

**Results:** Stereotaxic guided core biopsy leads to a sensitivity of 93% for the histological diagnosis of solid lesions, while the sensitivity for microcalcifications was 73%. Stereotaxic guided excisional biopsy was able to improve the sensitivity for the diagnosis of microcalcifications and improves the precision of excisional techniques in breast surgery.

**Conclusion:** For the diagnosis of benign microcalcifications and intra-ductal breast cancer stereotaxic guided excisional biopsy is an adequate method which leads to a new era of precise and minimal invasive breast surgery.

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### A prospective study of sentinel lymph node in patients with breast cancer using a combined technique: Dye and radio-labelled colloid

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**Background:** Sentinel lymph node (SLN) identification in patients with breast cancer has been established by using either blue dye or radio-labelled colloid. The aim of this study is to establish whether the rate of identification of SLN is increased by using the two techniques together.

**Methods:** A prospective study of 35 consecutive patients with operable breast cancer. Radio-labelled colloid (Tc99) and patent blue injected around the tumour or its biopsy cavity. 18 patients had axillary clearance, 17 had axillary sampling, 5 of whom subsequently underwent clearance. SLN identified by its blue colour and/or hand-held gamma probe.

**Results:** The SLN was identified by both techniques in 34 patients. The identification rate was: Dye, 94.3% (33/35), Tc99, 91.4% (32/35) and Dye + Tc99, 97.1% (34/35). Both techniques failed to identify SLN in one patient (2.8%). One SLN identified by both techniques contained no tumour (2.8%) but a very large adjacent node contained metastases.

**Conclusions:** (1) An increase in rate of identification of SLN using combined techniques. (2) Lymphatics leading to large lymph nodes (3 cm or more) replaced by metastases may be blocked by tumour cells, and this may force the dye or isotope to divert their pathway to a nearby falsely -ve SLN.

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### The frequency of metastases in the interpectoral lymphatic pathway in patients with breast cancer

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Interpectoral lymphatic pathway (ILP) presents the additional way of cellular spread in breast cancer. By this way metastases from breast tissue can be carried to subclavicular lymph nodes, that means to the apex of axilla, bypassing the main axillary nodal group. The aim of the study was to find out the frequency of interpectoral involvement and to estimate factors which can increase the risk of the metastatic changes. The analysis was carried out in 145 patients operated between 1993 and 1994 in Clinical Oncology Unit in Lodz. In 3 women radical mastectomy was performed, in 125 patients modified radical mastectomy was performed and in 17 patients quadrantectomy with axillary dissection was carried out. In all patients the removal of interpectoral lymphatic tissue have been dissected, and all the specimen have been subsequently examined. In two patients in ILP several small lymph nodes were found, in 116 cases ILP was formed by lymphatic vessels, in 27 cases normal fatty tissue was reported. Metastatic changes were found in 27 (23.6%) cases and were presented as massive or embolic metastases in lymphatic vessels. In one of these patients metastases were found in the apex of axilla without any changes in lower parts of the axillary lymph nodes. In one patient metastases in ILP were the only symptom of regional disease. The analysis of our material showed that ILP involvement correlates with size of tumour and its location in the breast: when the diameter of the tumour was more than 2 cm and when the tumour was located in the upper quadrants or in the central part of the breast metastases in ILP were statistically more common.

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### multiple lymphatic drainage pathways in breast cancer and its implication for sentinel lymph node (SLN) biopsy and internal mammary (IM) lymph node biopsy or radiation

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**Purpose:** SLN biopsy is used in the staging of breast cancer. This study identifies multiple lymphatic drainage pathways in some patients undergoing SLN biopsy.

**Methods:** SLN biopsy was performed 2 to 4 hours after lymphoscintigraphy using 99Tc sulfur colloid and 5-10 minutes after injection of isosulfan blue dye. SLNs were identified visually and using a handheld gamma-detection probe. All patients but one underwent standard axillary lymph node dissection. SLNs were analyzed by H&E and/or cytokeratin immunostains. Lymphoscintigraphy and/or intraoperative identification of SLNs that were anatomically separate and unconnected by blue afferent lymphatic tracts identified multiple lymphatic drainage pathways.

**Results:** Twenty-two women were studied. Tumors ranged from 0.2-2.8 cm. Ten patients had intact tumors; 12 patients had undergone prior breast biopsy. Multiple lymphatic drainage pathways were identified in 7 patients: 4 with intact tumors greater than 1.6 cm and 3 with biopsy cavities greater than 2.7 cm or centrally located. 9% of patients drained to IM and axillary lymph nodes.

**Conclusion:** Multiple lymphatic drainage pathways to axillary and/or IM lymph nodes may occur as breast cancers enlarge or may result from injections around large or midline biopsy cavities. Implications for SLN biopsy and IM SLN biopsy and/or radiation will be discussed.

