Abstract #303

Is Beauty in the Eye of the Beholder?
Comparison of Patient Satisfaction using the BREAST-Q and Surgeon Rated Aesthetic Outcome in Autologous Breast Reconstruction

Tanya DeLyzer MD1,2, Xi Liu Msc PhD1,2, Shaghayegh Bagher MSc1,2, Brett Beber MD1,3, Anne C. O’Neill MD MSc PhD1,2,4, Stefan O. P. Hofer MD PhD1,2,4, Toni Zhong MD MHS1,2

1Division of Plastic & Reconstructive Surgery, Department of Surgery and Surgical Oncology, University Health Network, Toronto, ON, Canada; 2Division of Plastic & Reconstructive Surgery, University of Toronto, Toronto, ON, Canada; 3Division of Plastic & Reconstructive Surgery, Women’s College Hospital, Toronto, ON, Canada; 4Department of Surgery, University of Toronto, Toronto, ON, Canada

BACKGROUND

The majority of post-mastectomy breast reconstruction patients require more than one major operation for their breast reconstruction, and one in ten patients will require three or more. A common reason for these reoperations is breast mound revision related to aesthetic concerns. 1

The BREAST-Q is a validated patient reported outcome measure that assesses patient satisfaction and well-being following breast reconstruction. 2-4 Currently there are no studies on the relationship between patient reported BREAST-Q scores and surgeon-rated aesthetic outcome.

OBJECTIVES

To determine the reliability of a surgeon-rated ten-point aesthetic assessment scale and compare it with the “Satisfaction with Breast” subscale of the BREAST-Q following autologous breast reconstruction.

METHODS

• 45 breast reconstruction patients
  • randomly selected from our prospectively maintained database
  • free muscle-sparing TRAM or DIEP flap between 2009-2013 by a single surgeon
  • “Satisfaction with Breast” subscale of the BREAST-Q was completed by patients after a minimum of one-year follow-up
  • standardized pre and post-operative (min 6 months) photographs were evaluated by 3 independent breast reconstruction experts
  • ten-point aesthetic assessment scale was chosen based on a systematic review of professional aesthetic assessment scales which showed it to have the most rigorous measurement properties
  • surgeon-rated aesthetic assessment scale was evaluated for internal consistency using Cronbach alpha statistic; inter-rater agreement was calculated by weighted Kappa statistic

RESULTS

• mean BREAST-Q “Satisfaction with Breast” score was 67.13 of 100 (range, 22 to 100)
• surgeon-rated ten-point aesthetic assessment scale demonstrated high internal consistency (Cronbach α range, 0.87 to 0.96)

Table 1. Mean surgeon-rated ten-point aesthetic assessment scale scores (std dev)

<table>
<thead>
<tr>
<th>Surgeon Rater</th>
<th>Volume</th>
<th>Shape</th>
<th>Symmetry</th>
<th>Position</th>
<th>Scarring</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.44 (1.43)</td>
<td>6.38 (1.46)</td>
<td>6.02 (1.61)</td>
<td>6.22 (1.47)</td>
<td>6.47 (1.06)</td>
<td>6.40 (1.47)</td>
</tr>
<tr>
<td>2</td>
<td>6.71 (1.38)</td>
<td>7.33 (1.82)</td>
<td>7.05 (2.06)</td>
<td>7.89 (1.39)</td>
<td>7.47 (1.25)</td>
<td>7.11 (1.90)</td>
</tr>
<tr>
<td>3</td>
<td>7.71 (1.74)</td>
<td>7.76 (1.73)</td>
<td>6.89 (2.27)</td>
<td>7.64 (1.61)</td>
<td>6.80 (1.62)</td>
<td>7.11 (1.67)</td>
</tr>
<tr>
<td>Panel</td>
<td>7.62 (1.78)</td>
<td>7.16 (1.77)</td>
<td>6.65 (2.03)</td>
<td>7.25 (1.66)</td>
<td>6.92 (1.39)</td>
<td>6.87 (1.71)</td>
</tr>
</tbody>
</table>

Table 2. Inter-rater agreement by weighted Kappa between pairings of the surgeon raters on the ten-point aesthetic assessment scale (95% confidence interval)α

<table>
<thead>
<tr>
<th>Surgeon Rater</th>
<th>Volume</th>
<th>Shape</th>
<th>Symmetry</th>
<th>Position</th>
<th>Scarring</th>
<th>Overall Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>0.10</td>
<td>0.34</td>
<td>0.28</td>
<td>0.15</td>
<td>0.07</td>
<td>0.35</td>
</tr>
<tr>
<td>1 and 3</td>
<td>0.18</td>
<td>0.24</td>
<td>0.35</td>
<td>0.20</td>
<td>0.13</td>
<td>0.32</td>
</tr>
<tr>
<td>2 and 3</td>
<td>0.21</td>
<td>0.29</td>
<td>0.27</td>
<td>0.27</td>
<td>0.27</td>
<td>0.32</td>
</tr>
</tbody>
</table>

α Interpretation of Kappa: <0 less than chance, 0.01-0.20 slight, 0.21-0.40 fair, 0.41-0.60 moderate, 0.61-0.80 substantial, 0.81-0.99 almost perfect

CONCLUSIONS

The surgeon-rated ten-point aesthetic assessment scale showed high internal consistency as demonstrated by a high Cronbach alpha statistic, but only fair inter-rater agreement. However, despite the surgeon-rated ten-point scale being a reliable and consistent instrument for evaluating aesthetic outcomes from the surgeon’s perspective, it had only weak correlation to patient-reported satisfaction with their reconstructed breast as assessed by the validated BREAST-Q instrument.

Our results further emphasize that the surgeon’s aesthetic ideals and evaluation does not directly relate to the patient’s own aesthetic evaluation and personal level of satisfaction with their reconstructed breast. This is an important factor to be aware of when evaluating patients with regard to the need for revision surgery as the patient and surgeon may not always be in agreement.

REFERENCES