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ORAL

Ductal carcinoma in situ (DCIS): A comparison of three local treatments in current practice

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Purpose: To evaluate locoregional and distant recurrence rates in DCIS according to the standard treatments used in six French Cancer Centers.

Methods: From 1985 to 1992, 560 women with pure DCIS were analysed, according to the three treatments applied: radical surgery (RS): 164; conservative surgery alone (CS): 117; conservative surgery and radiotherapy (CS + RT): 279. The median age was 53 years and the median follow-up 85 months.

Results: According to each treatment, we found:

	RS (164)	CS (117)	CS + RT (279)
Local rec. (in situ)	—	16	14
L.R. (invasive)	3	14	23
L.R. (total)	3 (1.8%)	30 (25.6%)	37 (13.3%)
Nodal rec.	—	3	5
Metastases	3	3	1

Conclusions: These data confirm previous reports concerning the results of mastectomy in DCIS. For both conservative approaches (CS and CS + RT) we found in our 396 out of 560 patients almost exactly the same results as in the recently updated NSABP-17 Trial (26.8% and 12.1% of LR for CS and CS + RT groups respectively). We conclude that CS + RT is more beneficial than CS in DCIS treatment. A detailed analysis of LR risk factors (age, histologic subtype, method of detection, breast size, margins of resection) will be carried out later.

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ORAL

DCIS 3-D reconstruction. A new appraisal of retroareolar and nipple involvement

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Purpose: To assess the retroareolar extension of DCIS in the different galactophoric trees (collecting ducts, lactiferous sinus and their different branchings), 3-D reconstruction was used, starting the process at the lactiferous end of the nipple where ducts are easily identified and numbered.

Material and Methods: A cone of fresh retroareolar tissue with the nipple was taken from 24 radical mastectomies done for large DCIS. The cone was frozen at -20° and sliced 1.5 mm thick perpendicular to the long axis from the nipple to the opposite aspect of the sample with an ordinary meat slicer. Slices were numbered, fixed in formalin and routinely processed. After histologic examination, the different ducts of each slice were traced with a drawing tube, and all the foci of DCIS noted on each respective tracing paper. Finally the result was visualized by computer-assisted 3-D reconstruction. For comparison purpose the same study was made with 15 radical mastectomies done for invasive cancer.

Results: Foci of DCIS were found in 18 (75%) cases, and 15 of them had only one galactophoric tree involved. In 2 cases, 2 trees were involved and in only one case 5 trees. Moreover in several cases 3-D study clearly displayed gaps of several mm long, free of DCIS along the ducts. It would have been impossible to detect such gaps by ordinary histologic observation. Conversely only 3 (20%) of the 15 samples from invasive cancer had a single galactophoric tree involvement.

Conclusion: Retroareolar extension of DCIS is frequent in large lesions, but as Holland have already shown, DCIS is mostly monocentric (one galactophoric tree involved) and often discontinuous along the ducts.

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ORAL

Expression of tenascin-C in intraductal carcinoma of human breast: Relation to invasion

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Purpose: Tenascin-C (Tn-C) is an extracellular matrix glycoprotein that

appears in areas of epithelial-mesenchymal interaction during foetal development and in neoplasia. We studied the immunohistochemical expression of Tn-C in 89 intraductal breast carcinomas (DCIS), our aim being to characterize the staining pattern and intensity of Tn-C and to relate the results to subtype, nuclear grade, and microinvasion.

Methods: 89 tumours of primary DCIS were reviewed for histology and nuclear grade. Tn-C was determined immunohistochemically using the monoclonal antibody 143BD7. Oestrogen (ER) and progesterone receptors (PR), and cell proliferation measured by Ki-67 expression had been determined earlier in the majority of the tumours.

Results: Periductal Tn-C was noted in 87%, it was weak in 26%, moderate in 33% and strong in 28%. Enhanced periductal expression was associated with comedo-type, nuclear grade, microinvasion, Ki-67 expression, and lack of PR. When Tn-C was encountered with microinvasion, it seemed to accompany the invading cells. Stromal expression was associated with moderate to strong periductal expression and microinvasion. The distribution of Tn-C was compared in DCIS and in the intraductal component from another series of small axillary node-negative invasive breast carcinomas (n = 44). Tn-C was present in the stroma of pure DCIS in 25% and in the intraductal component of the other series in 82%.

Conclusion: Stromal or moderate to strong periductal Tn-C expression in DCIS is related to early invasion. Tn-C may be of value in the identification of early invasion, in the evaluation of disease character and in determining the optimal treatment for patients with DCIS.

