Almost all operated mutation carriers had chosen breast reconstruction.

Reconstruction techniques

	sin	dx
No reconstruction	3	4
Prosthesis	14	13
LD reconstruction	2	2
LD + prosthesis	7	5
TRAM	3	1
DIEP	2	3
SIEA	2	1
TMG	3	2
Total	36	31

LD = Latissimus dorsi, TRAM = Transverse rectus abdominis musculocutaneous, DIEP = Deep inferior epigastric perforator, SIEA = Superficial inferior epigastric artery, TMG = transverse musculocutaneous gracilis.

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Influence of factors affecting response to neoadjuvant chemotherapy in the design of the surgical approach to T2 and T3 breast tumours

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Background: The aim of this study was to assess the pathology factors that may influence response to neoadjuvant therapy, as in poor responders oncoplastic surgery followed by adjuvant chemotherapy seems a better alternative than neoadjuvant chemotherapy upfront to try to perform a conservative surgery.

Materials and Methods: We retrospectively reviewed our prospectively entered database of breast cancer patients since January 2008 to June 2009. T2 and T3 patients receiving neoadjuvant chemotherapy were selected. Tumours were divided depending on the results of the diagnostic corebiopsy pathology exam as follows: Her2Neu positive tumours (H2T), invasive lobular tumours (ILT), triple negative tumours (TNT) and positive hormone receptors tumours (PHRT). The response to chemotherapy was classified following the Miller and Payne classification (G1, G2 G3, G4 and G5) when examining the surgical specimen. Data on the number of mastectomies and conservative surgeries performed were collected. SPSS was used for statistical analysis and Chi2 used when necessary.

Results: 108 patients with T2 and T3 tumours were reviewed. Miller and Payne G4 and G5 (more than 90%estimated loss in tumour cells) was seen in 30% of H2T, in 6.3% of ILT, in 30.8% of TNT and in 13.6% of PHRT. This difference was statically significant comparing H2T and TNT together versus LIT and PHRT together (10/33 vs 9/75, Chi2 5.295, $p = 0.021$). This better response was reflected in the surgical procedures performed: for T2 tumours, mastectomy was performed in 0% of H2T, in 28.6% of ILT, in 10% TNT and in 44.4% of PHRT. This difference was significant (Chi2 8.175, $p = 0.043$). For T3 tumours, mastectomy was also more frequent for ILT and PHRT (62.5% and 53.1%) than for H2T and TNT (33.3% and 33.3%). This difference was not significant (Chi2 2.274, $p = 0.517$).

Conclusion: Starting with oncoplastic surgery followed by adjuvant chemotherapy seems a good option in LIT and PHRT, as the probability of failing to obtain a optimal response with neoadjuvant chemotherapy is higher than in H2T and TNT.

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Conception of choice the operation to breast cancer patients − Results of treatment 1199 patients

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Plastic approach in the choice of operation to breast cancer patients can extremely increase the cosmetic outcome.

The examination of the results of conserving and reconstructive treatment of 1199 patients was performed. 809 (67.5%) of them underwent quadrantectomy and nipple reposition, 118 (9.8%) − skin-sparing mastectomy with immediate breast implant reconstruction, 135 (11.3%) − mastectomy with the primary reconstruction with latissimus dorsi or TRAM flaps, 137 (11.4%) − quadrantectomy with mammary reduction and mastopexy.

After surgery without correction of contralateral breast at 132 (11%) a difference in the volumes of breasts did not exceed 15% and did not require correction, but at 683 (57%) there was the considerable difference of volumes, that resulted some difficulties in the selection of linen, setting of external implants. Because of a considerable difference in volumes in a 384 (32%) cases surgery was executed on both breasts (augmentation or reduction, mastopexy).

The aesthetic results of bilateral operations were compared to such at one-sided by subjective estimation of patients. 375 (98%) patients after bilateral surgery and 513 (63%) after one-sided one, marked the aesthetic effect of operation, as good and very good. The quantity of complications in both groups did not differ.

Thus, implementation of correcting operations on contralateral breast allows attaining symmetry of them does not accompanied by the increase of quantity of postoperative complications and improves the psycho-emotional state and quality of life on the whole.

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Axillary dissection using a new ultrasonic device

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Introduction: Axillary Seroma is the most frequent complication of axillary lymph-nodes dissection. The aim of this study is to estimate the effectiveness of the new ultrasonic device "Harmonic Focus" in the reduction of seroma after axillary dissection and in the second place to estimate the reduction of surgery and of the haematic loss using this device.

Materials and Methods: Since March 2008 to March 2009 we enrolled in our study 150 patients with breast cancer requiring an axillary dissection (positive Lymph-nodes at the beginning or after sentinel-node biopsy). We randomized the patients in two arms (A and B). A: 80 axillary dissection using Harmonic Focus; B: 70 axillary dissection using usual technique.

