

# Evaluating the feasibility of extended partial mastectomy and immediate reduction mammoplasty reconstruction as an alternative to mastectomy

Kimito Yamada, Norio Kohno

Department of Breast Oncology, Tokyo Medical University Hospital, Tokyo, Japan

Corresponding to: Kimito Yamada, MD. Department of Breast Oncology, Tokyo Medical University Hospital, 6-7-1 Nishi-Shinjuku, Shinjuku-ku, Tokyo 160-0023, Japan. Email: toya0@tokyo-med.ac.jp.



Submitted Sep 20, 2012. Accepted for publication Oct 26, 2012.

DOI: 10.3978/j.issn.2227-684X.2012.10.06

Scan to your mobile device or view this article at: <http://www.glandsurgery.org/article/view/1209/1641>

The surgical strategy for breast cancer has been drastically changed from “maximum tolerable treatment” in the 1970s to “minimum effective treatment” in the 2000s. The results of efficacy studies of breast conserving therapy (BCT) combined with radiotherapy as an alternative to mastectomy, introduced and presented by Veronesi *et al.* and Fisher *et al.*, brought about a sensational movement worldwide (1-4). This major shift was realized owing to the development and progression of systemic drug therapy, including chemotherapy, endocrine therapy and molecular targeting therapy. We now recognize that prognostic factors for breast cancer are determined by not only tumor size and nodal status, but also biological factors such as ER status, HER2 status, and Ki-67 index. This indicates that systemic therapy is more significant than local therapy for the prognosis of breast cancer patients.

Oncoplastic breast surgery requires both cure of the breast cancer and cosmesis (5-8). The need to obtain negative margins often results in severe defects that are disfiguring and which compromise not only the aesthetic outcome, but also the patients’ psychological well-being. In such circumstances, patients often select mastectomy, with or without reconstruction (9-11).

Song *et al.* reported the importance of stricter patient selection and improved confirmation of negative margins for minimizing the need for either re-excisions or completion mastectomy and reconstruction (12-18). The article by Chang *et al.* in the June 2012 issue of *Annals of Surgery* reported the efficacy of using concurrent partial mastectomy and reduction mammoplasty for the resection of a wide range of tumor sizes. They compared oncologic outcomes

and postoperative complications on the basis of tumor size. As their study background, they stated that although tumor size greater than 4 cm has been considered an indication for undergoing a mastectomy, this dictum may not apply in women with breast hypertrophy, where the ratio of tumor size to breast size may still permit breast conservation. They proposed the use of an approach combining extended partial mastectomy with simultaneous reconstruction using breast reduction techniques in large-breasted women as a means of improving aesthetic outcomes while still maintaining excellent oncologic and surgical outcomes.

In this study, 79 patients who underwent simultaneous partial mastectomy and bilateral reduction mammoplasty (comprising a total of 85 cases, including 2 cases of phyllodes tumor) between January 2000 and December 2009 were included. The median follow-up was 39 months (range, 10-130 months). The average patient age at the time of reduction mammoplasty was 53.6 years. Twenty-five of 85 tumors (29.4%) were larger than 4 cm. In 56 cases, the tumors were estrogen-receptor-positive, 44 tumors were progesterone-receptor-positive, and 17 tumors were HER2/neu-positive. Eleven patients had positive lymph nodes on sentinel node biopsy, all of whom subsequently underwent completion axillary node dissection. Seventy-five of 79 patients were treated with adjuvant radiation therapy and 49 patients received chemotherapy. All patients with hormone-receptor-positive invasive breast cancer received adjuvant endocrine therapy.

Only 2 patients had local recurrence during the follow-up period, one of whom had a tumor smaller than 4 cm and the other had a tumor larger than 4 cm, which was not

significantly different between groups ( $P=0.50$ ). Kaplan-Meier analysis demonstrated a 5-year local recurrence-free survival of 97.7%. The overall 5-year survival was 98.7% and the disease-free survival was 94.8%. The overall complication rate was 14.1% (12 cases), which included 4 major complications. All of the major complications occurred in the early postoperative period, prior to the start of adjuvant radiation therapy. Major complication rates were not significantly different between patients with tumors larger than 4 cm compared with those with smaller tumors ( $P=0.58$ ).

Their results suggested that the ratio of tumor size to breast tissue may be the more important determinant of BCT feasibility rather than tumor size. In addition, in the era of modern systemic therapy, the major issue significantly impacting overall outcomes and guiding treatment decisions is distant disease rather than local disease.

In this study, the data presented provided initial evidence to support the safety and efficacy of treating tumors, even those larger than 4 cm, with an extended partial mastectomy and reduction mammoplasty in large-breasted women.

