

Conclusion: MES images show with greater accuracy than standard ME images DCIS. Grade DIN3 tumors with a segmental multinodular pattern show the best correlation.

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Poster

Evaluation of PET-CT for axillary lymph node staging in patients with early stage breast cancer

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The presence of axillary lymph node involvement is the most important prognostic factor in breast cancer. Positron emission tomography-computerized tomography (PET-CT) is a noninvasive imaging modality that can detect tumor at multiple sites in patients with breast cancer. The goal of this study was to evaluate the clinical usefulness of axillary lymph node staging by means of positron emission tomography with ¹⁸F-fluorodeoxyglucose in detection of axillary lymph node status. This study includes 120 breast cancer patients and clinically negative axillary lymph node. All patients had whole body PET-CT before sentinel lymph node biopsy. After sentinel lymph node biopsy, all patients underwent complete axillary lymph node dissection. Axillary lymph node dissections were evaluated by standard hematoxylin and eosin staining techniques, while sentinel nodes were also examined for micrometastatic disease. PET-CT detected all primary breast cancer. PET-CT compared with axillary lymph node dissection demonstrated sensitivity of 0.54, specificity 0.94, positive predictive value 0.92, negative predictive value 0.67, and accuracy 0.76. Twenty-five false negative cases were obtained. PET-CT compared with sentinel lymph node biopsy demonstrated sensitivity 0.56, specificity 0.88, positive predictive value 0.77, negative predictive value 0.74, and accuracy 0.75. False negative cases were six. Axillary lymph node staging using PET-CT is not valuable enough in clinically node-negative patients with breast cancer. The association of PET-CT and sentinel lymph node biopsy improves the sensitivity and specificity in the analysis of axillary staging.

Wednesday, 22 March 2006

16:00-16:45

POSTER SESSION

Epidemiology, prevention, follow-up, management and care

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Poster

Increased risk of second primary cancers after in situ breast cancer: a comparison with invasive breast cancer

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Women previously diagnosed with malignant breast cancer have a twofold risk of second primary cancers. Incidence of breast carcinoma in situ (BCIS) has increased markedly with the introduction of screening. However, studies on risk of cancer after BCIS diagnosis are scarce. We examined the risk pattern of primary malignancies after BCIS and compared it to the risk pattern of primary malignancies after invasive breast cancer.

Method: A population-based longitudinal study was conducted using the Eindhoven cancer registry data on 20,804 breast cancer patients diagnosed in the period 1972-2002 and followed until 2003.

Results: Among 1281 BCIS patients, 11% developed second cancer. We observed an absolute excess of 88 cancers per 10,000 BCIS patients as compared to 63 excess cancers per 10,000 invasive breast tumors per year. A two-fold increase in the risk of second cancer was observed among patients diagnosed with BCIS (SIR [standardized incidence ratio]: 2.1, 95%CI: 1.7-2.5). Similarly, increased risk was found after invasive breast cancer (SIR: 2.4, 95%CI: 2.3-2.5). The most frequent cancers after BCIS were second breast cancer (SIR: 3.4, 95%CI: 2.6-4.3), skin (BCC & melanoma) (SIR: 1.7, 95%CI: 1.1-2.5) and colon cancer (SIR: 1.2, 95%CI:

0.4-2.5). The risks of second cancer were still increased after 20 years of follow-up. These findings resemble those observed for second cancer following invasive breast cancer. Furthermore, we examined the role of age, radiation treatment, subtypes of BCIS and period of diagnosis in the risk pattern of second cancer. Among BCIS patients, radiotherapy was associated with a (not significant) 50%-increased risk of second cancer. Furthermore, the increased risk of second cancer was independent of age at BCIS diagnosis. This is in contrast with results for invasive breast cancer patients, which younger age was a strong predictor of increased second cancer risk. Histological type of BCIS and period of diagnosis were not associated with the elevated risk of second cancer.

Conclusions: The risk pattern of second cancer after BCIS is similar to the risk pattern of second cancer after invasive breast cancer. Common risk factors (life-style or genetic predisposition) might be related to BCIS, invasive breast cancer, and subsequent malignancies. Breast cancer patients (invasive and in situ) may benefit from increased awareness aimed at improving early detection of second breast and skin cancer.

