

The positive margins were 57 (7.5%): 23 infiltrative and 34 C.D.I.S.. We correlated these patients with several factors: by T 4.8% T1b, 8.6% T1c, and 8.8% T2; by N 6.3% N- and 9.7% N+; by C.D.I.S. 7.3% absent, 8.0% present and 7.7% E.I.C.. 53 (6.9%) local intramammary recurrences developed so far. Their rate among the patients with positive margins was 5.4% instead for negative margins was 6.6%. The distribution of local recurrences by T, N and presence of C.D.I.S. in the breast specimen was as follow: 6.4% T1b, 6.5% T1c, 4.7% T2; 7.7% N-, 3.3% N+; 5.6% C.D.I.S. absent, 8.6% present and 3.9% E.I.C.. These data indicate a direct relationship between the positive margins and the diameter of the primitive tumor. The major percentage of positive margins in the N+ category is probably due to the direct correlation between the lymph node status and the size of the neoplasia: no factors were associated to a higher risk of intramammary recurrences. The fact that the positive margins have had the same rate of local relapses as the negative ones is probably due to the correct policy of the Authors that always reexcised the patients that presented E.I.C. or D.C.I.S. -positive tumor and each type of an extensive margin involvement respectively.

204

POSTER

Microinvasive carcinoma of the breast: Is axillary lymph node dissection indicated?

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Background: The natural history of microinvasive intraductal carcinoma (MIDCIS) is still poorly understood. The definition of microinvasion (MI) is controversial among pathologists. Conflicting reports have been published addressing the clinical management of the patients (pts).

Design: Retrospective study (1980-1996) of 58 MIDCIS treated by lumpectomy or mastectomy, with axillary node dissection. MI was defined as a single focus of invasive carcinoma ≤ 2 mm or up to 3 foci of invasion each not < 1 mm in max diameter. When MI was diagnosed, extensive samples were collected to eliminate larger foci of invasion. Pts were also classified according to other definitions of MI. We used the Van Nuys scoring system for DCIS when it was possible.

Results: The mean age was 51 (28-72), 21 pts were post menopausal, 5 received a substitutive hormonal treatment. Forty four pts (76%) had mammographically detected microcalcifications, and 14 clinical symptoms (including palpable lesions in 7 cases). DCIS was of comedo (N = 32, 55%), cribriform (N = 10, 17.5%), papillary (N = 9, 15.5%), and solid (N = 8, 12%). Axillary dissection yielded a mean of 11 nodes. Nodal involvement was observed in 3 pts (5 pts) who were treated by mastectomy for extensive lesions (1 N+/13, 15 N+/12, 7 N+/13). High grade comedo DCIS was observed in the 3 cases. Immunohistochemical investigations showed positivity for p53, erbB2, high Ki-67, and weak hormonal receptivity, which was the profile of comedo DCIS. Our results were compared to the literature.

Conclusion: In the absence of a consensus regarding the definition of MI and in absence of clinical and biological predictive criteria of MI, axillary lymph node dissection should still be warranted for MIDCIS.

205

POSTER

Oncologic outcome in patients with breast cancer treated with breast conserving reconstruction

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Purpose: Immediate volume replacement with autogenous tissue has been developed to allow a wider excision without compromising the aesthetic results in breast conserving therapy. Here, we reported the outcome of patients who underwent breast conserving reconstruction.

Method and Results: Wide excision was performed in 153 patients underwent wide excision from March 1986 to February 1998. The surgical margins of excised tissue were histologically examined during surgery. If involved, the breast tissue adjacent to the primary site was also excised. Eighteen patients (12%) underwent modified radical mastectomy because of positive surgical margins in the re-excised breast tissue on frozen and/or permanent section, although two patients did not have a second operation because of the limited involvement of the surgical margins. A mild breast deformity after wide excision was corrected by wide undermining and conization of the residual breast tissue in 66 patients, but a severe breast deformity was corrected immediately by transposing an adipose tissue and latissimus dorsi mini-flap in 69 patients. All of these patients underwent

axillary dissection followed by breast irradiation. Consequently, the breast appearance was not different between patients with breast reconstruction and those without. Of 135 patients, only one patient (0.7%) who treated with breast conserving reconstruction developed a breast recurrence, while 5 patients (4%) had distant metastases and 3 of these died. The 10-year survival rate was 97%.

Conclusion: Breast conserving reconstruction can provide adequate local control without compromising the breast appearance.

206

POSTER

Prophylactic mastectomy: Patient selection and development of a surgical technique

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Bilateral prophylactic mastectomy (BPMx) is increasingly the choice of many women at high lifetime risk of breast cancer by virtue of strong family or gene testing but there is no consensus on optimal surgical technique. Women on our unit are only offered BPMx according to a strict protocol after formal risk verification: the uncertainties of BPMx with or without breast reconstruction are discussed fully.

