supraclavicular area). Conservative surgery was considered only when the following criteria were met: limited disease size after PSC, no edema, erythema or extensive direct skin infiltration, expected good cosmesis, patient request. Full axillary dissection was performed in all patients.

Results: Main pretreatment characteristics, response to PSC and absence of invasive breast cancer in the breast (pCR) are reported in the table according to the surgical procedure (radical mastectomy or RM vs BCS).

	Total	RM	BCS
No. of patients	471	408	63 (13%)
% cli	12	13	5
% T4d	24	28	6
% T size >5 cm	57	63	22
% ORR	79	78	82
% pCR	3	3	1.5
% pN0	26	24	36

After a median follow-up of 58 months (1–205) local-regional recurrences were documented in a similar percentage of patients, regardless of the type of surgery adopted (local recurrence: RM 5% vs BCS 6%; regional $\pm$ local recurrence: RM 5% vs BCS 5%), while distant metastases were the first site of disease relapse in 36% of patients after RM and in 22% after BCS.

Conclusions: The analysis suggests that in selected patients with LABC treated with PSC, breast conserving surgery plus radiotherapy is feasible, safe and is not exposing patients to a sub-optimal local-regional control. Administered drug therapy, selection criteria and factors predicting the feasibility of BCS will be presented in detail.

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Should we follow western guidelines for axillary clearance in breast cancer in developing countries?

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Introduction: The standard guidelines recommend level I and II clearance for operable breast cancer. A majority of patients (more than 65%) treated in the west are node negative. In developing countries, we see larger tumours in operable breast cancers, with a possibility of leaving behind disease in level III, if these recommended guidelines are adhered to.

Methods: We retrospectively evaluated 1175 operable breast cancer patients in the period 2003–2005. The level III axillary nodes were dissected separately during axillary clearance. All operable breast cancer patients who underwent breast conservation surgery and mastectomy, including those who received neoadjuvant chemotherapy, were included in the study. We correlated level III nodal metastasis with the tumor quadrant, tumor size, metastasis in level I and II nodes in the axilla, tumor type, tumor grade and presence of lymphovascular emboli.

Results: The median tumour size was 3 cm and the median number of nodes positive for metastasis was three. Overall, 9.4% of the patients with operable breast cancer had metastasis in the level III axillary lymph nodes. There was a proportional correlation of level III node positivity to number of positive LN in level I and II – node negative had 0.2% skip metastasis in level III; 1−3 positive nodes in level I & II had 4.3% level III node positive rate; 4−9 positive nodes had 32% level III metastasis, and >9 nodes positive had 61% level III nodal metastasis. Incidence of metastasis was similar in tumors from inner and outer quadrants. Level III node metastasis was significantly higher in patients with larger tumours.

Conclusions: We believe leaving behind disease in the axillary apex in nearly 1 in 3 patients is unlikely to satisfy the curative intent of surgery in early breast cancer.

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Merits and demerits of parasternal lymph nodes dissection

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Introduction: Based on the results of a randomized controlled study, Milan trial conducted by Veronesi et al., the role of parasternal node (PS) dissection has been considered questionable. However, PS metastasis and recurrence are occasionally encountered and are believed to have a poor prognosis. In our department, PS dissection was actively performed until 2000 in patients with breast cancer measuring $\geqslant$3 cm and located medially (or bilateral disease). We report the merits and demerits of PS dissection.

Subjects and Methods: The subjects were 171 patients with breast cancer who underwent PS dissection before December 2000. Patients who had PS metastases were reviewed, and the outcome was compared with that in patients without metastases.

Results: Of the 171 patients, 33 (19.3%) were PS-positive. They were aged from 39 to 80 years (mean: 56.7 years) and consisted of 31 patients with Invasive ductal carcinoma, 1 with Mucinous carcinoma, and one with Medullary carcinoma histologically. Seven patients had PS metastases alone (no axillary node involvement). Of the 171 patients undergoing PS dissection, 96 had nodal metastases, comprising 28 PS-positive patients (group A) and 68 PS-negative patients (group B). In group A, 13 patients suffered from recurrence and 15 patients did not. In group B, 16 patients had recurrence and 52 did not. Thus, recurrence was significantly more common in patients who had PS involvement than in those without it.

Conclusion: Although the effect of PS dissection was unclear, the presence or absence of PS metastasis seems to be an important prognostic factor.

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Have young women undergone excessive radical surgery without improving survival?

