncological safety.

Reply: We have now removed the mentioning of oncological safety in the text and highlighted the fact that further resection margins do not offer increased oncological safety in the discussion.

7. Line 222: Furthermore, it is debatable whether wider resections and local recurrence rates are associated [6], [33]. No, a discussion should not be opened here. The tumour should not touch the ink.
   Reply: We agree and have now removed this sentence.

8. All but one patient per group received axillary surgery: In contrast, there are 15 cases with DCIS. Why did these women receive SLNB or SLND without mastectomy?
   Reply: by the Danish national guidelines (DBCG) women with DCIS van Nuys group. 3, palpable DCIS and DCIS which spreads out over 5 cm will have a sentinel node biopsy at the primary operation, because of the big risk of invasive cancer after pathology

9. I would recommend specifying the pre- and postoperative TNM classification.
   Reply: We understand this question, but we are reserving these data for our next manuscript, which focuses on oncological safety after OPS versus BCS.

10. I wonder why, out of 39 reduction mammoplasties, only 19 patients received an equalising operation on the opposite side. I would appreciate an explanation here. Was the correction performed in the interval?
    Reply: In case of reduction mammoplasty, in Denmark, we sometime prefer to postpone surgery due to personal or individual circumstances. Nonetheless these considerations will seldomly be noted in the journal of the patient.

11. In table 3, 86 cases with OPS are described. Are the contralateral operations included in the count? Then it would not make sense to calculate the re-excision rate with all cases, but only with the affected side.
    Reply: We agree, and have therefore recalculated without the contralateral operations and moved it to table 2 to represent this.

12. Only 51 and 44 cases respectively received adjuvant radiotherapy. What are the reasons for this low number? Actually, all included cases should have an indication for adjuvant radiotherapy.
    Reply: Dear reviewer, the 51 and 44 cases were the patients not receiving chemotherapy, we looked through the data again, and have updated table

3 so it is easier to see that there are the patients receiving both chemotherapy and radiotherapy, and the patients receiving only radiotherapy.

13. overall, it missed a more detailed description of oncoplastic techniques and the development of ops.
    Reply: We have now added a more detailed description of oncoplastic techniques and the development of OPS to the introduction.

14. As mentioned above, nowadays almost every patient should receive defect coverage according to BCS with some OPS technique. I think there is still significant potential for improvement in the work here.
    Reply: We agree to this and have discussed it in the group and added the following sentence to the conclusion to add these important considerations: 'Nowadays almost every patient should receive defect coverage according to BCS with some OPS technique. However, in Denmark, not all women with BC receive OPS. We suggest that a larger fraction of these women should be offered OPS as it seems that OPS is an equitable therapeutic option compared to lumpectomies (BCS) in the surgical BC treatment'.

Reviewer D

Title is ambiguous - safety could be oncologic safety however this article is about surgical safety? and the complication profile of oncoplastic surgery? unclear aim of study - how is 'quality of surgical treatment'
Reply: we have discussed this and all agree, we have thus focused and altered the title to 'Surgical Outcomes and Complications: A Study Comparing Oncoplastic Surgery and Lumpectomy'.

Line 48 - 'tumour ablation' incorrect term - tumours in breast not ablated.
Reply: we have altered this to 'tumour removal'

line 71 - why were these patients excluded?
Reply: This sentence has been removed and replaced with: 'Exclusion criteria were: patients who declined participation in quality and patient security work and mastectomies including BCS converted to mastectomy'.

line 88-89 - which guideline is being used to determine if patients need ALND?
Reply: These are the guidelines of the Danish Breast Cancer Society
(has been included in the text for clarification).

line 129: would BCS weight be identifiable on pathology report?
Reply: We agree that this would strengthen work. However, unfortunately, as it is not a part of the routine in the laboratory of the department of Pathology to weigh the resected tissue, we do not have these data. This has been added to the text.

line 134 - are the bilateral (symmetry) procedures included in the OPS time?
Reply: we have changed this so it corresponds to the new values, see answer below.

Table 2: is the contralateral symmetrization procedure included in the operative time for OPS? confounding variable
Reply: we agree and have therefore recalculated the median time without the 19 patients receiving contralateral symmetrisation

what guideline is being used for the recommendation of perioperative antibx in this population?
Reply: In Denmark, there are no guidelines or consensus on this matter. It is up to the surgeons who is performing the operation. This has been added to the text ('Patient-/pathologic/surgical demographics').

line 205 - comment on weight however weight not provided for BCS group - assumption made that resections were smaller
Reply: You are right. However, weight of the resected tissue (lumpectomies) is unfortunately not noted by the pathologists. We have accordingly added the sentence: 'The weight of the resected tissue from patients undergoing BCS is not routinely noted by the pathologists' to the methods section.