Since 1995, 56 women have been offered BPMx and 48 have proceeded with surgery, 33 by one surgeon, 30 with immediate reconstruction and 3 undergoing conventional simple mastectomy, 2 with autologous free nipple grafts. Initially 4 patients with reconstruction had immediate permanent implants: 2/4 were cosmetically good but 2 were not, and 1 of these subsequently chose implant removal and conventional mastectomy. A novel technique of total glandular mastectomy combined with ptosis-correction mastopexy and submuscular tissue expansion was developed to optimise breast glandular resection and enhance cosmetic outcome. Thin skin flaps are created, and if requested, the nipple/areola skin (NAC) preserved on de-epithelialised bridges. After 6 months' expansion, permanent implants are positioned whilst restructuring the mammary fold.

In 29/30 women NACs were successfully preserved: 1 has had NAC reconstructions. 3/26 had tissue expander device failure. There were no failures from infection. Patients are being carefully followed up to assess long term oncological efficacy and cosmesis.

207

POSTER

Superconservative surgery for early breast cancer: Preliminary results

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Purpose: The superconservative surgical approach without axillary dissection (AD) for early breast cancer treatment is debated, although several prognosticators can be used to choose postoperative therapy. Furthermore, the AD avoidance allows prevention of possible complications, such as arm morbidity. We report a clinical trial to assess the role of AD in selected patients.

Patients and Methods: From 1996 January, 85 patients with breast pT1 were included in the trial, following severe inclusion criteria. All patients underwent a breast wide excision or quadrantectomy without AD, and were randomised for radiotherapy to breast and axilla or breast alone. The adjuvant therapy outcome by ER, grading, and proliferative index (Ki-67). Follow-up included clinical and instrumental examinations, every 4 and 12 months respectively.

Results: The preoperative clinical data suggested 82.3% T1 (T1a 2.5%, T1b 8%, T1c 41.8%) and 6.3% T2. 11.4% were non palpable lesions. Clinical node status was N0 in 82.4% and N1a in 17.6%. pT1 was histologically demonstrated in all cases (pT1a 10.7%, pT1b 44%, pT1c 45.3%). The concordance between clinical T and pT and between mammographic T and pT was respectively 42.2% and 48.9%. Radiotherapy was performed on breast and axilla in 52.4% and on breast alone in 47.6%. Follow-up (until 2 years) demonstrated: no local and/or axillary recurrence, and 2 distant relapses. Cosmetic results were good-excellent in 92.9% as functional in 98.2%. 7 patients who underwent axillary radiotherapy developed fibrosis needing physical therapy.

Conclusions: These preliminary data, justify superconservative surgery for patients with early breast cancer ($T \leq 1.5$ cm) and clinically negative node status. The rationale for a minimally invasive treatment, allowing good cosmetic results, is the high percentage of ER+ cases, which benefit from antihormonal therapy, and the possibility of selecting the cases susceptible of chemotherapy through the prognosticators tested on the primary T. The

extension of radiotherapy will be assessed on the basis of the results from a longer follow-up.

208

POSTER

Preoperative factors influencing complete excision of palpable breast cancer in breast conserving therapy

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Breast conserving therapy (BCT) is a well established surgical treatment for early breast cancer and failure to achieve clear margins increases the likelihood of ipsilateral breast tumour recurrence. The aim of this study is to identify factors that predicts for achieving complete excision during BCT. Clinical, pathological and mammographic data were reviewed for 159 lumpectomies performed for stage I or II breast carcinomas. We achieved complete excision in 126 (79%) while 33 (21%) had involved margins. Of the latter group 27 went on to have re-excision (30%) or mastectomy (70%) and 11 (41%) had residual disease. The mean age, size of tumour and experience of surgeon of both groups were similar. The factors that significantly affected outcome included tumour type ($p = 0.003$), mammographic appearance of spiculated mass ($p = 0.047$), distortion ($p = 0.003$) or nonvisible abnormality ($p = 0.02$). Mass lesion with spicules that extended more than 1.5 times the size of the mass lesion were particularly likely to be incompletely excised ($p = 0.0085$). Our data suggest that based on the type and mammographic appearance of the tumour, it is possible to detect a large percentage of the cancers that are likely to be incompletely excised. Patients with these factors not only should be warned about the possibility of incomplete excision and requiring further surgery, but also should be considered for a wider initial excision possibly followed by mini LD flap reconstruction.

209

POSTER

Dye-guided sentinel lymphadenectomy in clinically node-positive and node-negative breast cancer patients

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Purpose: It was evaluated whether a dye-guided sentinel lymphadenectomy is useful to assess axillary metastases not only in patients with clinically negative node but also in those with clinically positive node.

Method: After induction of general anesthesia, 4 mL of 1% patent blue dye was injected with a 25-gauge needle into the peritumoral area. Approximately 5 min later, blunt dissection was performed through breast incision or axillary incision until a lymphatic tract or blue-stained node was identified. When there was no stained lymph node except for a blue lymphatics going directly into the hilum of a non-blue lymph node, this lymph node was judged as the sentinel lymph node (SLN) in this series.

