

**DCIS, PgR:** PgR fell with A from a mean score of 4.8 (0.72) to 3.20 (0.83),  $p = 0.03$  and with L from 5.2 (0.76) to 3.46 (0.89),  $p = 0.038$ .

**HER2, A:** 3 invasive cancers and 4 DCIS were HER2+. The 3 invasive cancers and 3/4 DCIS had a reduction in cell proliferation with A.

**HER2, L:** 1 invasive and 1 DCIS was HER2+ both had a fall in cell proliferation with L.

**Conclusions:** DCIS has a similar rate of cell proliferation to invasive cancer. In DCIS, Letrozole significantly reduced proliferation and PgR expression; Anastrozole significantly reduced PGR expression but the fall in proliferation did not reach significance possibly due to the small sample size. Letrozole should be further evaluated in DCIS.

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Poster

# **The expression of Bcl2 and Bax in epithelial hyperplasia of usual type; relationship to outcome**

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Members of the bcl-2 family are key regulators of apoptosis. Bcl-2 is antiapoptotic whereas Bax promotes apoptotic cell death. The aim of this study was to identify the prognostic significance of apoptosis-regulating proteins in hyperplasia of usual type (HUT) with known outcome. We designed case-control study of benign breast biopsies received at the Royal Liverpool University Hospitals between 1979 to 1999. Cases ( $n = 120$ ), patients who had benign biopsies followed by breast cancer, were mixed with age and date of biopsy matched controls ( $n = 382$ ) that did not develop breast cancer. Lesions were examined blindly and classified into benign categories following the UKBSP guidelines. Foci of HUT and adjacent morphologically normal lobules were identified from cases and controls and stained with monoclonal antibodies for bcl-2 and Bax. The results were correlated with ER $\alpha$ , ER $\beta$  and Ki67 expression in the same cohort. The median percentage of bcl-2 expression in HUT foci from patients who progressed to breast carcinoma was 50 whereas that of controls was 17.5,  $P < 0.001$ . A trend towards higher bcl-2 expression in normal lobules from patient who progressed to breast cancer was seen. Bax was highly expressed in normal lobules from controls when compared with cases ( $P = 0.008$ ). Although the percentage of positive cells in HUT foci from cases was higher than controls (32.5 vs 17.5), this difference was not statistically significant. HUT from cases exhibited statistically significant higher levels of ER $\alpha$ , Ki67 with high ER/ER $\beta$  ratio. Our data show an early dysregulation of the levels of apoptosis-regulating proteins in normal and HUT foci of patients who progressed to breast cancer and suggest a characteristic immunohistochemical profile for a high-risk subset of hyperplasia of usual type.

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Poster

# **Trends in incidence and variation in treatment of ductal carcinoma in situ (DCIS) in the Southeast Netherlands (1984–2003)**

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**Background:** Detection rates of ductal carcinoma in situ (DCIS) have increased rapidly over the past decades, largely due to the increased use of mammography. New guidelines have been developed in order to minimize variation in treatment of DCIS.

**Methods:** In this retrospective population-based analysis, we used information from 8 hospitals in the Eindhoven Cancer Registry area, covering an area of 1 million inhabitants. In 1992, a breast cancer screening programme was introduced in this area and fully implemented in 1996, for women aged 50–69 years. Since 1999, women 70–75 years were also invited for breast cancer screening.

**Results:** In the period 1984–2003, 11,930 women were diagnosed with breast cancer, of whom 883 had DCIS (7.4%). Among women <50 years ( $n = 3116$ ), the % of DCIS increased from 4.0% in 1984 to 7.4% in 2003. Among women 50–69 years ( $n = 5683$ ), the % of DCIS increased from 1.6% in 1984 to 12.4% in 2003. Among women 70 years and older ( $n = 3132$ ), the % of DCIS increased from 2.0% in 1984 to 9.5% in 2003.

The % of women <50 years undergoing local excision (LE) decreased from 70% in '84-'89 to 40% in '96-'97 and then increased to 60% in 2002–2003. Adjuvant radiotherapy in this age group followed the same trend: 75% of women treated with LE got adjuvant radiotherapy in the latest period. Among women 50–69 years the % undergoing LE remained stable during the past decades and fluctuated around 30–40%. However, the % of women receiving radiotherapy after LE increased from 25% to 81%. Among

the oldest women with DCIS, the % treated with LE decreased from 70% in 1984–1989 to 30% in 1994–1995 and then increased to 70% in the latest period. The use of radiotherapy following LE in this age group showed the same trend, with 72% of women receiving radiotherapy 2002–2003.

Variation in treatment between the hospitals remained large during the study period. In 2000–2003 the % of women treated with LE and adjuvant radiotherapy varied between 31% and 64% in the 8 hospitals.

**Conclusions:** Between 1984 and 2003, the detection of DCIS increased rapidly in all age groups, with the most recent increase taking place among women 70–75 years, due to the introduction of breast cancer screening for this age group. The use of LE fluctuated strongly in the youngest and oldest age groups and remained fairly stable among those 50–69 years. Adjuvant radiotherapy increased in all age groups. Substantial differences in the treatment of DCIS were observed between the 8 hospitals.

