

endocrine therapy, 3 previous neoadjuvant chemotherapy and 3 patients who had undergone a previous node sample. The average number of sentinel nodes was 2.9 (median 3). The 2 patients without sentinel nodes had a positive axillary sample or a positive intramammary node. There were 18 patients with positive nodes – 17 of whom (94.4%) had a positive SN and one patient had a positive node sample – a single involved node with extra-nodal spread, but a negative SN.

Conclusion: This is a more efficient technique. It gives results equivalent to any other technique and can potentially be performed in any hospital following appropriate training.

O-67 Prediction of axillary lymph node metastasis by size and grade of tumour – an aid for the discussion of axillary surgery in patients with operable breast cancer

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With the introduction of sentinel lymph node biopsy in the surgical management of breast cancer, it would be helpful to be able to provide an estimated risk for axillary metastatic disease when discussing therapeutic options with patients.

We analysed the risk of metastatic axillary lymph node disease in patients treated surgically for invasive breast cancer by tumour size and grade.

Table 1: The incidence of axillary metastatic disease for invasive ductal carcinoma

Size of Tumour	Grade of Tumour		
	1	2	3
101–200	–	–	1/2 (50%)
51–100	–	10/13 (77%)	17/19 (89%)
21–50	6/21 (29%)	99/233 (42%)	81/133 (60%)
11–20	8/34 (24%)	88/258 (34%)	25/49 (51%)
01–10	4/28 (14%)	9/268 (15%)	4/10 (40%)

Table 2: The incidence of axillary metastatic disease for invasive lobular carcinoma

Size of Tumour	Grade of Tumour		
	1	2	3
101–200	–	2/2 (100%)	–
51–100	–	2/6 (33%)	1/3
21–50	0/2	19/52 (37%)	2/2
11–20	0/6	11/44 (25%)	–
01–10	0/5	1/6 (17%)	–

The risk of lymph node metastasis increases with the size and grade of tumour. All grade 1 and 2 invasive ductal carcinoma <20 mm have <30% risk of having lymph node metastasis whereas all grade 3 tumours >20 mm have a >50% risk. In the presence a single metastatic lymph node, the risk of further diseased nodes in ductal carcinoma of grade 1 is 8%, grade 2 is 24% and grade 3 is 47% and in lobular carcinoma the risk in a grade 1 is 9%, grade 2 is 19% and grade 3 is 60%. These data will aid discussion with patients prior to planning surgery on invasive breast cancer.

O-68 The incidence of nodal involvement following completion axillary dissection for sentinel node positive disease

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A retrospective analysis was undertaken examining the incidence of non-sentinel lymph node (NSLN) metastases amongst 486 consecutive patients with clinically node negative breast cancer. All patients had invasive disease of any type/grade with a median tumour diameter of 19 mm. Dual localization methods were used and a sentinel node defined as any node which was hot and/or blue and/or palpably suspicious at operation. Micrometastatic foci were identified on H&E step-sections; immunohistochemistry was not routinely performed. Deposits of ITC's were classified as node negative.

The total number of SLN positive cases was 131 (node positivity rate 27.1%). The mean number of nodes harvested was 2.9 (range 1–10). Two-thirds of node positive cases (89/131) had involvement of a single lymph node and over 40% of these (38/89) contained micrometastases only. The mean number of nodes removed on completion ALND was 15.8. Amongst the SLN positive patients, 35 (28%) had involvement of NSLN, 89 were NSLN negative and 7 did not undergo further axillary surgery due to clinician/patient. When a single SLN was positive for macrometastases, the chance of NSLN involvement was 30% (16/51). When micrometastases only were present in one or more SLN's, the risk of NSLN involvement was almost 17% (7/42 (p=0.15)). All had tumour in a single NSLN and the majority of deposits were >2 mm in size (5 macro-; 2 micro-). When fewer than half of excised nodes (<50%) contained micrometastases only, the chance of further disease on completion ALND was less than when this proportion was ≥ 50% (12% (2/17) versus 20% (5/25) (p=0.68).

Omission of further axillary surgery might be considered appropriate when micrometastatic foci are present in fewer than half the nodes retrieved and potential compound morbidity from sentinel node biopsy followed by delayed ALND minimised.

O-69 Axillary recurrence in breast cancer patients after a negative sentinel lymph node biopsy

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Sentinel lymph node (SLN) biopsy is an accepted standard of care for patients with clinically node negative breast cancer. Validation studies have revealed false negative rates of 5–10%, but few studies have reported rates of axillary recurrence in SLN negative patients without completion axillary lymph node dissection (ALND).

A retrospective analysis was undertaken to examine axillary recurrence amongst a group of 311 clinically node negative patients undergoing SLN biopsy for symptomatic and screen-detected breast cancer between January 2004 and December 2006 (median tumour diameter 15 mm). All patients were classified as SLN negative on H&E step-sections but included some patients with deposits of isolated tumour cells (H&E/IHC). To allow at least 3 months follow up, patients treated after December 2006 were excluded, together with those patients who had died without evidence of recurrence (10) and patients with DCIS only on final histology (18). This left 283 patients available for analysis, the majority of whom had received some form of adjuvant systemic therapy (262/283).

At a median follow up of 17 months (range 3–38) there has been only one case of axillary recurrence (1/283). This

occurred after 4 months and was the first site of treatment failure. Interestingly, the patient had only a single sentinel node harvested and this most likely represented a false negative result (mean number of sentinel nodes 2.9).