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### Male breast cancer: A retrospective analysis of patients treated in Trieste, Italy

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The present study evaluates retrospectively 35 cases of non-metastatic male breast cancer, treated in Trieste from 1980 to 1996. The median age was 66.5 years (range 32-82). All patients underwent surgery; a radical mastectomy was performed in 33 cases, a wide excision in 2 cases. Pathological staging showed: pT1: 4, pT2: 6, pT3: 3 and pT4: 22 tumours; histological subtypes were: ductal infiltrating carcinoma: 31, lobular infiltrating carcinoma: 2, ductal carcinoma in situ: 2 cases. Positive lymph nodes were found in 20/33 (60.6%) patients, with infiltrating carcinoma, who underwent axillary dissection.

Our series covers a long period, so that treatment modalities, especially adjuvant therapy, change over time. After surgery, 11/35 (31.4%) patients received chest wall and supraclavicular irradiation; adjuvant chemotherapy and hormone therapy were administered to 13/35 (37.1%) and 8/35 (22.8%) patients respectively.

With a median follow up of 67 months (range 10-216 months), 15 patients died of breast carcinoma; 8 from other causes; 7 are alive without relapse and 1 is alive with disease; 4 patients were lost to follow up.

Our retrospective analysis confirms previous studies, showing that both age and cancer stage at diagnosis are more advanced in men with respect to women. However, the prognosis of male patients with breast cancer does not differ significantly from female patients when disease-specific survival rate, tumour size and axillary status are compared.

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### Breast-conserving therapy in case of carcinoma tumours larger than 2 cm with the help of individually adapted oncoplastic operations

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**Purpose:** In spite of intensive efforts for early cancer detection the rate of tumours larger than 2 cm reached in our clinic for the last ten years continuously 60% or more. Therefore the breast conserving therapy (= BCT) is limited by the tumour-to-breast size relation. Can we improve this fact by using oncoplastic operation techniques?

**Methods:** Since 1989 oncoplastic operation techniques with tumour- and constitution-specific incisional patterns were evolved. In the present

retrospective clinical study the recurrency rate up to now, the cosmetic outcome and the influence of overall BCT-rate were evaluated.

**Results:** Out of 353 tumours with stage T2 ore more 143 (40.5%) were treated by a breast conserving procedure, 126 of them (88%) using an oncoplastic technique. The frequency of BCT in this tumour-groupe rose from 8% in 1987–1989 up to 70% in 1997, the overall BCT-rate from 14% to 72%, in case of T1-tumour from 31% to 74%. Until now 5 local-recurrences were observed. The cosmetic outcome was in 66% good or very good, 9 times (6%) unsatisfactory.

**Conclusion:** By using oncoplastic operation techniques the rate of BCT can be improved without the loss of oncologic safety or of good cosmetic results. This makes it possible to operate larger tumours in smaller breasts with a satisfactory outcome.

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### conservative treatment of stage II breast cancer patients with simultaneous mammoplastic operations

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**Purpose:** The aim of this abstract was to evaluate the role of neoadjuvant chemotherapy, plastic quadrantectomy in conservative treatment of stage II breast cancer patients.

**Methods:** Since 1994 03 01 till 1998 02 01 – 124 stage II ( $T_2N_{0-1}$ ) breast cancer patients, aged 28–66 years, with "T" 2 cm < T < 5 cm, were treated by conservative treatment. 94 patients were premenopausal and 30 patients – postmenopausal. Tumour size 3 cm < T < 5 cm was founded in 74 patients and 2 cm < T < 3 cm – 50 patients. Patients were randomized into 2 groups. Group one (50 patients): 2 cycle of primary chemotherapy (CMF), plastic quadrantectomy (wide quadrantectomy + intraoperative tumor and margins examination + simultaneous modified "lateral" or "inferior pedicle" mammoplasty), irradiation, adjuvant chemohormonotherapy. Group two (74 patients): 2 cycle of primary chemotherapy (CMF), modified radical mastectomy ± irradiation, adjuvant chemohormonotherapy.

**Results:** In 25% of patients group I was detected partial or complete tumor response and in group II – in 19.5% of patients. The results of 3.5 years follow-up are: in group I local recurrence was detected in 2 patients ( $T_2N_{0-1}$ ) – 4%, distant metastases were diagnosed in 2 patients ( $T_2N_{0-1}$ ) – 4%. In group II: local recurrence was diagnosed in 1 patient ( $T_2N_0$ ) – 1.4%, distant metastases – in 4 patients ( $T_2N_0$  – 2 patients and  $T_2N_1$  – 2 patients) – 5.4%.

**Conclusion:** According to our preliminary data, primary chemotherapy and plastic quadrantectomy prolongs disease free and overall survival for stage II breast cancer patients.

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### Conservative surgery without radiation for the patients with the negative surgical margin of the early breast cancer – Significance of two stage treatment

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**Purpose:** To establish the modality of conservative breast surgery without radiation, the treatment results of conservative surgery without radiation to the patients with the negative surgery margin of the early breast cancer have been investigated.