In summary, attempts at salvage of a woman's breast in the surgical management of breast cancer can greatly impact a woman's self-image and overall health and well-being. This procedure can further improve aesthetic outcomes and patient satisfaction, providing a cosmetic way to resect a large amount of breast tissue, depending on breast size, breast shape, and tumor location.

## Acknowledgements

*Disclosure:* The authors declare no conflict of interest.

## References

1. Chang EI, Peled AW, Foster RD, et al. Evaluating the feasibility of extended partial mastectomy and immediate reduction mammoplasty reconstruction as an alternative to mastectomy. *Ann Surg* 2012;255:1151-7.
2. Chang EI, Ly DP, Wey PD. Comparison of aesthetic breast reconstruction after skin-sparing or conventional mastectomy in patients receiving preoperative radiation therapy. *Ann Plast Surg* 2007;59:78-81.
3. Veronesi U, Cascinelli N, Mariani L, et al. Twenty-year follow-up of a randomized study comparing breast-conserving surgery with radical mastectomy for early breast cancer. *N Engl J Med* 2002;347:1227-32.
4. Fisher B, Anderson S, Bryant J, et al. Twenty-year follow-up of a randomized trial comparing total mastectomy, lumpectomy, and lumpectomy plus irradiation for the treatment of invasive breast cancer. *N Engl J Med* 2002;347:1233-41.
5. Kijima Y, Yoshinaka H, Hirata M, et al. Oncoplastic surgery combining partial mastectomy with breast reconstruction using a free nipple-areola graft for ductal carcinoma in situ in a ptotic breast: report of a case. *Surg Today* 2011;41:390-5.
6. Berry MG, Fitoussi AD, Curnier A, et al. Oncoplastic breast surgery: a review and systematic approach. *J Plast Reconstr Aesthet Surg* 2010;63:1233-43.
7. Berry MG, Stanek JJ. The PIP mammary prosthesis: a product recall study. *J Plast Reconstr Aesthet Surg* 2012;65:697-704.
8. Clough KB, Lewis JS, Couturaud B, et al. Oncoplastic techniques allow extensive resections for breast-conserving therapy of breast carcinomas. *Ann Surg* 2003;237:26-34.
9. van Nes JG, van de Velde CJ. The preferred treatment for young women with breast cancer--mastectomy versus breast conservation. *Breast* 2006;15 Suppl 2:S3-10.
10. Grubnik A, Benn C, Edwards G. Therapeutic Mammoplasty for Breast Cancer: Oncological and Aesthetic Outcomes. *World J Surg* 2012. [Epub ahead of print].
11. Veronesi P, Lorenzi FD, Galimberti V, et al. Immediate breast reconstruction after mastectomy. *Breast* 2011;20 Suppl 3:S104-7.
12. Song HM, Styblo TM, Carlson GW, et al. The use of oncoplastic reduction techniques to reconstruct partial mastectomy defects in women with ductal carcinoma in situ. *Breast J* 2010;16:141-6.
13. Modena S, Benassuti C, Marchiori L, et al. Mastectomy and immediate breast reconstruction: oncological considerations and evaluation of two different methods relating to 88 cases. *Eur J Surg Oncol* 1995;21:36-41.
14. Asgeirsson KS, Rasheed T, McCulley SJ, et al. Oncological and cosmetic outcomes of oncoplastic breast conserving surgery. *Eur J Surg Oncol* 2005;31:817-23.
15. Lee MC, Rogers K, Griffith K, et al. Determinants of breast conservation rates: reasons for mastectomy at a comprehensive cancer center. *Breast J* 2009;15:34-40.
16. Holmes DR, Schooler W, Smith R. Oncoplastic approaches to breast conservation. *Int J Breast Cancer* 2011;2011:303879.
17. Morris AD, Morris RD, Wilson JE, et al. Breast-conserving therapy vs mastectomy in early-stage breast cancer: a meta-analysis of 10-year survival. *Cancer J Sci Am* 1997;3:6-12.

18. Krueger EA, Wilkins EG, Strawderman M, et al. Complications and patient satisfaction following expander/implant breast reconstruction with and without radiotherapy. *Int J Radiat Oncol Biol Phys* 2001;49:713-21.

**Cite this article as:** Yamada K, Kohno N. Evaluating the feasibility of extended partial mastectomy and immediate reduction mammoplasty reconstruction as an alternative to mastectomy. *Gland Surg* 2012;1(3):164-166. DOI: 10.3978/j.issn.2227-684X.2012.10.06