

couldn't find any significant relationship between other variables and the type of axillary surgery.

Conclusions: In this study, sentinel node biopsy only was associated with better results of skin colour after conservative surgery and radiotherapy. This may be related to an improved skin tolerance to secondary effects of radiation when axillary lymphatic function is preserved. Other studied variables may be more dependent on tumor location and breast surgical technique than on axillary surgery.

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Poster

Sentinel node biopsy in breast cancer, a novel method with new photosensitizer since 2004

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Purpose: Sentinel node navigation biopsy for breast cancer is now popular method in the world.

Isotope and blue dye are usually used for detecting sentinel node.

The purpose of the study is to develop an alternative procedure for SLN biopsy.

We examined the efficacy and safety of SLN biopsy by using Talaporfin sodium (Laserphyrin[®]) comparing with current methods for breast cancer operation.

Materials and Methods: This drug was developed for photodynamic therapy and on sale from June 2004 in Japan. 2-3 ml of Talaporfin sodium solution was locally injected in subareolar just before operation. We tried to detect sentinel node that was fluoresced and coincident with RI methods.

Results: From June, 2004, we experienced 20 cases of sentinel node navigation surgery by using photosensitizer for breast cancer. About 20 minutes after injection, "shocking pink" colored sentinel node and lymph route was detected in the area of near axilla, where 405 nm light was exposed in the dark.

Furthermore those colors were able to be seen by only wearing special glass. After operation, there were no any side effects including skin photosensitivity to the patients.

Discussions: The results suggest that there is no correlation between fluorescence and pathological SLN metastasis. But all 3 cases of pathological SLN metastasis revealed positive fluorescence. In some cases which could not identify SLNs by RI method, we could identify SLNs by Laserphyrin. Amount of radio-isotope might influence to identify of SLNs with Laserphyrin. Also the depth of injection might influence to identify of SLNs with Laserphyrin. Laserphyrin made possible observation of not only SLNs, but also a route, second SLNs. This characteristic might be useful for exclusion of skip metastasis and appropriate sampling second nodes. One of these patients is under the treatment of chronic renal failure. There is no influence after the operation. Laserphyrin is metabolized in a liver. Thus for renal failure patients, it is suggested to be more safe than using patent blue.

Conclusions: Since June 2004, we have experienced 20 cases of sentinel node navigation surgery by using new photosensitizer for breast cancer. Sentinel node navigation biopsy by using Talaporfin sodium (Laserphyrin[®]) is considered to be useful as compensation of current methods.

There were no any adverse effects including skin photosensitivity in all of cases. However only a limited number of patients were investigated. Thus further investigation will be required to confirm the feasibility and safety of this approach.

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Poster

Sentinel node biopsy in multifocal breast cancer: Accuracy of blue dye assisted four node sample

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Introduction: Sentinel Lymph Node Biopsy has been validated for unifocal breast cancer. In spite of few published reports multifocal invasive breast cancers are generally considered to be a contraindication for SNB. Most of the studies have employed a peritumoral, radio tracer approach. We describe our results of a simple technique of blue dye only assisted four node sample to minimize the false negative rates.

Aims: The purpose of our study was to evaluate the feasibility and accuracy of SNB in patients with multifocal breast cancer using a sub-areolar injection of blue dye alone for sentinel lymph node (SN) mapping.

Methods: The study was conducted prospectively to collect data of all patients with multifocal cancers undergoing sentinel node biopsy. Consecutive patients undergoing axillary dissection for breast cancer were included in the study.

Four blue node sample technique: We perform a sentinel node biopsy using sub-areolar injection of 2ml of patent blue V dye just before prepping the patient and massaged for one minute. The time interval between the injection and incision was 5 to 7 minutes. The blue lymphatic tract was identified leading to the sentinel node and the blue tracts were traced to identify further blue nodes. The dye was traced distally to make sure there were no submammary nodes were missed. Blue nodes were sent separately and further axillary dissection was completed in all cases.

Results: A total of 74 patients underwent sentinel node biopsy during a six month period from April 2004 to September 2004 with an overall success rate of 97%. Of these, 17 patients had multifocal disease. Mean age was 57.2 years. Sentinel node was found in all the 17 patients. In 13 of these cases four or more blue nodes were dissected in the SNB sample. Thirteen patients were node positive (13/17, 76.5%). The overall accuracy and sensitivity of four blue node sample was 100% for multifocal cancers. There were no false negative cases. The Sentinel node sample included all the positive nodes in 7/13 of cases.

Conclusion: Blue dye assisted sampling technique picking up at least four nodes is accurate in predicting the axillary status in patients with multifocal cancers. It is simple and avoids the use of radiotracers. It is a simple modification of the four node technique practised by more than 50% surgeons and there by minimises the learning curve for those wishing to adopt sentinel node technique.

Wednesday, 22 March 2006

16:00-16:45

POSTER SESSION

Ductal and lobular carcinoma in situ

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Poster

Effects of letrozole and anastrozole on ductal carcinoma in situ (DCIS): results from a randomised trial

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Introduction: A number of ongoing clinical studies are investigating the effectiveness of aromatase inhibitors in patients with DCIS but there have been no studies looking at the biological effects of aromatase inhibitors on DCIS. This study investigates the effects of letrozole and anastrozole on cell proliferation in patients with DCIS.

Materials and Methods: 206 postmenopausal women with 209 invasive estrogen receptor (ER) positive breast cancers were enrolled into a randomised pre-operative trial of 14 days treatment with either 2.5 mg of letrozole or 1 mg of anastrozole. A review of initial core biopsies at diagnosis and excision specimens at surgery identified 27 patients with 26 pairs of samples [15 who received anastrozole (A) and 13 letrozole (L)] with sufficient ER positive invasive cancer and DCIS for analysis. Assessment included ER, progesterone receptor (PgR), HER2, and proliferation (Ki67) by immunohistochemistry with FISH for HER 2+. ER and PgR were scored by Allred scores and proliferation scored as % Ki67 positive cells. Results are presented as means (SEM); analysis is by paired t tests and Pearson's correlation.

Results: Invasive cancers, Proliferation: A reduced tumour cell proliferation from baseline in 14/15 cancers from a mean of 9.33 (2.31) to 1.43 (0.46), p = 0.001 – median and mean reduction 78% (58–91) and 71.1% (8.7) from baseline. L reduced proliferation from baseline in all 13 cancers from a mean of 7.46 (1.52) to 0.96 (0.39), p = 0.001 – median 85% (66–94) mean 78.8% (6.6) reductions from baseline.

DCIS, Proliferation: A reduced proliferation in DCIS from 10.1 (3.0) to 4.24 (1.52), p = 0.058, by a median of 57% (-68–89): mean fall was 24.4% (31.8). L reduced proliferation from 11.8 (2.34) to 1.86 (0.76), p < 0.001 by a median of 83% (68–92) and a mean of 77% (6.9).

Summary of changes in proliferation in DCIS

Drug	Increase	No change	Reduction	Median % reduction from baseline
Anastrozole	2	3	10	57 (-66 to 89)
Letrozole	0	0	13	83 (68 to 92)

There was a significant correlation between the magnitude of change in cell proliferation between invasive cancers and DCIS in same patient for L, p = 0.026, but not for A, p = 0.72.

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 α , ER β 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 α , Ki67 with high ER/ER β 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.