

Objective: To evaluate the surgical and oncologic results for skin-sparing mastectomy with immediate breast reconstruction.

Method: One hundred and sixty breast cancer patients treated by skin-sparing mastectomy and immediate breast reconstruction between January 2003 and December 2008 were evaluated independently by one author. Reconstructive techniques included tissue expander implants ($n = 82$), autologous latissimus dorsi flaps (ALD) ($n = 37$), latissimus dorsi flaps (LD) plus implants ($n = 36$), pedicled transverse rectus abdominis myocutaneous (TRAM) flaps ($n = 1$) and deep inferior epigastric artery perforator (DIEP) flaps ($n = 4$).

Results: Of the patients whose reconstruction included implants, 9 (7.6%) developed capsular contracture, and 7 patients (6%) had wound infection leading to the loss of implant in 6. Implant deflation with subsequent removal of implant complicated 2 cases. Two of the patients who had ALD flap reconstruction (5%) developed flap atrophy. Overall, the rate of complications leading to further surgery among patients whose reconstruction included implants was higher in patients who received radiotherapy following reconstruction ($P < 0.05$), while radiotherapy did not affect the complication rate in patients who had ALD flap reconstruction ($P > 0.05$). Seven patients developed local recurrence (4%) and 11 distant metastasis (6.8%). Median overall and disease free survival was 73 and 75 months respectively.

Conclusions: Skin-sparing mastectomy with immediate reconstruction can be used for breast cancer patients, with good surgical and oncologic results. Radiotherapy has an adverse effect on the implant reconstructed breast and this along with the option for delayed reconstruction should be discussed with the patient whenever the need for adjuvant radiotherapy is predicted.

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O-4 'CENTRAL OVERLAP' BREAST RECONSTRUCTION – A COSMETIC AND VERSATILE ANATOMICAL IMPLANT-BASED TECHNIQUE

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In women with sufficient breast height or ptosis, reconstruction after mastectomy that remodels the skin envelope can be advantageous. This has previously been described using a Wise pattern with dermal flap giving additional implant cover in the lower breast.

We have found it simpler to perform a skin-sparing mastectomy through a transverse incision above the areola. A horizontal ellipse at the upper edge of the lower skin flap of variable height is de-epithelialised, conserving or existing the nipple areola complex as appropriate. A 'low height' anatomical implant is selected to fit a width measured from anterior axillary line to inner breast margin. The edge of the lower de-epithelialised flap is sutured to the released lower border of pectoralis major over the implant. Skin is closed with the upper flap overlapping the de-epithelialised skin centrally.

Over 36 months, 65 of 105 mastectomies underwent reconstruction, mean age 59 years (range 28–70). Of 21 women under-

going single stage implant reconstruction, 15 had an overlap, 9 of whom underwent a simultaneous contralateral mammoplasty (3 delayed, 3 awaited). The implant then inserted was on average 221 g smaller than the excised breast weight (range 0–655). When compared to our expander reconstructions, a single procedure reduced average aggregate theatre time from 187 to 138 min and hospital stay from 4 to 3 nights, with associated better patient and surgeon satisfaction. Serious infection related complications were reduced from 25% to 14%.

The described technique provides a cosmetically attractive and effective method of breast reconstruction.

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O-5 EFFICACY OF BREAST-VOLUME DISPLACEMENT USING AN EXTENDED GLANDULAR FLAP AFTER BREAST CONSERVING SURGERY FOR JAPANESE WOMEN WITH SMALL BREAST

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Many Japanese women have small and densely glandular breasts. A dense glandular breast can be mobilized easily by advancing the breast tissue into the excision cavity without a risk of necrosis. On the other hand, clothing that shows the décolletage is not popular in Japan, so it is possible to use adipose tissue from the subclavicular area for breast remodeling. We call the mammary gland including fat in this subclavicular area, an extended glandular flap, and are using it for volume displacement for breast-conserving reconstruction in the upper portion of the breast. We report the usefulness of this flap.

Methods: The subjects consisted of 22 patients with breast cancer in the upper portion, who underwent remodeling using an extended glandular flap after excision of more than 20% of their breast volume. The surgery proceeded as follows: before the operation, the upper edge of the breast at the subclavicular area is drawn with the patient in the standing position. After breast excision, the extended glandular flap is made by undermining the breast from both the skin and the pectoralis fascia until the marking of subclavicular area. Afterwards, the remodeling of the breast is done using the flap.

Results: The cosmetic results at more than 1 year after the operation were found to be excellent in 22.7%, good in 54.5%, fair in 13.6%, and poor in 9%.

Conclusion: This surgical modality demonstrated good cosmetic results. We believe this surgical modality for small breasts to be both simple to perform and effective.

