

3–5% (Relative Risk Reduction 16–23%) less deaths in the trial group at 6 years. There were the same percentages of DCIS in the two groups.

**Conclusion:** 1. The use of a predictive model for outcomes is justified and prediction can now be made to 20 years. 2. There is no significant advantage to annual screening over the standard 3 year interval in the NHSBSP and shortening of the screening interval would be extremely expensive.

#### O-93. Does the survival of interval cancers vary according to subtype and time since previous mammogram?

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Interval cancers have been shown to have prognostic features similar to symptomatic tumours. We hypothesised that tumours arising between screens (true interval) would have a worse prognosis than tumours missed (false negative) as they may represent a faster growing group of tumours. Similarly we hypothesised that interval cancers presenting within a year of a negative screen may represent a more aggressive sub-group with a worse survival.

The study group consisted of 332 interval cancers arising after screening Mammograms between 1988 and 1/1/1998. Breast cancer specific survival was analysed according to sub-group and time since screening mammogram. 7 year survival rates ranged between 68% for false negative and 86% for occult interval cancers (true 71%). There was no statistically significant difference in interval cancer survival by sub-group. Interval cancers presenting in years 1, 2 and 3 had 7 year survival rates of 81%, 71% and 66% respectively. These were not significantly different.

Interval cancer survival is the same irrespective of sub-group and time between screening and symptomatic presentation.

#### O-94. Impact of 11-gauge vacuum assisted biopsy (Mammotome) on accuracy of preoperative diagnosis of ductal carcinoma in situ (DCIS)

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**Objective:** Since the introduction of mammographic breast screening, DCIS has accounted for a significant proportion of breast cancer practice. Lesions are normally impalpable, with diagnosis being made by image guided core biopsy. Following traditional 14-gauge core biopsy, final histology after surgical excision has demonstrated invasive disease in 25–40% of cases, necessitating a second operation to clear the axilla. 11-gauge vacuum-assisted biopsy system (mammotome) allows a larger biopsy specimen to be taken, hopefully reducing the proportion of understaged cases. The aim of this study was to assess the impact of introducing mammotome biopsy on the accuracy of pre-operative diagnosis of DCIS.

**Methods:** Computerised records were interrogated from November 2000 (when mammotome biopsy was introduced in our institution) to October 2003. All cases of biopsy-proven DCIS were reviewed, and final surgical histology determined.

**Results:** A total of 728 core biopsies were prospectively recorded during this 3 years period. The mammographic indications for the biopsies are micro calcification 672, distortion 26 and mass for the remaining 30.

	Total	14g	11g
Biopsy cores	728	203	525
DCIS on core	137	45	92
Invasive disease: final histology	33 (24.1%)	17 (37%)	18 (19.6%)

**Conclusion:** Introduction of 11-gauge vacuum assisted core biopsy improved the accuracy of pre-operative diagnosis of DCIS. However, in 19.6% of cases final surgical histology revealed invasive carcinoma, necessitating a second surgical procedure for clearance of the axilla.

#### O-95. Outcome of screen-detected breast lesions with an indeterminate (B3) core biopsy

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**Aim:** To study the outcome of screen-detected lesions of the breast where the initial core biopsy (CB) has been reported as “benign but of uncertain malignant potential” (B3).

**Methods:** All patients who underwent assessment for a screen-detected abnormality over a 5-year period in a breast-screening centre were reviewed. Those patients in whom the initial CB was reported as B3 were studied in detail.

**Results:** From April 1999 to March 2004, 162659 patients were screened, 6896 were recalled for assessment, 3031 underwent CB and 164 (5.4%) of these were reported as B3. Most lesions were microcalcifications ( $n = 105$ ). Ultrasound (US) was done in 125 patients. Appearances were normal in 57, benign in 22, uncertain in 31 and suspicious in 15. No clinical abnormality was present in 71%. FNAC was done in all but one & results were as follows; C1 = 28, C2 = 85, C3 = 29, C4 = 19, and C5 = 2. Excision biopsy was done in 145 (88%) patients and the final histology showed malignancy in 48 (33%); invasive in 25 & DCIS in 23.

**Conclusion:** A third of screen-detected breast lesions with B3 CB are carcinomas and these lesions should undergo further sampling by excision biopsy or by other means such as vacuum assisted devices. Concurrent FNAC and US may help to identify a proportion of those patients with malignant disease.

#### O-96. Variations in detection rates of benign screen-detected radial scars/complex sclerosing lesions

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Radial scars or complex sclerosing lesions (RS/CSL) usually present mammographically as a stellate distortion, often with a lucent centre. Appearances may be subtle and definitive pre-operative diagnosis, even using core biopsy, difficult. Associated malignancy may be present in 30% of screen-detected cases. Such pathology may be difficult to diagnose pre-operatively and excision biopsy is often required.

Our aim was to measure excision biopsy rates of entirely benign RS/CSL in individual NHS Breast Screening Units within the South West Region of the UK, examining any changes occurring over time.