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Poster

Diet behaviours and body constitution influenced the development of specific subgroups of breast cancer

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Background: The exact link between dietary behavior, body constitution and risk of breast cancer is ambiguous, potentially influenced by the fact that breast cancer is a multitude of diseases with different bases for transformation and consequently etiology.

Methods: 346 emerging breast cancers in a cohort of 17,035 women enrolled in the Malmö Diet and Cancer population study were subcategorized according to conventional pathology parameters (tumor type, grade and proliferation) and expression of key suppressor- and oncogenes involved in cell cycle control using tissue microarrays. Subcategories were then related to diet history information on dietary habits and objective body measurements determined several years before the breast cancer diagnosis. All statistical tests were two-sided.

Results: A smaller hip size and a lower BMI were associated with low grade tumors, whereas energy intake as well as total fat and fatty acid intake were inversely associated to tumor proliferation. Similar findings were observed for cyclin D1 overexpression whereas cyclin E overexpression was associated with a higher energy adjusted fat intake. Surprisingly, there was no association between estrogen receptor status and diet or body measurements.

Conclusion: Dietary behaviors and body constitution were clearly linked to the development of specific types of breast cancer defined by conventional pathology parameters or key cell cycle regulators. In general, a high energy, fat and polyunsaturated fatty acid intake, but a lower BMI, were linked to the development of low malignant breast cancer.

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Poster

Sustainable models for multidisciplinary cancer care

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Multidisciplinary care (MDC) has been found to improve outcomes for patients with cancer. Its implementation is being incorporated into clinical practice guidelines and National cancer plans. However, published information about suggested models in different practice contexts is limited.

The National Breast Cancer Centre conducted a 3-year *National Demonstration Project of Multidisciplinary Care*, with a follow-up *Sustainability Study*, which investigated the process, impact, cost, acceptability and sustainability of implementing MDC in three multi-facility Australian collaborations.

Rather than a fixed model, the approach was to determine a set of key Principles for multidisciplinary care which formed the framework. The principle-based approach focused on: the team; communication between all relevant team members; equity of access to all relevant treatment options; treatment in accord with guidelines; and patient involvement.

Implementation was evaluated using a pre-post design involving clinical audit, consumer and clinician surveys, activity logs and reports, independent cost analysis and interviews with key collaboration representatives.

Outcomes included establishment of weekly treatment planning meetings attended by all core disciplines, with significant improvements in diagnostic practice (p=0.011) and provision of routine psychosocial support (p<0.0001). Clinicians reported improved care coordination, increased input from allied disciplines, flow-on effects and decreased personal stress.

Patients reported an increased perception of 'team' care. Sustainability was attributed to adequate resourcing, local 'champions', strategies becoming habitual, and ongoing demonstration of benefits.

Project outcomes led to the development of a set of policy recommendations promoting the importance of multidisciplinary cancer care. Lessons learned have been incorporated into a practical guide and a national series of forums to assist in planning and running MDC meetings for cancer care.

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Poster

Breast screening histories: variation with time and impact on 10 year survival

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Introduction: To determine the true impact of screening, information on the screening history of all women with breast cancer is required. This study aimed to allocate a screening status, based on a woman's screening history, to all cases of primary breast cancer diagnosed in the West Midlands from the introduction of the NHS Breast Screening Programme (NHSBSP) in 1988 until 31 March 2001.

Description: A data extract of all cases of primary breast cancer diagnosed in the West Midlands between 1 March 1988 and 31 March 2001 was obtained from the West Midlands Cancer Intelligence Unit's cancer registration database. Screen-detected cancers were identified via regional breast screening units and the remaining cancers were assigned to one of eight mutually exclusive screening status categories.

Summary of results: A screening status was assigned to 14,625 breast cancers. 43% were screen-detected, 27% interval cancers, 13% diagnosed before invitation, 10% non-attenders and 3% lapsed attenders. 2% of eligible women were not known to the NHSBSP and 2% of the cohort could not be classified. From 1988 to 2001 there was an increase in screen-detected cancers, interval cancers and cancers in lapsed attenders; with the most marked increase amongst interval cancers. There was a decrease in the number of women diagnosed before invitation over time as would be expected following the start of the second round of screening. Non attendance also decreased slowly after reaching a peak between 1992 and 1995. There was a significant difference in the 10 year relative survival rates for women who did and did not attend for screening: 85.2% and 53.9% respectively (RR 1.58; $p < 0.00001$). Attenders consisted of women with screen-detected cancers, interval cancers, lapsed attenders and assessment defaulters in whom the 10 year relative survival rates were 92.0%, 75.7%, 72.6% and 90.8% respectively. Women with interval cancers had survival rates above those of non-attenders, highlighting the benefits of screening.

