Peer Review File

Article information: https://dx.doi.org/10.21037/gs-24-148

Reviewer A

The authors report on the value of 3D surface imaging to aid in implant selection in patients undergoing unilateral mastectomy. The 3D imaging was found to be useful in patients with minimal ptosis and smaller breasts

2 points to consider:

1. the author did not (report) measuring the breath width-which is usually an important factor in selecting an implant. Was this totally ignored?

- Thank you for your valuable feedback.

We have included breast width in our statistical analysis to develop a predictive model, as shown in Table 5. The results indicate that adding contralateral breast width reduces the explanatory power of the predictive model and is not statistically significant (P=0.79). We have also mentioned this in the 'Result' and 'Discussion' section.

(see 'Result' section, Page 7, line 153-158) "When the contralateral breast width (medial mammary fold to lateral mammary fold distance, cm) measured by 3DSI was added to Model 3, the R^2 slightly decreased to 0.721. While the P-values for the other factors remained below 0.05, the P-value for contralateral breast width was 0.79. (**Table 5**). The linear relationships are represented as follows (Model 4). ***y***(Implant Volume) = ***β0***(constant) + ***β1***(the coefficient of Preop-Contra)***x1***(Preop-Contra) + ***β2***(the coefficient of Mastectomy volume)***x2*** + ***β3***(the coefficient of Contralateral breast width)***x3***+ ***β4***(the coefficient of BMI)***x4***"

(see 'Discussion' section, Page 8, line 191-195) "When breast width, a factor potentially influencing postoperative symmetry, was added to Table 5 and Model 4, the explanatory power slightly decreased compared to Table 4 and Model 3 without breast width. It was found that the P-value for breast width was 0.79, suggesting that it is not an important consideration in the statistical analysis model for predicting implant size in this study."

2. Some of the article is repetitive-and the article could be made more incisive by shortening it

-Thank you for your advice.

As you suggested, we have shortened the repetitive parts ('Introduction', 'Discussion' and 'Conclusion' section, red-colored texts) and rearranged some of the paragraphs of 'Discussion' section in logical order (Page 8-9, line 202-207).

Reviewer B

The article is interesting, the topic discussed is very interesting and topical, data collection and analysis have been adequately performed. But the manuscript can not be accepted because I think it is not the right Journal for this kind of paper.

This study adds nothing new to what is already known and has a small study sample.

- Thank you for your precious comment.

The research on predicting the appropriate breast implant size using a 3D surface imaging system (3DSI) before surgery is limited. As discussed, recent studies involving 56 and 59 patients, respectively, have presented models predicting implant size through linear regression analysis similar to the approach used in this study. However, these studies simply utilized breast volume or weight measurements obtained from 3DSI to predict implant size.

This retrospective study was conducted at a single institution, involving 97 patients who underwent unilateral mastectomy followed by direct-to-implant breast reconstruction from October 2021 to January 2023. In this study, multiple preoperative factors related to postoperative symmetry, such as breast width *(we have newly analyzed by adding additional factor. (see 'Result' section, Page 7, line 153-158) "When the contralateral breast width (medial mammary fold to lateral mammary fold distance, cm) measured by 3DSI was added to Model 3, the R^2 slightly decreased to 0.721. While the P-values for the other factors remained below 0.05, the P-value for contralateral breast width was 0.79. (**Table 5**). The linear relationships are represented as follows (Model 4).*

***y**(Implant Volume) = **β0**(constant) + **β1**(the coefficient of Preop-Contra)**x1**(Preop-Contra) + **β2**(the coefficient of Mastectomy volume)**x2** + **β3**(the coefficient of Contralateral breast width)**x3**+ **β4**(the coefficient of BMI)**x4**" and (see 'Discussion' section, Page 8, line 191-195) "When breast width, a factor potentially influencing postoperative symmetry, was added to Table 5 and Model 4, the explanatory power slightly decreased compared to Table 4 and Model 3 without breast width. It was found that the P-value for breast width was 0.79, suggesting that it is not an important consideration in the statistical analysis model for predicting implant size in this study.")*, BMI, mastectomy volume, and age, in addition to preoperative breast volume, were included in the predictive model. The sample size was larger than in previous studies, and the explanatory power of the statistical analysis was similarly high (0.723 vs 0.810).

Consequently, this study suggests that other institutions should also conduct research on their patient populations, using patient factors and additional measurements obtainable from 3DSI to develop their predictive statistical models. This could aid in explaining the surgery to patients preoperatively and assist plastic surgeons in planning the surgery.