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Introduction: Two percent of all breast cancer appear in young women. In women 35 and under, the diagnostic role of mammograms is debatable. It is also unclear of the necessity of performing mastectomy and that if the overall prognosis worsens. Hormone therapy and ovarian ablation must be considered important therapeutic tools.

The goal of this study was to evaluate the result and survival of the therapeutic strategy in these patients diagnosed and treated for breast cancer in our hospital with a 5 year minimum follow-up and to identify which treatment is the most suitable.

Methods: A retrospective study was carried out on 71 women 35 years old and younger diagnosed with breast cancer in our hospital between 1983–2000. Statistic analysis was carried out with SPSS 13. A survival study was designed with Kaplan–Meier method.

Results: Conservative surgery was performed on approximately half of the patients.

Mastectomized patients presented a significantly higher number of locoregional relapses than conservative surgery ($p = 0.031$). Global survival was similar in patients who underwent conservative and radical surgery. Adjuvant treatment with chemotherapy ($p = 0.61$) did not influence the number of locoregional relapses, but it did influence in distant metastasis. In the group who underwent chemotherapy, a smaller proportion of disease free patients were seen in a 5 year follow-up (44.7% vs 78.3%) ($p = 0.077$). Global survival was similar in both groups.

After having performed a multivariate analysis (ANOVA) considering the tumour size as a confounding factor, it is observed that neither the type of surgery or undergoing chemotherapy influence the prognosis.

Radiotherapy did not influence the global survival rate nor did it influence disease free survival. Patients who were prescribed adjuvant hormone therapy presented a significantly higher number of relapses ($p = 0.011$).

Conclusions: In univariate analysis, patients who underwent mastectomy and those who received chemotherapy experimented the highest number of locoregional relapses and distant metastasis.

With ANOVA the tumour size was the confounding factor and it was shown that neither the type of surgery or chemotherapy influenced in the prognosis.

The 5 year survival of patients who underwent hormone therapy was less favourable. More than 50% patients lived more than 15 years after treatment.

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Subcutaneous mastectomy including conservation of the nipple areolar complex: broadening the indications

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Background: Numerous authors consider multiple predictive factors to decide whether the nipple areola complex (NAC) can be preserved or not during mastectomy. These are: tumor-nipple distance, tumor size, axillary lymph-node status and lymphovascular invasion. Thus, only a very limited

percentage of patients can keep their NAC. If the breast tissue and all galactophoric ducts can be seperated completely from the NAC during subcutaneous mastectomy (SCM), conservation of the NAC is feasible even in large, central and retroareolar tumors. The only condition is that the skin is not infested by malignancy.

Material and Methods: From July 2003 to April 2006, we performed 109 SCMs on 96 patients. 96 of these breasts showed indications for modified radical mastectomy (MRM) or ablatio simplex. 78 due to invasive carcinoma (MRM indication) and 16 of whom had extensive DCIS (indication for simple ablation). At least 33 of the breasts had malignancy within the areola margin. After dissection of the complete mammary gland tissue, the skin envelope with the areola is folded inside out and all galactophoric ducts and any subjacent tissue on the areolar base are precisely dissected under the surgeons' visual control. Of this 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 resect the NAC in 13 (12%) of 109 breasts, altering the procedure to a skin sparing mastectomy (SSM). After a follow-up of 20−54 (median 34) months no recurrence within the NAC was observed. One local recurrence was detected on the thoracic wall and 2 of 96 patients developed distant metastases. One death was recorded. Occasionally, partial necrosis of the nipple occured, 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 tumor. The remaining contraindications for SCM are: extensive tumor involvement of the skin, inflamatory breast cancer, and clinical suspicious nipple. The suggested technique of SCM could supersede MRM and ablatio simplex. Thus, it helps to decrease mutilation in patients especially with large and/or central tumors.

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Results of breast conserving treatment including perioperative HDR brachytherapy boost or including HDR boost following full teleradiotherapy regimen

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Aim: The comparison of early breast cancer treatment results in patients receiving HDR brachytherapy boost perioperatively or receiving the boost after full course of external radiotherapy.

Material and Methods: Between January 1998 and May 2003, 40 breast cancer patients received intraoperative Ir 192 HDR brachytherapy as part of their breast conserving treatment. The second group of 75 women received brachytherapy boost after completing full teleradiotherapy regimen. No statistically significant difference in age, tumor size or pTNM was observed between these groups. All patients had tumorectomy and axillary lymph node dissection performed. In the first group, brachytherapy catheters were implanted during the operation and HDR boost was performed immediately. Later these patients received full course of teleradiotherapy to the entire breast via tangential fields to a total dose of 4250 cGy (250 cGy per fraction) or 5000 cGy (200 cGy per fraction). In the second group the boost was performed after the teleradiotherapy (using the same regimen). The dose of boost was 10 Gy in 1 fraction in both groups.