This low rate of axillary recurrence (0.35%) accords with other reports in the literature and compares favourably with ALND. Finite rates of false negativity associated with the SLN biopsy technique do not appear to translate into higher rates of axillary relapse. However, any residual disease within the axillary nodes will be low volume and longer follow up is required to substantiate these early observations.

O-70 The role of sentinel node biopsy in patients with a pre-operative diagnosis of ductal carcinoma in situ

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There is consensus that extensive high grade (HNG) DCIS on imaging which mandates mastectomy or DCIS presenting as a palpable lesion are indications for SLN biopsy.

A retrospective analysis was undertaken of patients who had concomitant SLN biopsy at the time of definitive surgery for DCIS diagnosed on percutaneous needle biopsy (core biopsy [14 gauge] or Mammotome biopsy [11 gauge]). A total of 33 patients were identified between January 2005 and March 2007, the majority of whom (24) had screen-detected HNG DCIS which necessitated mastectomy (median size 53 mm; range 10–110). A minority of patients (9) underwent wide local excision together with SLN biopsy for either (a) micro-invasion or foci suspicious of invasion on needle biopsy (6); (b) papillary DCIS (2); (c) palpable lesion or focal mass lesion on imaging (MMG/US) (1).

Within the mastectomy group, 6 patients (25%) with a pre-operative diagnosis of DCIS (4 high-, 1 intermediate-, 1 low-nuclear grade) were diagnosed with invasive carcinoma on final histology (25%). A total of 4 patients (16%) were SLN positive (3 micrometastases, 1 macrometastases) of whom 3 had invasive disease with foci measuring between 1.5 and 12 mm. Despite intensive pathological examination, no invasive tumour could be found in 1 patient with DCIS (>100mm). Amongst those patients undergoing wide local excision, two-thirds (6/9) were diagnosed with invasion on final histology; only 1 of these cases with invasion was associated with a positive SLN (macrometastases). None of the 5 patients in total with a positive SLN had any further nodal involvement on completion ALND.

We conclude that SLN biopsy appears justified in patients undergoing mastectomy for extensive HNG DCIS and in selected patients with localized HNG DCIS (clinical or pathological suspicion of invasive disease) in whom there is a significant incidence of invasion on definitive histology (>20%); in these patients occasional isolated sentinel node positivity is found.

O-71 Sentinel node biopsy for breast cancer: A ten year experience of >1000 cases from a single surgeon

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Sentinel Node Biopsy (SNB) was first described at the 5th Nottingham Meeting in Sept 1997. Following on from this I went on a SNB course in Amsterdam and brought their technique to Guildford in Dec 1997.

My learning curve consisted of 265 cases of SNB with backup axillary clearance (AXCL). There were 92 true positive cases, 4 false negatives and 3 failed localisations.

In 1999 I kicked off the ALMANAC trial with 40 validation cases and randomised 375 cases between SNB & AXCL until Oct 2003. SNB mapping and dissection included retrieval of internal mammary chain nodes. In ALMANAC, I had a 98% localisation rate. To date there have been 4 axillary recurrences, 2 after SNB and 2 after AXCL. Secondary AXCL after positive SNB is a difficult operation with increased morbidity. During the ALMANAC phases a further 220 patients had SNB alone off trial.

From 2004 to date a further 525 patients have had stand alone SNB using a hybrid of the ALMANAC and NEW START protocols. Screen-detected cancers have a significantly lower rate of SNB + (17.8%) compared to symptomatic cases (32.2%) $P < 0.001$.

SNB works in all cases including after primary chemotherapy, with the exception of prior radiotherapy.

The challenge for the future is the harnessing of accurate and timely intra-operative assessment of the sentinel node.

O-72 Impact of reconstruction with local flaps in breast conserving surgery on the need for mastectomy for breast cancers

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Aim: The aim of this study was to determine the impact of oncoplastic breast reconstruction techniques with local flaps, on rates of breast conservation and mastectomy in patients undergoing surgery for breast cancer. Local recurrence rate was compared between these two periods.

Patients and Methods: The patients were treated between June 2001 and June 2005 following the introduction of breast oncoplastic reconstructive techniques after breast conservation surgery. Reconstruction with a range of oncoplastic local flaps including, local Parenchymal flaps, sub-axillary dermo-cutaneous flaps, various rotational flaps and patients also had symmetrisation by mastopexy on the contra-lateral side if required.

Rates of breast conservation surgery, mastectomies and local recurrence during this period were compared with those prior to June 2001 before the introduction of these techniques. Statistical analysis was carried out using SPSS version 14.

Results: A total of 1073 patients with breast cancer were treated from June 1997 to May 2001. These patients were compared with 1077 patients who were treated between June 2001 and May 2005. In the first time period (1997–2001) 756 mastectomies were undertaken. In the second period (2001–2005) 511 patients underwent mastectomy. There was a significant reduction in mastectomies between these two periods ($p < 0.01$). No increase in local recurrences/mortality was observed during this period.

Conclusions: The use of local oncoplastic flaps reconstructive surgery has significantly reduced the number of mastectomies for breast cancer. Large tumours and centrally positioned tumours can be treated by conservation surgery with good cosmesis with/without symmetrisation and no increase in local recurrence.

O-73 Impact of immediate breast reconstruction (IBR) on breast cancer recurrence

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Study: To assess the impact of IBR on local recurrence (LR) and distant metastasis (DM) in patients with invasive breast cancer. Results are compared between 459 patients undergoing mastectomy alone (Group A) and 124 receiving IBR (Group B).