210 - which guideline is being used for negative margin - current tumour margin in breast is standardized based on NCCN
Reply: Yes, the negative margin is "not on ink". This is mentioned now in the section: 'Patient-, pathologic-, and surgical demographics'

Lines 214-219 - paper should be written in similar style as this paragraph
Reply: We have revised the manuscript thoroughly and hope that there is more continuity.

line 236 - quality used once more without a clear definition of what quality is being measured - cosmetic outcome?
Reply: Quality in the sense of having minimal or acceptable complications.

This has been explained in the introduction for clarification, thank you. ‘However, OPS often causes prolonged operation time and surgical complexity e.g. tissue manipulation, which disputes the incidence of postoperative complications compared to lumpectomies [15]. There is currently no clear consensus between studies on this subject [3], [6], [13], [16]–[21]. To assess the quality of the surgical BC treatment in this manner, this study was conducted’.

line 242: this is a misinterpretation of the primary literature (reference 18) - the correct sentence reads: 'The Oxford overview demonstrates that 75% of local recurrences occur within 5 years of surgery' - NOT 75% of recurrence occur - please re review the primary data to ensure understanding. 75% of recurrence occur within the first fire years, not a recurrence rate of 75% (oncologic resection failure if this was the case)
Reply: This is absolutely true and we have altered the text accordingly.

Final thoughts:
By definition - OPS is for larger tumours / more advanced breast disease - which wound impact multiple factors - not addressed in paper although multiple times ALND and high tumour burden is mentioned in this paper.
Criteria this paper used to determine which patients should get OPS also unclear.
The paper does not add to the current OPS literature.
Could provide a single centre review of oncoplastic techniques in its place which would provide something novel
Reply: We agree and we have now discussed these considerations in the paper. In the introduction we added this sentence: ‘OPS is for larger tumours and/or more advanced breast disease and thus, OPS often causes prolonged operation time and surgical complexity e.g. tissue manipulation, which disputes the incidence of postoperative complications compared to lumpectomies [15].’

Reviewer E
I applaud the authors for conducting this single institution, retrospective review of patients who underwent Breast conservation surgery. Overall, I find the paper to show what is already known from prior published studies- complications, recurrence rates, patient demographic and surgical comparisons. I believe with some revisions this could improve. Please see my comments below in ways to improve the manuscript.

In addition, breast conservation surgery is defined by any patient who undergoes a lumpectomy (any synonym- partial mastectomy, quadrantectomy...) and the plastic surgery component associated with this lumpectomy is OPS. Both groups are breast conservation surgery with or without plastic surgery

involvement. It becomes confusing reading BCS vs. OPS and recommend this is revised.

Reply: We agree and have revised. The following sentence has been added for clarification in the introduction: ‘OPS is breast conserving surgery with involvement of plastic surgical interventions’
We have now thoroughly revised the manuscript to increase readability.

Why did you exclude patients with "other classifications of BCS (quadrantectomy, tumorectomy, partial or segmental mastectomy)" Line 71
Reply: This sentence has been removed for clarification.

Some sentences are difficult to understand throughout the manuscript.
Line 51: "However, OPS often...."
Reply: We have now read the manuscript and revised as suggested.

Line 53: "There is currently no clear consensus..." What is this implying?
Reply: This sentence has been altered to: ‘There are conflicting reports on the incidence of complications in OPS’

Line 156: Run on sentence. "Yet, the definition and utilisation of OPS are miscellaneous..."
Reply: We have deleted this sentence: ‘The definition and utilisation of OPS are miscellaneous, which challenge the unambiguous conclusions concerning surgical outcomes as well as the quality of the treatment offered’.
Instead, we added this sentence: ‘In this retrospective, single center study, we compared risk of complications in patients undergoing OPS (breast conserving surgery with plastic surgical strategies) versus patients undergoing BCS (breast conserving surgery without plastic surgical strategies).’

Line 180: Complications- In agreement with the authors OPS and BCS have similar rates of complications that has been published in many manuscripts as you mentioned. However, you then infer that perhaps OPS had higher incidence but nothing is statistically significant. Why not just conclude you are in agreement with other previously published manuscripts? You also mention what I state here in your conclusion.
Reply: We have discussed this thoroughly in the group. We have altered and added to this section: ‘In our study, no significant difference in complications rates were found even though one could hypothesise that the rate of seroma and necrosis would be more frequent in the OPS group due to the extensive tissue mobilisation, potential larger surgical dead space and more frequent ALND’.

Line 222: Associated with what?

Reply: We have now removed the mentioning of oncological safety in the text and highlighted the fact that further resection margins do not offer increased oncological safety in the discussion.

You compared Histopathology of both groups as a chi-Square test finding no significant difference. Some would conclude IDC, ILC and DCIS the surgical approach is different since a SN or AXLN biopsy is warranted at times. How does your institution approach the axilla in discrepancy of breast tumor histopathology?
Reply: We followed the Danish National Guidelines (DBCG): DCIS van Nuys group 3, patients with palpable DCIS +DCIS more than 5 cm are offered sentinel node procedure.