We recorded the following data of the patients enrolled: age weight, height BMI, pre and post operative value of hemoglobin.

A closed suction drain was placed; it was removed in the second or in the third postoperative day. Drain volume was daily recorded.

Results: The median age of the sample was 56 (range 33−89). The BMI calculated was 20.06 (range 19.53–42.97). We had 6/80 (7.5%) seroma in the A group and 7/70 (10%) in the B group. Clinical seroma was treated by needle aspiration and medication with steroid. We recorded reduction of bleeding and of time of surgery in the A group. We calculated the difference of value of pre and post operative Hemoglobin (Pre–post op ΔHB) and time of surgery in a subgroup of patients who underwent axillary dissection without breast reconstruction. We obtained the following data:
A arm (38 pt): 1,16251 Pre–post op ΔHB; 57′ (58−80) time of surgery.
B arm (44 pt): 1,6475 Pre–post op ΔHB; 70′ (55–116) time of surgery.

Conclusions: The results are encouraging. This new ultrasonic device is ergonomic, comfortable. It allows to dissect, coagulate, cut and it reduces damage of vital structures. It's very useful and safe in patients with pacemaker where electrosurgery cannot be used.

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Oncologic safety and QoL of immediate latissimus dorsi myocutanous flap

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Background: To determine the quality of life (QoL) of breast cancer patients who underwent mastectomy and immediate breast reconstruction with a latissimus dorsi myocutaneous flap (LD), and the oncologic safety of the procedure.

Methods: Between May 2001 and March 2007, 2566 patients had breast cancer surgery at the National Cancer Center, Korea. Of the 2566 patients, 1699 had breast-conserving surgery (BCS) and 120 had a mastectomy with an immediate LD. We retrospectively compared the oncologic safety of the two techniques. We also assessed the QoL using the EORTC QLQ BR-23 and Zung's self-rating depression scale in 52 LD patients, 104 age- and stage-matched patients who underwent BCS, and 104 age-matched healthy women.

Results: The LD group had earlier stage disease than the BCS group at baseline, but following surgery, the groups did not differ in the rates of local recurrence or systemic metastases. Compared with the healthy group, the

patient groups had poorer functioning and more depression ($P < 0.001$). Among the patient groups, the LD group reported lower scores for body image ($P = 0.007$) and future perspective ($P = 0.023$) than the BCS group. In the LD group, patients who received neoadjuvant chemotherapy reported lower scores for future perspective and higher scores for depression than those who did not receive neoadjuvant chemotherapy ($P < 0.001$).

Conclusion: The BCS and LD groups did not differ in oncologic outcome, and the QoL of patients in the LD group was not always good. Mastectomy with immediate reconstruction should be considered carefully and tailored to the patient's needs and characteristics.

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Skin reducing mastectomy

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Background: we propose an alternative technique to reconstruct large and medium sized ptotic breasts in a single stage procedure using anatomical permanent implants and a dermal-muscle pocket.

Material and Methods: we enrolled 60 patients fulfilling the oncological criteria for skin-sparing mastectomy and presenting with large or medium size breasts whose areola-to-inframmary fold distance was more than 8 cm and notch-to-areola distance was more than 25 cm. All operations were performed as a single-stage procedure. After a careful preoperative assessment, conventional incisions for breast reduction (wise pattern) were used with the preservation of an inferior dermal flap. Subsequently this was sutured to the inferomedial fibers of the pectoralis major muscle to create a dermo-muscular pocket. An anatomical prosthesis was then allocated into the pouch, that was closed laterally with the serratus anterior fascia. Skin flaps were finally closed down to the inframmary fold.

Results: a total of 71 procedures were performed on 60 patients. The medium size of the anatomical implants employed was 444.3 cc. A contra-lateral procedure was carried out on 37 patients. In 83.7% of them a reduction of the contralateral breast was performed. At a median follow-up of 35 months, the implant removal rate was 16.9%. The overall complication rate was 22.5% (infection-skin necrosis). When the procedure was accomplished in smokers a higher, although not statistically significant, complication rate was demonstrated (27.2% smokers vs. 22.7% non smokers).

Conclusion: The results of this study confirm our previous reports about implant based breast reconstruction. All breast, irrespectively of mammary shape and size, can be reconstructed with medium size implants and, if required, contralateral adjustments. A one stage procedure could also allow immediate radiotherapy on permanent prosthesis if post-operatively required. The overall complication rate is in keeping with data on inverted T mastectomies reported in literature. Improvement in this field could be obtained with more restricted inclusion criteria. It is advisable to avoid this procedure in smokers or women with skin of poor quality. Alternatively a temporary expander in the first stage of a two stage procedure may avoid tension and sufferings of the dermal flap at the T junction.