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Poster

# **Sentinel node biopsy in patients with DCIS – when is it justified?**

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**Background:** Ductal carcinoma in situ (DCIS) becomes a more common finding recently among women with screen detected breast cancer. DCIS should not metastasise to the axillary lymph nodes. However, postoperative examination of breast specimens may reveal invasion in some cases, raising the question about the necessity and indications for sentinel node biopsy during initial surgery.

**Material and Methods:** In years 2004–2005 we performed sentinel node biopsy in 385 women patients treated for breast cancer. Fifty four of them had initial diagnosis of DCIS and were included in this study. The preoperative diagnosis of DCIS was based on mammography and fine needle, core or vacuum assisted (VAB) biopsy. Mammography showed microcalcifications (6–100 mm in diameter, BIRADS-4) in 55% cases, well defined tumor in 32% and spicular structure in the remaining 13%. The visualisation of sentinel nodes was performed using both technetium and methylene blue. Simple mastectomy was performed in 60%, and tumorectomy in the remaining 40% cases.

**Results:** Sentinel node metastases were found in 8/54 (14%) patients. All of them had subsequent axillary dissection, and further lymph node metastases were found in 1/8 case. Postoperative pathological examination of breast specimens revealed macro- or microinvasion in 7/8 cases; no invasion was found in the remaining 1. All 8 patients had similar preoperative mammography findings: large areas (40–64 mm) of microcalcifications (BIRADS-4). None of them had tumor or spicular structure shown by preoperative mammography. Preoperative biopsy revealed high grade (nG3) malignancy in 7/8 cases and medium (nG3) in the remaining 1.

**Conclusion:** Our results suggest that sentinel node biopsy in patients with preoperatively diagnosed DCIS is justified, especially when mammography reveals large areas of microcalcifications and when biopsy shows high or medium grade of malignancy. Apparently, in some cases the invasion may not be diagnosed preoperatively.

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Poster

# **Lobular neoplasia: does 11 Gauge core biopsy allow to avoid surgical excision? A study of 58 consecutive cases**

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**Purpose:** To review surgical histologic findings after diagnosis of lobular neoplasia (LN) by core needle biopsy (CNB).

**Methods and Materials:** 2235 consecutive CNB with 11-gauge needle have been performed in our institute. A group of 58 lesions with LN and followed by systematic surgical excision was studied. All cases of atypical ductal hyperplasia or intraductal carcinoma (DCIS) were excluded. Associated columnar lesions with atypia were not excluded. Histologic scar of macrobiopsy was systematically searched in surgical specimens. A pathologic upgrade was defined by presence of invasive cancer or DCIS on surgical specimen. Statistical tests used were the chi-square or Fisher's exact test.

**Results:** In 8 (13.8%) of 58 cases, lesions were upgraded to DCIS (n = 5) or invasive cancer (n = 3). Initial histologic findings on CNB were: LN in 2 cases, atypical lobular hyperplasia in 2 cases and lobular carcinoma in situ in 4 cases. Histological scar was always present. There was no statistical difference between these 8 cases and the 50 others for: family history, size of calcification, sampling number, histologic lesion, presence of atypia, and quality of excise.

**Conclusions:** Currently, this study is the largest prospective one. Our data suggest that surgical excision is warranted in all patients with 11 gauge CNB diagnoses of LN to exclude presence of carcinoma

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### Sentinel lymph node biopsy in ductal carcinoma in situ diagnosed by core-needle biopsy

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**Background:** By definition, ductal carcinoma in situ (DCIS) of the breast is a non-invasive lesion that does not metastasize. However, about 20% of DCIS lesions diagnosed by core-needle biopsy appear invasive on postoperative pathology evaluation. Sentinel lymph node biopsy is an accurate method of evaluating axillary lymph nodes in patients with invasive cancer. The aim of this study was to review our experience performing sentinel lymph node biopsy in patients with a core-needle biopsy diagnosis of DCIS.

**Patients and Methods:** Files from 160 patients diagnosed with pure DCIS by core-needle biopsy between July 1999 and March 2005 were retrieved from our database. Patients with DCIS were selected for lymphatic mapping by sentinel lymph node biopsy if there was concern for presence of an invasive component on postoperative pathology evaluation.

**Results:** The median age of the study group was 55 years (range 28–85 years) and median DCIS size on mammography was 25 mm (range 4–96 mm). Of the 160 patients, 36 (23%) women underwent a sentinel lymph node biopsy. Metastases in the sentinel node were detected in 8 (22%) patients. One patient had a micrometastasis. A complete axillary lymph node dissection was subsequently performed in all patients but 2. In these patients treated with axillary lymph node dissection, 6 additional positive lymph nodes were found in 4 patients. Of the 36 DCIS lesions that underwent lymphatic mapping by sentinel lymph node biopsy, 20 (56%) lesions were invasive on final pathology. All 16 patients with pure DCIS had negative sentinel nodes.