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POSTER

Morphological and clinical characteristics of patients with ipsilateral recurrence after DCIS

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All cases of DCIS diagnosed 1987–1991 in the Southern Health Care Region of Sweden (1.5 millions inhabitants), were morphologically reevaluated and clinically followed for a median of 63 months (n = 306, median age 59). 61% had been treated with a breast conserving operation (BCO), 39% with mastectomy (ME). 22% had had postoperative radiotherapy (RT).

Results: 40 patients developed recurrences, 17 invasive and 23 DCIS. Two of these later got an invasive recurrence. Ipsilateral local recurrence free survival (RFS) was significantly better in the ME group than in the BCO group (5-year RFS 96% vs. 84%; p < 0.001). In the BCO group, RT improved RFS (5-year RFS 94% vs. 79%; p = 0.003). RFS was also better in the noncomedo subgroup (n = 90) compared to the comedo (n = 97); (5-year RFS 90% vs. 79%; p = 0.018). 94% of the local recurrences after BCO appeared in the previous operation area. Retrospective evaluation of margins was only possible in half of the cases.

Conclusion: In a population based clinical consecutive series of 306 DCIS cases, ipsilateral recurrences were more common after BCO than after ME, especially when no RT was given. Comedo lesions (nuclear grade III) were associated with a higher risk of recurrence. Inking of margins and large sectioning should be helpful in the assessment of resection margins.

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POSTER

Ductal carcinoma in situ of the breast: Is breast conserving treatment feasible?

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Purpose: Multiple sections with ductal carcinoma in situ of the breast (DCIS) were examined and considered whether or not breast conserving treatment (BCT) is appropriate treatment for DCIS.

Patients and Methods: 40 cases with DCIS were examined. Extent of cancer defines grade I to IV as the presence of cancerous extension within 0.5, 2.5, 4.5 and 6.5 cm from the outer border of tumor, respectively. Subtypes of DCIS were classified as "comedo" or "noncomedo" subsets.

Results: Nine out of 40 patients (23%), extent of the cancer was classified as grade III. Among those nine cases, 67% (6/9) had extensive microcalcification on mammography. 29% (5/17) of the cases with a tumor size, i.e., 1.0 cm or less, showed grade III or greater. All tumors with a size of 1.1–2.0 cm showed grade II or lower, and 50% (4/8) of cases with a tumor size of 2.1 cm or more showed grade III or greater. 22% (2/9) of comedo and 23% (7/30) of noncomedo carcinomas showed grade III or greater.

Conclusion: When BCT performed on DCIS consists of lumpectomy alone, BCT is feasible when the tumor size is 1.1–2.0 cm, without extensive microcalcification on mammography. However, BCT for comedo carcinoma should be approached with caution because of its malignant behavior, although there was no difference in histological extension between comedo and noncomedo carcinoma.

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POSTER

Apoptosis in ductal carcinoma in situ of the breast: its relationship to prognostic markers

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Purpose: Programmed cell death (apoptosis) may play a role in tumor development and progression. We evaluated the number of apoptotic cells in subgroups of ductal carcinoma in situ and correlated it with several prognostic markers and expression of genes related to apoptosis regulation.

Methods: In a series of 58 DCIS, immunohistochemical staining was performed for hormone receptors, c-erbB2, p53, bcl-2 and Ki-67 (MIB-1). DNA content was measured by image cytometry. Microvessels were identified by reaction with the Ulex Europaeus I lectin and counted. Apoptosis was detected by the TUNEL (TdT-mediated dUTP-biotin nick end labelling) technique.

Results: High apoptotic index (greater than 3/HPF) is related to high tumor grade, negative hormone receptors, c-erbB2 overexpression, aneuploidy, lack of bcl-2 immunohistochemical stain and angiogenesis. Apoptosis is not related to p53 and high proliferative index expressed by Ki-67 (MIB-1) expression.

Conclusion: Our results agree with previously reported findings in infiltrating breast cancer. The apoptotic index is not influenced by p53 status. A common way for stimulation of both apoptosis and angiogenesis seems to exist.

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POSTER

Ductal carcinoma in situ: A revision of 43 cases

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Purpose and Methods: We analyse epidemiological variables, clinical behaviour and possible therapeutic implications of DCIS. We have performed a retrospective study using the case-histories of 43 patients with DCIS during the periods 1975–1993 and 1995–1996.

