

recurrence. A score of 1 (best) to 3 (worst) was given for each of 3 predictors (tumor size, margin status, and pathologic classification). The scores were totaled to give an overall score ranging from 3 to 9.333 patients with DCIS treated with breast conservation therapy (BCT) seen from 1972–July 1995, were analysed; 195 of these patients were treated with excision only and 138 were treated with excision plus radiation therapy (RT). There was no statistical difference in the 8-yr. disease-free survival (DFS) in patients with a score of 3 or 4 regardless of whether or not they received RT (100% vs 97%). Patients with scores of 5, 6, or 7 received a statistically significant 17% DFS benefit when treated with RT (85% vs 68%) ( $p = 0.02$ ). Patients with scores of 8 or 9, although showing the greatest relative benefit from RT (33% vs 0%), experienced local recurrence rates in excess of 60% at 6 years. Patients with DCIS and a PI score of 3 or 4 can be considered for treatment with excision only. Patients with intermediate scores (5, 6, or 7) benefit from RT if their breast is to be preserved. Patients with PI scores of 8 or 9 exhibit unacceptably high local recurrence rates and should be treated with mastectomy.

### PP-2-3 Risk Factors and their Importance in Complications after Breast Surgery

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**Purpose:** To identify risk factors for postoperative complications after breast surgery.

**Methods:** From June 1994 to November 1995 187 patients underwent breast surgery for cancer. Forty three patients had mastectomy, 97 mastectomy with axillary dissection and 47 lumpectomy with axillary dissection. Age, bodymass index, alcohol and tobacco consumption, operative technique, duration of the operation, area of the wound surface and charge of the surgeon were recorded. Postoperative endpoints, i.e. seroma, number of seroma punctures required, hematoma/or rebleeding, infections, epidermolysis or skin necrosis were recorded. Statistical tests were multiple logistic regression analysis. Level of significance: 5%.

**Results:** Formation of seromas was significantly associated with increasing age ( $p < 0.05$ ) and total drainage volume ( $p < 0.05$ ). Haematomas were significantly associated with use of electrocautery rather than scalpel and/or scissors ( $p < 0.05$ ). Infections were significantly associated with tobacco consumption ( $p < 0.05$ ), low charge of the surgeon ( $p < 0.05$ ) and the number of drainage days ( $p < 0.01$ ). Epidermolysis was significantly associated with perioperative blood loss ( $p < 0.05$ ) and intake of NSAID ( $p < 0.05$ ). Skin necrosis was significantly associated with tobacco consumption ( $p < 0.05$ ) and the presence of hematoma/or rebleeding ( $p < 0.05$ ).

**Conclusions:** It is possible to identify risk factors related to breast cancer surgery, especially surgical technique and tobacco consumption.

### PP-2-4 Diagnosis of Intramammary Recurrences of Breast Cancer after Conservative Treatment

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The prognosis of promptly treated recurrences in the conserved breast is excellent and thus every effort should be performed to achieve early detection of such events. The Authors describe the results of different diagnostic tests on a consecutive series of 143 intramammary relapses observed after conservative treatment, 1984 to 1994. Disease free interval after surgery was 3.7 years on the average (3.9 for patients receiving radiotherapy vs. 3.1 without). The patients have been followed-up on a regularly basis: clinical examination every 4 months in the first 2 years and every 6 months after, mammography annually; employing US and cytology only in cases of suspicious lesions. Clinical test, mammography, cytology and US suspected the recurrence in 75%, 64%, 81% and 77% of the cases, respectively. Mammographic false negatives were likely to be ascribed to the masking effect of surgical scars and distortion. Most failures at cytology were caused by inadequate sampling: when sampling was adequate, cytology exhibited the highest sensitivity (97%). In all, combined palpation + mammography, palpation + cytology, and palpation + mammography + cytology, diagnosed correctly 97%, 98%, and 100% of cases, respectively. Palpation should be always combined with mammography in the follow-up of the conserved breast, but US and aspiration cytology should be performed in case of every clinico-radiologic abnormality carrying even a minimal risk of recurrence.