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A prospective observational study on the oncological outcome and patient satisfaction with skin sparing mastectomy and immediate breast reconstruction

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Introduction and Background: The management of early breast cancer (BC) with skin-sparing mastectomy (SSM) and immediate breast reconstruction (IBR) is not based on level-1 evidence. In this study, the oncological outcome, post-operative morbidity and patients' satisfaction with SSM and IBR using the latissimus dorsi (LD) myocutaneous flap and/or breast prosthesis is evaluated.

Methods: 137 SSMs with IBR (10 bilateral) were undertaken in 127 consecutive women, using the LD flap plus implant (n = 86) or implant alone (n = 51), for early BC (n = 130) or prophylaxis (n = 7). Nipple reconstruction was performed in 69 patients, using the trefoil local flap technique (n = 61), nipple sharing (n = 6), skin graft (n = 1) and Monocryl mesh (n = 1). Thirty patients underwent contra-lateral procedures to enhance symmetry, including 19 augmentations and 11 mastopexy/reduction mammoplasties. A linear visual analogue scale was used to assess patient satisfaction with surgical outcome, ranging from 0 (not satisfied) to 10 (most satisfied).

Results: After a median follow-up of 36 months (range = 6–101 months) there were no local recurrences. Overall breast cancer specific survival was 99.2%, 8 patients developed distant disease and 1 died of metastatic BC. There were no cases of partial or total LD flap loss. Morbidities included infection, requiring implant removal in 2 patients and 1 patient developed marginal ischaemia of the skin envelope. Chemotherapy was delayed in 1 patient due to infection. Significant capsule formation, requiring capsulotomy, was observed in 87% of patients who had either post-mastectomy radiotherapy (PMR) or prior radiotherapy (RT) compared with 13% for those who had not received RT. The outcome questionnaire was completed by 82 (64.6%) of 127 patients with a median satisfaction score of 9 (range = 5−10).

Conclusion: SSM with IBR is associated with low morbidity, high levels of patient satisfaction and is oncologically safe for T(is), T1and T2 tumours without extensive skin involvement.

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Extended indications for skin conservation of the nipple areola complex during subcutaneous mastectomy

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Background: Conventional breast cancer surgery in case of a non breast conserving procedure still includes the routine excision of the nipple areolar complex (NAC) optional followed by nipple reconstruction. Numerous authors consider multiple predictive factors to decide whether the Nipple Areola Complex (NAC) can be conserved or not during mastectomy. These are: tumour-nipple distance, tumour size, axillary lymph-node status and lymph vascular invasion. Thus only a very limited percentage of patients can keep their NAC.

If the breast gland tissue and all galactophoric ducts can be separated completely from the NAC during subcutaneous mastectomy (SCM), conservation of the NAC is feasible even in large, central and retroareola tumours.

Patients and Methods: (www.clinicaltrials.com ID: NCT00641628) From July 2003 to Mai 2006, we performed 109 SCMs on 96 patients. 94 of these breasts showed indications for modified radical mastectomy (MRM) or ablatio simplex. 78 due to invasive carcinoma (MRM indication) and 16 of them had extensive ductal carcinoma in situ (DCIS), (indication for simple ablation). At least 33 of the breasts had malignancy underneath the skin within the areola margin (central located tumours). After dissection of the complete mammary gland tissue, the skin envelope with the areola is folded inside out an all galactophoric ducts and any subjacent tissue on the areola base are precisely dissected under the surgeons' visual control. Of this skin-closest retroareola tissue, frozen sections and HE-histopathologic examinations are requested to decide whether the NAC can be preserved or not.

Results: We found the Need to dissect the NAC in 13 of 109 breasts (12%), altering the procedure to a skin sparing mastectomy (SSM). Necrosis of the NAC which had to be subjected to surgical intervention occurred in only one of the conserved 96. After a follow-up of 20−54, median 34 months no recurrence within the NAC was observed. One local recurrence on the thoracic wall and one axillary recurrence were detected. 2 of 96 patients developed distant metastases. One death was recorded. Occasionally, partial necrosis of the nipple occurred, leaving a depigmentation of the skin but maintaining a good or excellent cosmetic result in most cases. Necrosis of the NAC which had to be subjected to surgical intervention occurred in only one patient.

Conclusion: SCM, including NAC conservation, may be performed according to MRM indications if an intraoperatively frozen section (and the corresponding HE-histopathology) of the NAC closest tissue is free of tumour. The remaining contraindications for SCM are: extensive tumour involvement of the skin, inflammatory breast cancer and clinical suspicious nipple.

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Criteria of oncoplastic approach of local advanced breast cancer after neoadjuvant chemotherapy

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Introduction and Background: It is considered that the neoadjuvant chemotherapy (NC) offers several advantages in the treatment of local advanced breast carcinoma (LABC), especially as the possibility of conservative surgical treatment. Yet the literature is scarce and controversial and this study seeks to clarify criteria that indicate an oncoplastic treatment after neoadjuvant therapy.