Conclusion: The West Midlands breast screening histories classification is a valuable resource for evaluating the NHSBSP. The 10 year survival data obtained for the cohorts of women with different screening histories mimic those found by the Swedish Two Counties trial.

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Poster

No stage migration due to the introduction of the sentinel node procedure: a population-based study

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Theoretically, the introduction of sentinel node procedure as an axillary staging procedure, could have both an upstaging as a downstaging effect. The intensified and more effective pathological processing with a sequential increase of micrometastases could lead to an upstaging and the described false negative rate of 5% in single centre studies could potentially lead to a downstaging. The purpose of our study was to investigate whether or not the gradual introduction of the sentinel node procedure in the South-East Region of the Netherlands has changed the incidence of axillary nodal micrometastases and induced a stage migration on a population based level.

We used data from the population based Eindhoven Cancer Registry that covers the region of the Comprehensive Cancer Centre South with 2.4 million inhabitants. Information of women diagnosed with breast cancer in the period 1997–2003 (follow-up until January 1, 2005), was analysed. In our region, the introduction of the sentinel node procedure started in 1997 and was gradually introduced in all affiliated hospitals. Between 1997 and 2003 11,207 patients were treated for breast cancer in the South-East Region of the Netherlands. The percentage of patients staged with a sentinel procedure gradual increased from 0% in 1996 till 58% in 2003. On the other hand, the use of the axillary node dissection as an axillary staging procedure decreased from 90% in 1996 till 32% in 2003. The percentage of patients that received no axillary staging did not change significantly with a mean of 10.6%. The incidence of T stage nor the N stage did not change significantly in this period. The N0 stage varied between 50 and 57%. Notably, the pN1a stage (micrometastases) gradually increased from 1% in 1996 to 5% in 2003.

In conclusion, on a population based level, the introduction of the sentinel node procedure as the standard axillary staging procedure in our region induced an increase in the incidence of micrometastases but did not lead to a significant stage migration.

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Poster

Sharp increase in incidence of ductolobular breast cancer in the Netherlands

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Background: Increasing incidence trends of invasive lobular breast cancer are often subscribed to the increasing use of hormone replacement therapy (HRT) during the eighties and nineties. In this study, we evaluate trends in invasive lobular breast cancer incidence in the Netherlands, where HRT use has always been particularly low.

Methods: With information of the population-based Cancer Registry Middle Netherlands, we identified all 9299 women diagnosed with invasive breast cancer between 1989 and 1999 in the central part of the Netherlands. We categorised histological subtypes as ductal, lobular (including pure lobular and mixed or ductolobular), and other. We calculated breast cancer incidence trends according to histological subtype, using generalised linear regression analysis.

Results: Between 1989 and 1999, 6162 (67%) patients were diagnosed with ductal cancer, 1447 (16%) with lobular cancer and 1690 (17%) with other histological subtypes. The incidence of lobular breast cancer increased significantly from 15/100,000 to 28/100,000 (mean annual increase 5%, $p < 0.05$), while the incidence of ductal cancer and other histological subtypes remained stable. The increase in lobular breast cancer did not involve pure lobular breast cancer (mean annual increase 0.8%, $p = \text{NS}$) but ductolobular cancer only (mean annual increase 12%, $p < 0.001$).

Conclusions: The incidence of invasive lobular breast cancer has increased in the Netherlands, but not as strongly as in some other regions. In contrast to previous studies, the increase was completely caused by an augmentation of ductolobular breast cancer.

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Poster

Differences between synchronous and metachronous bilateral breast cancer

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Purpose: The aim of the study was to compare clinical features and overall survival of patients with bilateral synchronous (SBC) and metachronous breast cancer (MBC).

Material and Methods: Five hundred and nineteen case histories of bilateral breast cancer patients (pts) treated at the Cancer Center, Warsaw, Poland were analyzed. There were 192 (37%) of synchronous (SBC) and 327 (63%) of metachronous (MBC) breast cancer pts. Median time of observation of SBC was 13 years (range 1–19) and MBC – 25 years (range 1–56). Kaplan-Meier survival analysis was performed.