

Peer Review File

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Reviewer A

Why is an exclusion criteria for the Crescent technique a tumour located less than 0,5 cm from the skin?.

A tumour located less than 0,5 cm from the skin is an exclusion criteria because the technique involves sparing the skin of the lower quadrants in order to obtain a better cosmetic result.

We have modified our text as advised (see Page 1 lines 41-42).

And even if the skin is retracted have they tried a patch of the skin with the Crescent?

In case of skin involvement of the lower quadrants, we tried a patch of the skin with the Crescent, (describing another technique), but the purpose of the technique we described in the paper, is to avoid scars in the lower quadrants.

We have modified our text as advised (see Page 1 lines 43-44).

Why was Tis excluded from the Crescent technique?

Tis was excluded from the Crescent technique because of the pattern of ductal extension of Tis tumor, which can sometimes be bigger than expected. In order to avoid a second surgery for margin involvements, that could be not easy after the Crescent technique, we preferred to exclude TIS from the Criteria.

We have modified our text as advised (see Page 1 lines 44-45-46-47).

Why the text says that “The Crescent technique described by Nos et al. “when the first author of that article is Remouvel F?”

We have modified our text as advised (see Page 2 line 60).

Another possibility not mentioned is the AICAP, LICAP or MICAP. Chest wall perforators are not cited as another option for this location preserving the volume too.

We have modified our text as advised (see Page 3 lines 117-118-119- from 123 to 133).

Surgery in the axilla in the “J” technique group was performed through the same incision?

No in the “J” technique group the surgery in the axilla was performed through a different incision.

There are no comments about surgical treatment of the axilla.

All the patients in our cohort study underwent sentinel lymph node biopsy, this data is not highlighted in the article because the surgery in the axilla was performed through a different incision from that used in the breast without any impact on the comparison between the Crescent and the J technique.

It could be interesting to show pictures of the Excellent of Fair results in both techniques.

Reviewer B

The article "Improving Quality of Breast Conservative Surgery for Lower Quadrants Cancer in Small and Medium-Sized Breasts: Crescent Technique versus J Mammoplasty" presents a single-centre retrospective observational study aimed at evaluating the oncological safety and aesthetic outcomes of two surgical techniques for breast conserving surgery (BCS) in small to medium-sized breasts. This study compares the "Crescent" and the "J" mammoplasty techniques, particularly for cancers located in the lower quadrants (LQ), with the aim of developing a treatment algorithm. The study analyzed patients from July 2016 to December 2021 who underwent BCS using either the Crescent or J mammoplasty technique. A total of 58 patients were enrolled, with 29 undergoing the Crescent technique and 29 the J mammoplasty. The study assessed oncological safety, surgical complications, and aesthetic outcomes, the latter evaluated by two senior breast surgeons at least six months post-radiotherapy. This study adds valuable data to the field of oncoplastic breast surgery, particularly in the context of treating small to medium-sized breasts.

The article presents interesting contributions to the literature, but there are several areas where improvements could further enhance its value:

1. The use of a validated patient-reported outcome measure (PROM), such as the BREAST-Q, enhances the robustness of the paper. The Clough scale, which is employed in this study, is not validated and is too subjective.

We preferred a more subjective measure as the number of cases was small, but in subsequent paper where we will evaluate the oncological and also aesthetic outcome on a larger population we will certainly use the Breast Q.

2. Enhance the discussion by including the history of these flaps, mentioning all relevant wall perforator flaps, especially the Lateral Intercostal Artery Perforator (LICAP) and the Anterior Intercostal Artery Perforator (AICAP) flaps.

We have modified our text as advised (see Page 3 lines 117-118-119- from 123 to 133).

Reviewer C

Appreciate authors attempt to report their series of cases. However, the article does have methodological flaws.

1. The algorithm can be misleading. In oncoplastic surgery, there are many techniques which can be used in addition to these two techniques especially in an era where chest wall perforator flaps are gaining wider popularity which permits larger volume resection

We have modified our text as advised (see Page 3 lines 117-118-119- from 123 to 133).

