

## Peer Review File

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### Reviewer A

This report is interesting because single-port endoscopic-assisted nipple sparing mastectomy (NSM) is an excellent and highly cosmetic technique. Although I have no doubt about the quality of the presented work, I would like to ask you a few questions regarding some points that were not clear.

1. I think this is a less visible scar, but I would like you to show the size of the skin cut.
2. I understand that this surgical technique is excellent in terms of cosmetics and safety, but is there anything new in this report? If there is originality, please indicate it.
3. I think endoscopic surgery using air-inflation system can cause subcutaneous emphysema, was it present in these cases? If there were, it should be indicated as a complication.
4. A comparison of the difference in operation time and complications of this technique compared to the conventional NSM technique without endoscope or NSM with endoscopic retractor would better demonstrate the strength of endoscopic NSM using the air-inflation system. Why don't you compare this technique with the conventional NSM technique performed at your institution?

Thanks very much for taking your time to review this manuscript. We were pleased to know that our work was rated as potentially acceptable for publication in Journal, subject to adequate revision. We thank the reviewers for the time and effort that they have put into reviewing of the manuscript. Their suggestions have enabled us to improve our work. In response to your question, I will respond from the following aspects.

**Comment 1:** 1. I think this is a less visible scar, but I would like you to show the size of the skin cut.

**Reply 1:** Thanks for your advice. In this study, a longitudinal incision was made at the outer edge of the pectoralis major muscle at the axillary crease. There is no incision on the breast, relatively hidden, beautiful. We will add pictures of surgical incision sizes in the article.

**Changes in the text:** We have modified our text as advised and added one supplementary figure 3. (see Page 7 line217-228)

**Comment 2:** I understand that this surgical technique is excellent in terms of cosmetics

and safety, but is there anything new in this report? If there is originality, please indicate it.

**Reply 2:** Thanks for your advice. The innovation points of this study are as follows: first, the operation adopts axillary incision, breast without incision, and the surgical incision is concealed and beautiful ; the second point is that the operation adopts the axillary incision, the incision tension is small, the prosthesis exposure is avoided, and the failure rate of breast prosthesis reconstruction is low. The third point, the use of endoscopic amplification, can obtain better surgical level and achieve less bleeding ; the fourth point, the use of endoscopic visualization, can accurately place and see the position of the prosthesis ; the fifth point, the implant prosthesis is placed behind the pectoralis major muscle, and the biplane is free, which can keep the breast better droop ; sixth, the use of the same incision, not only can complete the reconstruction of breast prosthesis, but also to meet the sentinel lymph node biopsy or axillary lymph node dissection.

**Changes in the text: We have modified our text as advised (see Page 10-11 line 360-371)**

**Comment 3:** I think endoscopic surgery using air-inflation system can cause subcutaneous emphysema, was it present in these cases? If there were, it should be indicated as a complication.

**Reply 3:** Thanks for your advice. There were no common complications of endoscopic surgery such as subcutaneous emphysema in this study, because before the operation, the center had completed a large number of total endoscopic radical thyroidectomy, and had rich experience in endoscopic operation. During the operation, we adjusted the flow rate to the maximum, and the pressure of carbon dioxide pneumoperitoneum was adjusted to 6-8mmHg. During the operation, the pressure can be well controlled, so as to effectively avoid subcutaneous emphysema. In addition, some of our cases also use the non-inflation method to further avoid the occurrence of subcutaneous emphysema complications through the assistance of axillary endoscopic retractor. There are few cases included in this study. In future studies, we will further expand the sample size, collect relevant data, and fully observe the complications.

**Changes in the text: We have modified our text as advised (see Page 5 line 185-186; Page 9-10, line 312-325, and supplementary table III )**

**Comment 4:** A comparison of the difference in operation time and complications of this technique compared to the conventional NSM technique without endoscope or NSM with endoscopic retractor would better demonstrate the strength of endoscopic NSM using the air-inflation system. Why don't you compare this technique with the conventional NSM technique performed at your institution?

