Revisiting Reduction Mammoplasty: Analysis of Complications after Oncoplastic Breast Reduction and Breast Reduction for Symptomatic Macromastia

Presenter: Kerry A. Morrison, MD

Co-Authors: Jordan D. Frey, MD, Hansjörg Wyss Department of Plastic Surgery, New York University Langone Health, New York, NY; Nolan S. Karp, MD, Hansjörg Wyss Department of Plastic Surgery, New York University Langone Health, New York, NY; Mihye Choi, MD, Hansjörg Wyss Department of Plastic Surgery, New York University Langone Health, New York

Affiliation: Hansjörg Wyss Department of Plastic Surgery, New York University Langone Health, New York, NY

BACKGROUND

Oncoplastic breast reduction has been shown to be an effective and safe approach to breast conservation surgery in women with macromastia. Mounting evidence exists for oncologic safety of this procedure with the added benefit of enhancing aesthetic outcomes. However, there remains a paucity of data investigating the comparative outcomes. Complications after oncoplastic reduction cannot be presumed to be the same as mammoplasty reduction for benign macromastia. This study seeks to delineate the complication profiles for oncoplastic and symmetrizing breast reductions versus mammoplasty for benign macromastia.

METHODS

A retrospective review was conducted of all consecutively performed reduction mammoplasty cases at a single large academic medical institution in a metropolitan city by two plastic surgeons over a two-year period from 2017 to 2019. All consecutive reduction mammoplasties, symmetrizing reductions, and oncoplastic reductions performed in the two-year time period were included. There were no exclusion criteria.

RESULTS

Six hundred thirty-two total breasts were analyzed: 502 reduction mammoplasties, 85 symmetrizing reductions, and 45 oncoplastic reductions in 342 patients. Mean age was 42.5±15.4 years, mean BMI 29.15±5.59, and mean reduction weight 610.03±313.13 grams. Mean follow-up time was 840.4±209.7 days. Regarding surgical technique, a medial pedicle was used in 86% of cases, and Wise pattern skin incision in 84%. In the oncoplastic reduction cohort, 53% of patients received post-operative radiation, and an additional 9% of patients declined adjuvant radiation therapy following oncoplastic reduction. There were similar post-operative complication outcomes for nipple necrosis, wound healing complications, scar revision, fat necrosis, seroma, hematoma, and overall complication rates for reduction mammoplasty, oncoplastic reduction, and symmetrizing reduction procedures. Of note, any wound healing by secondary intention treated with local wound care was included as a wound healing complication. However, the rate of post-operative revision among reduction mammoplasty (2%),

oncoplastic reduction (6.7%), and symmetrizing reduction (5.9%) was significantly different (p=0.027). In univariate analysis, diabetes (p=0.011), smoking (p=0.007), higher BMI (p=0.003), larger reduction weight (p=0.011), longer nipple-to-IMF measurement (p=0.014), and longer sternal notch-to-nipple measurement (p=0.039) were all significant risk factors for a surgical complication in reduction mammoplasty performed for any indication. Using a backwards elimination stepwise reduced multivariate logistic regression model for surgical complication outcome, diabetes (p=0.047), smoking (p=0.025), and higher BMI (p=0.002) were all retained as statistically significant risk factors. No significant differences were found in subgroup analysis between oncoplastic and symmetrizing reduction groups.

CONCLUSION

The complication profiles for both oncoplastic breast reductions and breast reductions for symptomatic macromastia are similar and acceptably low. This further supports the benefits and safety of the oncoplastic approach for breast conservation surgery in women with macromastia. Notably, women undergoing oncoplastic or symmetrizing breast reduction had higher post-operative revision surgery rates. In multivariate analysis, higher BMI, smoking, and diabetes increased the risk of complications. This can be utilized to counsel and stratify risk in patients pre-operatively.