Results: The SLN was identified in 29 (78%) of 37 patients with clinically negative node, whereas it was in 12 (92%) of 13 patients with clinically positive node. In 3 of 4 patients with extensive axillary involvement, nevertheless, SLN was not stained while a blue lymphatics going directly into the hilum of a non-blue lymph node. A diagnostic accuracy of 88%, a sensitivity of 63% and a specificity of 100% were achieved in clinically negative-node patients, whereas they were 91%, 90% and 100% respectively. Thus, the incidence of SLN identification and the predictive value of sentinel lymphadenectomy were not significantly different between both groups of patients.

Conclusion: It may be concluded that sentinel lymphadenectomy is useful to assess the axillary metastases in clinically node-negative and node-positive patients, unless axillary lymph nodes are extensively involved.

210

POSTER

Do lobular & ductal carcinoma lead to different local recurrence rates after breast conservation?

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Introduction: Local recurrence (LR) after breast conservation surgery (BCS) remains a potentially difficult problem. It has been suggested that BCS for lobular carcinoma might lead to more LR.

Methods: A prospective study was performed on 684 patients with newly diagnosed ductal carcinoma and 98 patients with pure lobular carcinoma treated by breast conservation for between 1986–1993. The mean follow-up

was 90 months. Margins were assessed by separate cavity biopsies. Survival analysis was assessed by the Kaplan-Meier method and the Logrank test. Multivariate analysis was performed using Cox's model.

Results: 13.3% of women with ductal tumours and 23.3% with lobular tumours had involved margins (chi 2 test; $p = 0.008$). Overall 5 year local recurrence rates, however, did not appear to be different between the two groups (ductal 8.3% v lobular 8.2%). Analysis of overall survival demonstrated that margin involvement adversely affected survival of women with ductal cancer, but not women with lobular.

Conclusions: This study shows that although margin involvement is higher in lobular cancer, local recurrence rates appear to be similar for both tumour types. In this study, margin involvement in ductal cancer is an independent factor in reducing overall survival. These data suggest that breast conservation leads to similar local recurrence in ductal and lobular cancer.

211

POSTER

Efficacy and significance of sentinel lymph node identification with technetium-99m-labeled tin colloids for breast cancer

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Purpose: The sentinel lymph node (SLN) reflects the histologic features of axillary lymph nodes in patients with breast cancer. We used technetium-99m-labeled tin colloids, readily available in Japan, to identify SLN. The characteristics of SLN in terms of number, size, and location are disclosed. The efficacy of emulsion charcoal injection for visible identification of SLN was evaluated.

Methods: Twenty-five patients with invasive breast cancer were studied. Under ultrasonography guide, technetium-99m-labeled tin colloid particles (3 mL) were injected within 3 mm around the tumor or into the wall of the biopsy cavity, 2 hours before surgery. Just before the incision, an emulsion of charcoal particles (2.5 mL) was injected into the breast parenchyma surrounding the tumor. All cases underwent a mastectomy with axillary dissection up to level III. The radioactivity of each lymph node was counted. All axillary specimens were processed in individual blocks for permanent-section histopathologic evaluation with H&E.

Results: SLN were defined as lymph nodes with 100,000 counts per minute (cpm) in radioactivity from labeled tin colloids. In all patients, SLN could be identified in all cases. The 48 SLN were identified in the 25 patients (mean, 1.9 SLN/patient; range 1–4). The mean uptake in SLN was 383,124 cpm, and 884 cpm in non-SLN nodes, so discrimination between SLN and non-SLN nodes was easy. Clearly visible lymph nodes with charcoal staining covered 83.3% of all SLN, although 21.3% of non-SLN were also stained. There were no specific features in the location and size of SLN; SLN were not located at the level III region. The SLN were metastatic in 10 of the 25 patients; in 4, the SLN were the only metastatic nodes whereas in the remaining 6 patients, other axillary nodes were positive. Fifteen patients had negative SLN without any other lymph node involvement. There were no skip metastases.

Conclusion: SLN identified with tin colloids have predictive value in reflecting the histologic features of other lymph nodes in breast cancer.

212

POSTER

Stereotaxic guided excisional biopsy (ABBI®) – A new method for precise and minimal invasive breast surgery?

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Purpose: The use of screening-mammography leads to a further increase of diagnosed non-palpable breast lesions and microcalcifications. We analyzed the role of stereotaxic guided core biopsy for the histological diagnosis of occult breast lesions. Furthermore we defined the advantages of the new developed stereotaxic guided excisional biopsy.

Methods: Between 1994 and 1997 we performed stereotaxic guided core biopsy in 160 solid lesions and 50 microcalcifications. All lesions were surgically excised after biopsy. The histological diagnosis of the core biopsy was correlated to the diagnosis after surgical excision. In a pilot study we evaluated the role of stereotaxic guided excisional biopsy (ABBI®) for diagnosis and therapy of non-palpable breast lesions to improve the accuracy and precision of breast surgery.