**Reply 4:** Thanks for your advice. Our preliminary experience shows that there are differences in operation time and surgical complications compared with conventional non-endoscopic NSM technology or NSM technology with endoscopic retractor, but due to the small number of operations included in our center. In the future research, the sample size will be further expanded and compared to fully illustrate the advantages of

this technology.

**Changes in the text:** We have modified our text as advised (see Page10 line348-353)

## **Reviewer B**

The manuscript falls under the scope of journal; It is an interesting topic on single-port endoscopic-assisted retrograde breast cancer radical mastectomy and prosthetic reconstruction

The abstract is appropriate with the study.

The Introduction is appropriate.

Methods are linear.

The work is described expansively but the discussion should be improved.

The conclusions are supported by the data but should be better explained and presented in a more appropriate fashion.

Some additional references should be read and added in discussion:

Franceschini G, Visconti G, Garganese G, Barone-Adesi L, Di Leone A, Sanchez AM, Terribile D, Salgarello M, Masetti R. Nipple-sparing mastectomy combined with endoscopic immediate reconstruction via axillary incision for breast cancer: A preliminary experience of an innovative technique. *Breast J.* 2020 Feb;26(2):206-210. doi: 10.1111/tbj.13529. Epub 2019 Sep 9.

Visconti G, Franceschini G, Bianchi A, Barone-Adesi L, Garganese G, Masetti R, Salgarello M. Transaxillary Nipple-Sparing Mastectomy and Direct-to-Implant Breast Reconstruction Using a Simplified Endoscopic Approach: Indications, Cosmetic Outcomes and Technical Refinements. *Aesthetic Plast Surg.* 2020 Oct;44(5):1466-1475. doi: 10.1007/s00266-020-01792-1.

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Franceschini G, Visconti G, Garganese G, Barone-Adesi L, Di Leone A, Sanchez AM, Terribile D, Salgarello M, Masetti R. Nipple-sparing mastectomy combined with endoscopic immediate reconstruction via axillary incision for breast cancer: A preliminary experience of an innovative technique. *Breast J.* 2020 Feb;26(2):206-210. doi: 10.1111/tbj.13529. Epub 2019 Sep 9.

**Reply 1:** Thanks for your advice. Franceschini et al. showed that nipple-sparing

mastectomy (NSM) combined with endoscopic immediate reconstruction via axillary incision for breast cancer treatment seems to be a promising new procedure in cup A and B breasts alternative to the conventional techniques, as it allowed to have safe and pleasant aesthetic and oncologic outcomes. In this study, the sample size was further expanded, and the operation was completed by using a one-time multi-channel single-hole laparoscopic puncture device to reduce the manual hook assisted by the surgeon, and the nipple-areola-sparing subcutaneous gland resection and immediate prosthesis reconstruction were completed by using the reverse-sequence method

**Changes in the text: We have modified our text as advised (see Page10 line 341-348)**

**Comment 2:** Some additional references should be read and added in discussion: Visconti G, Franceschini G, Bianchi A, Barone-Adesi L, Garganese G, Masetti R, Salgarello M. Transaxillary Nipple-Sparing Mastectomy and Direct-to-Implant Breast Reconstruction Using a Simplified Endoscopic Approach: Indications, Cosmetic Outcomes and Technical Refinements. *Aesthetic Plast Surg.* 2020 Oct;44(5):1466-1475. doi: 10.1007/s00266-020-01792-1.

**Reply 2:** Thanks for your advice. Visconti et al experience suggests that non-endoscopic transaxillary NSM, node surgery and endoscopic direct-to-implant breast reconstruction is a valid, oncological safe, aesthetically sound scarless option in breast cancer patients with small to moderate breast size. The difference in this study is that NSM is completed under endoscopy and immediate breast prosthesis reconstruction is performed. Using the magnification of endoscopy, the surgical field is clearer and the surgical level is more accurate

**Changes in the text: We have modified our text as advised (see Page10 line 335-340)**