Of the 124 women who had no sentinel lymph node biopsy on initial treatment, 29 (24%) lesions turned out to be invasive on postoperative evaluation: 10 patients received an additional axillary lymph node dissection resulting in 4 (3%) patients with nodal involvement. Eight patients underwent a basal axillary dissection resulting in the finding of 1 micrometastasis. Eleven patients did not receive any form of lymphatic mapping. In total, 49 (31%) patients with pure DCIS diagnosed by core-needle biopsy had (micro)invasive breast cancer on final pathology.

**Conclusion:** As postoperative pathology evaluation of the specimen demonstrates DCIS underestimation in nearly one third of core-needle biopsy diagnosed DCIS patients, sentinel lymph node biopsy is useful in a selection of these patients. In more than one fifth of these patients a positive sentinel node can be found.

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Poster

### Ductal carcinoma in situ of the breast (DCIS) treated with conservative surgery (CS) and radiotherapy (XRT): a multi-institutional Italian retrospective study with long-term follow-up

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**Purpose:** To evaluate the long-term clinical outcome of DCIS treated with CS and postoperative XRT.

**Materials and Methods:** We retrospectively evaluated a consecutive series of 502 women treated between February, 1985 and March, 2000 at the Department of Radiation Oncology of 8 Italian Institutions. All patients (pts) underwent CS followed by breast XRT with definitive intent.

**Results:** Twelve pts were excluded due to short follow-up length (less than 12 months) and 13 pts were excluded due to previous diagnosis of contralateral invasive breast cancer: so the final analysis included the

remaining 477 pts. The median age was 54 years (range 29–84). CS consisted of quadrantectomy in 394 pts (82.6%), tumorectomy in 40 pts (8.4%) and wide excision in 43 pts (9%); axillary dissection was performed in 46.5% of the cases (all but 1 negative for nodal metastases). The entire breast was irradiated at a median dose of 50 Gy (range 30–60 Gy) with conventional fractionation. Tumor bed was boosted in 263 patients (55.1%) to a median tumor total dose of 60 Gy. After a median follow-up of 88 months (range 23–227 months), 43 pts experienced a breast recurrence for a crude rate of 9%: 26 invasive and 17 DCIS; recurrence location was at the initial quadrant or in close proximity in 28 cases; the 8-year actuarial local recurrence-free survival is 91.1%. All but 8 pts were salvaged with mastectomy. Nodal relapse was observed in 2 pts: 1 pt after ipsilateral invasive recurrence. Seven pts developed distant metastases; in 4 cases metastases appeared after ipsilateral invasive recurrence. Furthermore, during the follow-up 23 pts developed a contralateral breast cancer (invasive in 17 cases) and 20 pts a second tumor in a different organ. Eighteen pts died during follow-up: 7 pts died for cancer-unrelated reasons, 6 pts after developing non-breast tumors, 2 pts after a metastatic contralateral breast cancer, and the remaining 3 pts after metastatic invasive ipsilateral breast tumor developed.

**Conclusion:** The results of this study confirm the long-term efficacy of breast conservation with limited surgery and XRT in patients with DCIS.

Wednesday, 22 March 2006

16:00–16:45

## POSTER SESSION

### Advocacy and education

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### PATH – Patients Tumorbank of Hope – The patients perspective in tissue banking

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PATH stands short for *Patients Tumor Bank of Hope* and is the first – and until nowadays unique – tumor tissue bank in the world that is fully organized and funded by patients. PATH is a non-profit foundation independent of economic interests and interest groups who do not support a patient's full autonomy. We at PATH believe that it is the fundamental right of every cancer patient to have a say in her therapy.

PATH Foundation was incorporated to address the crucial lack of funding for clinical and genetic research, especially in the area of molecular pathology. PATH wants to bring lifesaving discoveries from the laboratory to the bedside of every woman suffering from breast cancer by supporting innovative research, specifically through the advancement of molecular pathology and breast cancer medicine.

While we currently see the funding of tumor banks in many places around the world PATH stands out in its approach. Essentially, researchers use the tumor banks to collect tissue for their research but at no benefit for the donating patient. We at PATH however believe that patients should be directly involved in the process and should benefit personally from the storage of their tissue. As well the patients should be the benefactors of successful research with the material of the tissue bank.

**The idea:** Once after surgery all diagnostic procedures are completed the tissue and blood serum left over is cut into pieces and deep frozen at temperatures below –130 degrees to guarantee durable safekeeping for several years.

The first cut of tissue stays at the patient's disposal. Whenever she wants she can access it. In case of a recurrence, for instance, when new diagnostic approaches are developed and new options of treatment are available.

The other parts are donated to the tissue collection meant for research. Therefore the patient has both: a private benefit of her own tissue and the satisfaction of contributing to scientific progress in the area that personally affects her.

PATH was established in 2002 by the breast cancer advocacy group "mamazone" as a unique joint-venture of patients, physicians and researchers aiming to support appliance-oriented cancer research. Currently six hospitals give patients access to this promising opportunity. We aim at expanding the network for further cooperation partners and other entities.