Results: There is a family history of breast neoplasms in 17.5% of cases and digestive cancers in 15%. Three patients have a medical history of breast neoplasm and one patient of endometrial adenocarcinoma; also, three patients have a contralateral breast neoplasm at the same time. The mean age is 55.6 years. We can observe two peaks of incidence: the maximum between 41 and 50 years and the other at the seventh decade of life. Neither the menarche was premature (13.11 yr.) nor the menopause was late (47.17 yr.). 60% of patients are in menopause. 16.7% had no gestation. Breastfeeding occurred in 70.6% of patients. Women consult us because of a mammographic finding in 47.6% of cases. 65% have non-palpable lesions. 53.8% of lesions are localised in the left breast. The main distribution in the breast is in the upper outer quadrant area (63.8%). Microcalcifications are the most frequent mammographic finding (53.7%). In 19% there are not any findings in the mammography or they are benign. Initial treatment has always been surgical. When we have performed axillary lymph node dissection we have not obtained any positive node results. In recent years we have drastically decreased the realisation of axillary lymphadenectomies. Recurrences have been 6.98% of total.

Conclusions: The fifth decade of life is the age of major incidence. Incidence of bilateral breast neoplasm in our cases is 14%, emphasising that nobody had taken tamoxifen as coadjuvant treatment of their preceding neoplasm. The main distribution of DCIS is the same as in invasive ductal carcinoma. Microcalcifications found in a screening mammography are one of the most important factors in the diagnosis of DCIS. In none of the cases where we have done an axillary lymphadenectomy there were positive nodes; this supports a less aggressive surgical procedure than in the invasive carcinoma. All our recurrences occurred after a breast-conserving surgery.

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POSTER

Local recurrence in women with ductal carcinoma in situ (DCIS) according to the treatment

G. Limite, U. Pace, C. Pizzi, A. Riccardi, M. Imbricco, M. Di Maio, G. Petrella, G. Pettinato, A. Sodano, A. Contegiacomo, P. Forestieri. *Cattedra Oncologia Chirurgica, Chirurgia Generale ed Oncologia, Via Pansini 5, I-80131 Naples, Italy*

There is still much controversy regarding the most appropriate therapy for patients with ductal carcinoma in situ (DCIS) of the breast. This study was undertaken to evaluate the clinical outcome in 38 patients with DCIS treated at the University "Federico II" of Naples, Italy between 1989 and 1998. The age of the patients ranged from 29 to 74 years. Pathologic evaluation included the size or extent of the lesions and the margin width. Tumor size was <15 mm, 16–40 mm and >40 mm in 9, 9 and 4 cases respectively. In 16 cases the tumor size was not available. Widely clear tumor margins were detected in 35/38 (92%) of the cases, while infiltrated margins were detected in 3/38 (8%) of the cases. Breast conserving therapy (BCT) including excisional biopsy and quadrantectomy was performed in 18 of the 38 patients (47%), of which 9 patients received postoperative radiotherapy (RT). The remaining 20 patients were treated with mastectomy on the basis of the presence of multifocal DCIS at the excisional biopsy. After a median follow up of 46 months (range: 3–104), three (8%) local recurrences were observed: in 2 cases the patients were treated by BCT with or without RT, in the remaining case mastectomy was performed.

Wednesday, 30 September 1998

16:00-18:00

PARALLEL SESSION

Locally advanced and locally recurrent breast cancer

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INVITED

Locally advanced and metastatic breast cancer

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In locally advanced breast cancer, the high incidence of subsequent distant metastases and poor survival has led to the use of systemic treatment as part of management, both as an adjunct to radiotherapy and as primary systemic treatment. High response frequencies to chemotherapy are achieved, although complete pathological response is infrequent emphasising the importance of adequate locoregional treatment. Survival advantages from this approach remain to be demonstrated.

In metastatic disease the development of new agents continues to provide increasing treatment options. Of particular current interest are new aromatase inhibitors for endocrine treatment and taxoids for chemotherapy. New immunological approaches entail antibody administration and vaccines (active specific immunotherapy).

Recognition that osteolytic bone destruction in the skeleton is mediated by osteoclasts stimulated by tumour-derived cytokines has led to the therapeutic use of bisphosphonates. These agents have become the treatment of choice for hypercalcaemia; they also reduce pain and the incidence of pathological fracture.

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ORAL

^{99m}Tc-MIBI scintigraphy evaluates response to neoadjuvant chemotherapy in locally advanced breast cancer

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Purpose: This study evaluates ^{99m}Tc-MIBI scintigraphy for the assessment of breast tumor response to neoadjuvant chemotherapy in locally advanced breast cancer (LABC).

Methods: ^{99m}Tc-MIBI scintigraphy, clinical and mammo-graphic evaluations were performed in 29 patients with LABC before and after neoadjuvant chemotherapy. Scintigraphic studies were obtained in supine and prone lateral views after 740 MBq ^{99m}Tc-MIBI (Cardiolite, Dupont) i.v. injection.