2. Authors haven't explained the rationale behind recommending J mammoplasty for multifocal, in situ cancers and calcifications. What matters most is the volume of resection and whether this can be replaced by adequate tissue or not.

The rationale behind recommending J mammoplasty for multifocal, in situ and calcification is the volume of breast to remove and the gap to fill after the removal. Indeed, in those cases in which the tissue to be removed is bigger, the crescent flap may be insufficient to fill the defect in case of small and medium breast, giving an inadequate cosmetic result.

3. There is no clarity on the status of assessors, whether they were operating surgeons or independent surgeons?

The assessors were independent surgeons who did not perform surgery.

4. There is no data in the manuscript on post operative infection and its impact on cosmetic outcome. Authors suggested antibiotic therapy to reduce this. Breast Surgery is considered clean and generally there is no indication for routine use.

In our cohort of patients no post-operative infection were detected.

5. No data on re excision rate and its impact on cosmetic outcome in both groups.

None of the patients in our case study underwent re-excision, probably due to the strict inclusion criteria which excluded Tis and multifocal BC, also thanks to pre-op MRI or CEM.

6. It is not clear whether the outcome assessment was done after symmetrisation/ lipomodelling procedures.

The outcome assessment was done at least 6 months after radioteraphy, before any symmetrisation and lipomodelling procedures were performed.

7. Other techniques such as round block can also address smaller tumours in these subset of small to medium sized breasts with less scar burden and better cosmesis.

This could be true for medium sized breast, but especially for small breast the resection of a higher volume of tissue would benefit from a volume replacement technique to avoid breast reduction.

Reviewer D

The authors describe two modalities of adjacent tissue transfer to correct lumpectomy surgery defects and preserve breast contour. The figures provided illustrate the 'crescent' technique.

1. No illustration or photos are provided for the 'J' technique

2. In line 113, the authors state that the crescent technique was used in 13 cases and then they describe 8 in the LOQ and 8 in the LIQ. These numbers do not add up.

Line 113 (now Page 2 line 88-89) states: "Crescent technique was used for 13 lesions located in the LQ (lower central quadrant), 8 located in the LOQ and 8 in the LIQ, for a total of 29 patients in this group.

3. Better paragraphing under Results, would make it an easier read.

We have modified our text as advised.

4. Line 132 onward: poorly written. Criteria, why in caps?

We have modified our text as advised (see Page 3 Lines 109-112).

5. The authors did not characterize fat necrosis and only link it to seroma formation. Fat necrosis is often a finding that occurs later on and can also be seen on breast imaging studies. Any data in this regard?

We didn't find fat necrosis signs in radiological images after 36 months of follow-up.

6. All the table numbers have 'commas'. The convention is a 'period'.

We have modified the tables as advised.

7. Table 1: Is Age, median or average? The numbers are different than in the text under Results.

Age is median, corrected at Page 2 line 84.

8. Table 1: should be "smoking" not "smoke". Also, "Histology" not histology.

We have modified the tables as advised.

9. Need to specify in table measurement criteria, cm or mm. How was specimen volume calculated?

The measurement criteria was mm for the radiology and histology size and mm³ for the specimen volume, the anatomic-pathologist calculated the specimen measurements, highlighting the longest diameter which is reported in the article and in the table.

These tumors were relatively small, so it is difficult to judge whether comparable results at maintaining contours could have been achieved with some adjacent tissue mobilization. The authors report worse results with the J technique but provide no photos to show how it appears. The technique is better appreciated in small sized breast, where despite the volume removed, there is no reduction in the breast.

It is interesting to describe these technique, but we are not shown how the crescent could be applied for instance to a LIQ cancer in a woman with a small A cup size breast.

In the paper we described that in case of lateral or medial defect, a hemiflap can be easily raised through the incision of the inferior line only in the lateral or medial part of the attached area, realizing the so called Emicrescent technique.