

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

70

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 <sup>18</sup>F-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**

71

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.

72

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.

73

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.