### PP-2-5 Immediate Breast Reconstruction after Mastectomy for Cancer

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Mastectomy (ME) with immediate breast reconstruction (IBR) has become an accepted procedure in the treatment of breast cancer. Between 1980 and 1994 79 IBR:s were performed in Malmö. Median age at operation was 50 years. Since 1985 IBR has been performed in 20% of mastectomies among patients  $\leq 65$  years. Median follow-up was 43 months. Oncological, surgical and cosmetic results and a patient questionnaire were evaluated.

18 patients had pure in situ carcinoma, 35 patients TNM stage I carcinomas and 15 TNM stage II, 9 of which were N+. The mamilla was removed in 67/79 patients. The most common indication for ME with IBR was extensive in situ carcinoma  $\pm$  multifocal invasive growth. 4 patients developed loco-regional recurrence. In 61 cases permanent implants were used and in 18 expanders. Median volume of the permanent implants was 225 ml compared with 380 ml in cases where expanders were used. 24% of the patients had postoperative complications such as hematoma (4 cases), infection (3 cases) and necrosis (4 cases). After introduction of the expander technique no necrosis requiring explantation has occurred. 85% of the patients with necrosis were smokers compared with 47% of the patients in the total material. 71% of the patients receiving radiotherapy (RT) developed capsular contracture. 63% of the patients had a satisfying or very satisfying cosmetic result. 8% were judged to have a Baker III-IV contracture. 74% were judged as soft compared to that 85% of the patients were satisfied with the softness of the reconstructed breast. 76% stated the result to be in accordance with their expectations.

We find IBR after ME a safe operation with results comparable to those after late reconstruction and without increased risk for recurrence. As the cosmetic results after RT are inferior in our study, IBR is not recommended in cases where RT may be necessary.

### PP-2-6 Chest Wall Resection in 44 Patients with Recurrent Breast Cancer: Indications and Results

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**Aim:** To analyze the indication for and morbidity from CW resection for recurrent breast cancer in relation to survival.

**Method:** The clinico-pathological and outcome data were recorded from 44 pts, who underwent a CW resection for recurrent breast cancer. CW reconstruction consisted of steel wire ( $n = 9$ ), vycril<sup>®</sup> ( $n = 12$ ), Marlex<sup>®</sup> ( $n = 20$ ). Soft tissues were closed primarily ( $n = 10$ ), transposition of omentum ( $n = 31$ ), the contralateral breast ( $n = 30$ ), LD-flap ( $n = 2$ ) and with split skin graft ( $n = 28$ ).

**Results:** Mean age at primary diagnosis was 47 yrs and at CW resection 51 yrs. Overt distant disease was diagnosed in 27%. Previous therapy consists of mastectomy (all), radio- ( $n = 39$ ), chemo- ( $n = 10$ ), on hormonal therapy ( $n = 4$ ). Complications were seen in 25% (omentum necrosis  $n = 1$ , infection  $n = 7$ , pulmonary  $n = 8$ ). Thirty pts were rendered tumor free (no distant disease, tumor free margins): 18 had recurrence; one isolated local recurrence, 12 distant recurrence and 5 combined. The median survival was 8.9 yrs with an actuarial 5 yrs survival of 62%. After palliative resection in 14 pts, the median survival was 2.3 yrs and the 5 yrs actuarial survival 21%.

**Conclusion:** CW resection for recurrent breast cancer may result in a good local control with limited morbidity and a 5 yrs survival of 63% in completely resected and of 21% after palliation. This treatment option should always be considered in women with locally recurrent breast cancer.

### PP-2-7 Pattern of Lymphatic Dissemination in Breast Cancer

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The aim of the study was to examine the hypothesis that lymphatic dissemination in breast cancer occurs in a sequential fashion. Twenty-two patients with clinically localized adenocarcinoma were studied. Patient blue dye was administered into the tumour at the beginning of modified radical mastectomy. In the removed specimen, blue stained lymphatic channels were dissected from the primary tumour to the first draining lymph nodes.