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

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

B. Venizelos, P. Chan, S. Greenwood, P. Dillon, J.M. Dixon. *Edinburgh Breast Unit, Western General Hospital, Edinburgh, Scotland, UK*

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.

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

M. Noguchi[1,2], K. Tsugawa[2], F. Kawahara[2], E. Bando[2], K. Miwa[2]. *[1]Operation Center; [2]Department of Surgery (II), Kanazawa University Hospital, Kanazawa, Japan*

Purpose: It was evaluated whether a dye-guided sentinel lymphadenectomy is useful to assess axillary metastases not only in patients with clinically negtive 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.

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

H. Chan[1], L.A. Harris[2], J. Greenall[1]. *[1]Dept. of Surgery; [2]ICRF Medical Oncology, John Radcliffe Hospital, UK*

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.

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

K. Sato[1], H. Hiraide[2], K. Tamaki[1], H. Ishikawa[1], T. Yamasaki[4], M. Uematsu[3], S. Tamai[5], S. Kusano[3], H. Mochizuki[1]. *[1]1st Department of Surgery; [2]Research Center; [3]Department of Radiology; [4]1st Department of Pathology; [5]Department of Clinical Pathology, National Defense Medical College, Japan*

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.

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

S. Krämer, N. Lang. *Deptartment of Obstetrics and Gynecology, University of Erlangen, Germany*

Purpose: The use of screening-mammography leads to a further increase of diagnosed non-palpable breast lesions and microcalcifications. We analyzed the role of steretoxic 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.