For the period 1988–2003 information on all benign RS/CSL which were removed by open biopsy as part of the NHS Breast Screening Programme was obtained for each unit. The number was compared with the total number of open benign biopsies performed and cancers detected. For the years 1996–2003 comparisons were made with the cancer detection rates, benign:malignant ratios and open biopsy rates.

During the period 1988–2003, 665 entirely benign RS/CSL were excised representing 14.7% of all benign biopsies. For individual units the percentage varied between 6.4% and 22.9%. For the period 1996–2003 where benign RS/CSL were diagnosed by excision biopsy there was no correlation between the number of RS/CSL per 1,000 women screened, which varied from 0.20 to 0.67, and the overall cancer detection rates, open biopsy rates and benign:malignant ratios for the individual units. From 1996 to 2003 the proportion of benign open biopsies subsequently shown to be a RS/CSL rose from 24.1% to 38.2% ( $\chi^2 = 14.01$ ,  $P < 0.001$ ).

With improved pre-operative diagnosis of screen-detected lesions, RS/CSL account for an increasing proportion of open biopsies for benign disease. Different rates of excision apparent between units may be related to several factors including radiological detection, non-operative diagnosis, subsequent management and pathological reporting.

#### **O-97. Follow-up after excision of radial scars and complex sclerosing lesions of the breast**

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Radial scars (RS) and complex sclerosing lesions (CSL) may be entirely benign but can simulate invasive carcinoma radiologically and in up to 30% of cases associated malignancy is present. Our aim was to identify the incidence of subsequent breast pathology after excision of a RS/CSL.

A prospective study of 163 patients (median age: 52 years) with RS/CSL was performed. 128 women were identified by the NHS Breast Screening Programme. 35 patients were identified through the symptomatic breast service.

Of the 108 patients with adequate follow-up data (median: 72 months, range: 12–156 months) three groups were identified:

Group (1): 76 patients had a benign RS/CSL: eight developed further lesions (2 invasive and 2 in situ cancers, 1 fibroadenoma, 1 CSL in the ipsi-lateral breast; 1 invasive cancer, 1 RS in the contra-lateral breast).

Group (2): 24 patients underwent wide local excision for associated malignancy: two developed a benign lesion in the contra-lateral breast

Group (3): 8 patients underwent mastectomy for associated malignancy: one developed a contra-lateral carcinoma

The incidence of subsequent malignancy of 0.44% per year (CI: 0.12–1.18) after excision of an entirely benign radial scar/complex sclerosing lesion compares with value of 0.25% per

year for an age-matched control population ( $p = 0.08$ ). Longer follow-up of more cases is required to determine if RS/CSL is a true risk factor for subsequent malignancy.

#### **O-98. Triple assessment of every focal asymmetrical palpable breast lesion is unnecessary in the presence of normal imaging**

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The standard investigation of a breast lump is triple assessment i.e. clinical examination, breast imaging and fine needle aspiration cytology or core biopsy. It is unclear whether every focal, asymmetrical palpable breast lesion should also undergo triple assessment irrespective of imaging results. At Kettering General Hospitals, a policy of performing free-hand core biopsies (FCB) on all such lesions is followed when imaging fails to show a discrete abnormality. This study aims to examine the practice. 590 patients who underwent FCBs between January 2000 and December 2003 were retrospectively analysed. Of 262 patients who had normal imaging, (203/262) 77.48% had a normal (B1) biopsy result, (57/262) 21.76% had benign (B2) result, (1/262) 0.38% had an indeterminate (B3) result (outcome – benign) and (1/262) 0.38% had a malignant (B5) result. Of 191 patients who had benign imaging (93/191) 49% had a B1 result, (96/191) 50% had a B2 result and (2/191) 1% had a B3 result (outcome – benign and ADH). Of the 10 patients who had an indeterminate ultrasound with normal or benign mammogram, (3/10) 30% had a B1 result, (2/10) 20% had a B2 result, (2/10) 20% had a B3 result and (3/10) 30% had suspicious or malignant result.

**Conclusion:** It is unnecessary to perform triple assessment on patients with focal, asymmetrical palpable breast lesions when the mammograms and ultrasound scans are normal with no additional risk factors.

#### **O-99. Intraoperative touch imprint cytology of clinically apparent sentinel node metastases: why bother?**

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Intraoperative detection of sentinel node metastases by touch imprint cytology (TIC) enables an immediate decision to proceed to completion axillary lymph node dissection, thereby avoiding a second operative procedure. Time and resource constraints on already overstretched cytopathologists makes it tempting to act on the finding of clinically apparently involved sentinel nodes.

This paper compares clinical assessment of sentinel nodes by the operating surgeon and touch imprint cytology to definitive histology results.

**Methods:** Patients underwent sentinel node biopsy using the combination technique. Immediately after surgery, the operating consultant surgeon was asked whether the nodes were metastatic or non-metastatic. The surgeons' assessment and TIC of the nodes were compared to definitive haematoxylin and eosin (H&E) staining of the nodes to determine the accuracy thereof.