Results: The median follow-up was 115 months. No local recurrence was observed in the first group. Three patients of the second group (receiving the boost after teleradiotherapy) developed local recurrences and had simple mastectomy. Distant metastases were observed in 3 cases in the first group and in 6 cases in the second one. Five patients died: 2 in the first group (the cause of 1 death was uterus cancer) and 3 in the second (1 patient died in a car accident). No data is available in 5 cases. The volume of irradiated tissue during HDR boost was different between two groups ($p < 0.001$). The cosmetic effect, as measured by 4-point scale, was satisfactory and comparable in both groups.

Conclusions: The perioperative HDR brachytherapy boost is a safe procedure. The overall survival and cosmetic outcome in both groups is similar.

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Double vascular anastomosis in DIEP free flap reduces morbidity in breast reconstruction – A prospective study about 173 patients

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Objective: In order to evaluate, in our experience, the morbidity of the abdominal skin and fat microsurgical free flap (DIEP), using a double vascular anastomosis, arterial and venous.

Patients and Methods: DIEP was used for 173 consecutive breast reconstructions (BR). One hundred fifty patients (86.7%) had an immediate breast reconstruction (IBR) and twenty three patients (13.3%) a delayed breast recontruction (DBR). In 167 (96.5%) cases BR was unilateral and in 6 cases bilateral (3.5%).

The mean age at time of surgery was 52 years (youngest 28 ans, oldiest 72 ans). One patient out of three had a BMI > 25. Among 26 patients, a primary chemotherapy was done, followed by a skin sparing mastectomy with IBR. For microsurgical vascular anastomis, we used an artery and vein duplication on internal mammary or thoraco dorsal pedicles.

Results: Immediate morbidity was: 9 re-anastomosis (5.2%), 8 flap necrosis (4.6%) and 5 total necrosis (2.9%), 6 hematomas (3.6%). Secondary morbidity was: 3 abdominal donor site necrosis (1.7%) and 2 eventrations (1.1%), 6 hernias (4.8%). The average hospital stay was 9 days.

Conclusion: DIEP free flap and twice vascular anastomosis can be performed with an acceptable complication rate in multidisciplinary team who realise frequently microsurgical breast reconstruction procedure, after primary chemotherapy as well. Delayed breast reconstruction procedure in our experience must be reconsidered.

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A comprehensive approach to measure cosmetic and functional results of breast conserving therapy – design and first results of a pilot study

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Background and Aim: Cosmetic and functional outcomes as important influencing variables of quality of life can be measured subjectively (qualitatively) and objectively (quantitatively). There is no generally accepted way to study and report these outcome variables. Therefore, in our study we assess different approaches to measure cosmetic and functional results.

Material and Methods: Eligible for participation in the study are patients who are scheduled for breast conserving surgery of primary, one-sided breast cancer. In respect to the above described subjective and objective aspects regarding cosmetic and functional outcome of breast conserving therapy we apply three different study instruments: 1. Patient questionnaires: We use the EORTC QLQ C 30-BR 23, a generally accepted tool to measure quality of life in breast cancer patients. Further, we introduce a German version of BCTOS (Breast Cancer Treatment Outcome Scale) which is specifically developed to assess cosmetic and functional variables after breast conserving therapy. 2. BCCT.core (breast cancer conservative treatment cosmetic results) software to analyze standardized photographs. It measures all well-known indices correlated with the overall aesthetical result. 3. Clinical examination: We measure both differences in arm circumference and the range of motion of the shoulder. Every patient will be assessed using all three methods at different times: Pre- and postoperatively, before and after radiation and at long term follow-up visits.

Results: Since 01 September 2007 (until 15 January 2008), 109 patients entered our department who met the inclusion criteria (primary, one-sided breast cancer, planned to get breast conserving surgery). Out of those we included 103 patients into the study. 91 patients completed the surgical part of the procedure. So far, there are 15 patients who had to undergo a second or third operation. To summarize: we included 95% of screened patients; during the first part of the study, i. e. pre- and postoperative visits, there is only a drop out rate of 4%. Regarding the second part of the study, i. e. the visits before and after radiation, there is no conclusion yet to be drawn du to the short enrolment of the study.

Conclusions: These first results underline that it is possible to evaluate different aspects and instruments of cosmetic and functional outcome in a prospective setting.