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O-6 ONCOLOGICAL, CLINICAL AND QUALITY OF LIFE OUTCOMES AFTER IMMEDIATE BREAST RECONSTRUCTION

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Introduction: Historically breast cancer surgery was associated with significant psychosocial morbidity and suboptimal cosmetic outcome. Recent emphasis on women's quality of life following breast cancer treatment has drawn attention to the importance of aesthetic outcome and the potential benefits of immediate breast reconstruction (IBR). Although breast conservation is the ideal, more radical surgery is still indicated for approximately one-third of patients. For these women, IBR could avert such morbidity and improve aesthetic results. Our aim was to assess oncological safety, morbidity and patient satisfaction after IBR.

Methods: A prospectively collected database of all breast cancer patients who underwent IBR at a tertiary referral breast unit was reviewed. Clinicopathological and operative data were obtained; patients were reviewed clinically, and administered two validated quality of life questionnaires following their treatment.

Results: Two hundred and fifty five patients underwent IBR following skin-sparing mastectomy over 61 months. Reconstruction with autologous ipsilateral latissimus dorsi flap was most commonly performed (88%). After median follow-up of 36 months, no patient had experienced local recurrence (0%), distant metastases developed in 4.8% and mortality was 2.2%. Post-operative morbidities included wound infection (11.9%), chronic pain (1.8%), prosthesis removal/replacement (9.3%; 42.8% of whom had radiotherapy) and fat necrosis (14.2%). Patient satisfaction was comparable to a group of age-matched women ($n = 160$) who underwent breast conserving surgery ($p = 0.89$).

Conclusions: IBR is a highly acceptable, desirable form of treatment for women requiring mastectomy. With its low associated morbidity, good oncological safety and high rates of patient satisfaction, IBR is an appropriate recommendation for all women requiring mastectomy.

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O-7 CELL-ASSISTED LIPOTRANSFER FOR BREAST RECONSTRUCTION AFTER BREAST CONSERVING THERAPY

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Background: Although breast conserving therapy (BCT) is the standard of care for early stage breast cancer, recent literature suggests that contour deformities, breast asymmetry, and poor esthetic outcomes are not uncommon.

Methods: We have performed transplantation of progenitor-enriched adipose tissue (Cell-assisted lipotransfer; CAL) for management of contour deformities after BCT. In CAL, autologous adipose-derived stem/stromal cells (ASCs) are used in combination with lipoinjection. Adipose tissue was harvested from the abdomen, upper hip or thigh. A stromal vascular fraction containing ASCs was freshly isolated from half of an aspirated fat sample and attached to the other half of aspirated fat sample. The graft material is injected into the subcutaneous layer and pectoralis muscles.

Results: Twenty-six patients underwent CAL. The volume of injected fat was from 180 to 250 ml. In some patients who have received radiotherapy, it seems to be a poor recipient bed for fat grafting because of fibrosis, atrophy or retraction in these areas. After performing single session, the panel judged contour

improvement to be good or very good in 13 patients, moderate in 10 patients and poor in 3 patients. The previously irradiated breast may require a multisession procedure for restoration of the breast volume.

Conclusions: Breast reconstruction with lipoinjection has several advantages such as lack of scarring in recipient and donor sites. CAL is useful and effective option for management of contour deformities after BCT.

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O-8 PATIENT REPORTED OUTCOME MEASURES ARE AN INTEGRAL PART OF CLINICAL OUTCOMES IN FUTURE TREATMENT RECOMMENDATIONS IN BREAST RECONSTRUCTION

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Introduction: Treatment recommendations in breast reconstruction should encompass the assessment of both clinical outcomes as well as patient reported outcomes (PROs) that include body image and satisfaction with cosmetic appearance.¹ The Body Image Scale (BIS) has been used to gauge the effects of mastectomy and breast reconstruction as well as study-specific questionnaires (SSQ) that assess patient satisfaction with aesthetic appearance.

Methods: In a prospective study of women undergoing types of Latissimus Dorsi (LD) breast reconstruction (\pm RT), the BIS and an aesthetic satisfaction SSQ were administered up to 5 years after surgery. Standardised 5 view photographs were taken and independently scored using a 5-point Likert scale comprising a panel of 3 HCPs. Spearman's correlation was used to test between PROs and HCPs scoring of back symmetry and scar, satisfaction with overall aesthetic appearance and overall outcome of the surgery.

Results: In 72 women (over 5 years) there was a significant correlation between the PROs and the HCPs reporting of aesthetic appearance ($p = 0.001$). The SSQ correlated significantly with BIS ($p < 0.001$) at all time points up to 5 years. However, there was no significant correlation between HCP assessments compared with other PROs and BIS.

Conclusions: HCPs assessments of breast reconstruction outcomes do not necessarily correlate with PROs and therefore cannot be used exclusively in treatment recommendations regarding the optimal types of breast reconstruction. The SSQ has been shown to correlate with BIS¹ and is of value in assessing PROs until the introduction of a validated breast reconstruction-specific questionnaire.

Reference:

1. A multicentre prospective longitudinal study establishing level II evidence of HRQL after types of immediate LD breast reconstruction. *Cancer Research* 2009;69(24):682s [abstr. no. 3106].

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