**Methods:** One hundred and five breast cancer patients with the TMN classification of N0-N1a, M0 (tumor size ≤ 2.5 cm) and pathologically negative margins were treated by the conservative breast surgery alone during the period from April 1978 to March 1997. The sectorial partial resection with axillar dissection as a rule up to level II has been performed as the conservative surgery. In the event of local recurrence cases, in principle, lumpectomy with radiation (salvage conservative breast treatment) was carried out.

**Result:** The cumulative survival rate and disease-free survival for 10 years of 105 patients treated by the conservative breast surgery without radiation were 100% and 90%, respectively. During the mean follow up of 48 months, five local recurrence (4.8%, 5/105) and two distant metastases (bone: 1, pleura: 1) have been observed. Three out of 5 local recurrent cases were treated by the salvage conservative breast treatment (lumpectomy with radiation) as the second treatment. No recurrence after the second treatment has been observed.

**Conclusion:** The result of conservative surgery without radiation for the patients with the negative surgical margin of the early breast cancer

was good. In the event of the local recurrence, the salvage conservative breast treatment by lumpectomy with radiation can be conducted as the second treatment. This Two-Stage treatment is thought to be a significant suggestion for the modality of conservative surgery.

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### A clinical comparative study of adjuvant therapy after breast conserving surgery for early breast cancer

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Twenty-one centers collaborated in a prospective randomized comparative study and also partly in a retrospective study on adjuvant therapy after breast conserving surgery for breast cancer in a period from August 1989 to August 1991. The subjects were patients with tumours of ≤ 2 cm in diameter. They underwent partial mastectomies (2 cm from the outer rim of the tumor) with axillary lymph node dissections. A total of 112 patients were randomized either to receive tamoxifen (20 mg/day) for two years after surgery (Group T) or not to receive any adjuvant therapy (Group C). At the median follow-up of 72 months, there was no significant difference in five-year disease-free survival rate between the two groups: 78.5% (n = 53) and 86.0% (n = 56) in Groups T and C, respectively (p = 0.308 by log-rank test). The five-year survival rate was not significantly different, either, as indicated by 94.3% for Group T and 92.5% for Group C (p = 0.745 by log-rank test). Stratified analyses by menopausal state, lymph node metastases and ER status resulted in no significant difference between the two groups with regard to five-year disease-free survival or five-year survival. Meanwhile, although not included in the above randomized comparative study, 235 patients met the same inclusion criteria in the same study period, and 70 of them received breast conserving surgery which was followed by adjuvant radiotherapy. To assess the efficacy of adjuvant radiotherapy these 70 patients (Group R) were retrospectively compared with all patients from Groups T and C (Group T + C) in the above study. At the median follow-up of 71 months, the five-year disease-free survival rates for Group R and Group T + C were 86.6% (n = 70, 9 recurrent cases) and 82.2% (n = 112, 20 recurrent cases) respectively, which were not significantly different (p = 0.352 by log-rank test). The hazard ratio was 0.72 with a 95% confidence interval of 0.33–1.59. Because of a favorable prognosis resulting in a relatively small number of recurrent cases in these study populations, it was unable to demonstrate equivalence. These results, however, suggest that adjuvant radiotherapy after breast conserving surgery may not always be necessary in patients like those included in this study.

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### Breast conserving operations, frequency of vessels invasion, and disease free survival of the breast cancer $T_{1-2}N_{0-1}M_0$ patients

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1417 breast cancer  $T_{1-2}N_{0-1}M_0$  not screening detected tumour patients are analysed retrospectively. The radical resection (RR, 165 patients) was composed from resection of 1/3–1/4 of breast volume and axillary dissection *en bloc*. The sector resection + axillary lymphadenectomy (SRLE, 101 patients) was performed from a different incisions, volume of breast tissue removing was less, then in RR. Breast conserving operations were added by irradiation. The modified radical mastectomy (MRME) was performed in 1151 patients.

The tumor cells in a lymphatic or in a blood vessels were observed in MRME group in 6%, in RR group – in 13%, and in SRLE group – in 17% (p < 0.05); in patients with relapse of disease: 7%, 29% and 32% accordingly.

The local recurrences were detected: after MRME – in 2.4%, after RR – in 5.5%, and after SRLE – in 4.0% (NS). In  $T_1N_0M_0$  and  $T_2N_0M_0$  patients treated by SRLE were reviewed decreasing of the actuarial disease free survival (but not overall survival) in comparison with the  $T_1N_0M_0$  and  $T_2N_0M_0$  MRME patients groups (p = 0.007015 and p = 0.01079 accordingly).

Our results in comparative analyses (not randomised) of breast conserving operations do not coincidence with the world wide experience (EBCTCG, 1995) and it is reason for this paper.