(1/6) and 85.7% (6/7), respectively. There was a trend for higher SR in the combined detection of SLNB.

The SR, FNR and accuracy of SLNB in 33 pts with obvious clinical ALN downstage were 97.0% (32/33), 15.0% (3/20) and 90.6% (29/32), respectively. The rates in the other 55 pts with no significant ALN downstage were 76.2% (42/55), 19.5% (8/41) and 80.9% (34/42), respectively. The p values were 0.011, 0.667, and 0.247, respectively.

Conclusion: The distribution of ALN metastases in LABC after NCT was quite the same as that in early breast cancer, with very low incidence of skip metastases. There was a trend for higher SLNB SR with the combination of Methylene blue with colloid. Significant higher SR was found in pts with obvious clinical ALN downstage, though with similar FNR and accuracy.

Table 1. The distribution of ALN metastases after NCT

Status of ALN at different levels			Patients	
L1	L2	L3	No.	(%)
L1(−)	L2(−)	L3(−)	112	(30.3%)
L1(−)	L2(+)	L3(+)	1	(0.2%)
L1(−)	L2(−)	L3(+)	0	(0.0%)
L1(−)	L2(+)	L3(−)	0	(0.0%)
L1(+)	L2(−)	L3(−)	146	(39.5%)
L1(+)	L2(−)	L3(+)	32	(8.6%)
L1(+)	L2(+)	L3(−)	41	(11.1%)
L1(+)	L2(+)	L3(+)	38	(10.3%)

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Preoperative lymphscintigraphy did not improve the success rate of sentinel node biopsy in breast cancer patients

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Background: The role of preoperative lymphoscintigraphy in sentinel lymph node biopsy (SLNB) remains controversial in breast cancer patients.

Material and Methods: Firstly, we retrospectively analyzed a database containing 716 breast cancer patients who received SLNB. Secondly, we had a prospective randomized clinical trail, in which 113 patients with breast cancer were randomized into two groups. Preoperative lymphoscintigraphy was done in group one, and no preoperative lymphoscintigraphy in group two. Before SLNB, 99mTc labeled sulfur colloid and blue dye were injected subcutaneously above the primary tumor or around the biopsy cavity in all the patients. Either “hot” or blue nodes were regarded as sentinel lymph nodes (SLN). The success rates of SLNB between two groups were compared. No patients enrolled in the study received neoadjuvant chemotherapy.

Results: In the retrospective study, the success rate of SLNB was 98.2% (703/716). SLNs were well imaged by lymphoscintigraphy in 86.6% patients, and SLNs were located extra-axilla in 36 patients. The visualization of SLN in lymphoscintigraphy was not associated with histopathologic type, location and stage of primary tumor, and time interval from injection of radiocolloid to surgery. However, the negative lymphoscintigraphy results were associated with excision biopsy before injection of radiocolliod and axillary node metastases. Failure of surgical identification of axillary SLN was associated with whether hot spot was imaged by lymphoscintigraphy. In the prospective study, the total success rate of SLNB was 96.4% (109/113). There are 62 patients were randomized into group with preoperative lymphoscintigraphy (well imaged by lymphoscintigraphy in 88.7% patients) with the success rate of SLNB of 96.8% (60/62), and 52 patients were randomized into group without preoperative lymphoscintigraphy with success rate of 98.0% (50/51). There was no significant difference between two groups in success rate of SLNB (fisher exact test, p = 1.00).

Conclusion: Although preoperative lymphoscintigraphy was helpful in finding extra-axillary SLN. However, it could not improve the success rate and reduce the false negative rate of SLNB in breast cancer patients. Considering the complexity, time consumes, and cost of preoperative lymphoscintigraphy, it should be undergone for investigation purpose only at present.

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Sentinel node biopsy in patients with prior aesthetic breast surgery

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Background: Sentinel lymph node biopsy (SLNB) is the standard method for axillary staging in early-stage breast cancer. Recent studies have tried to elucidate controversies about initial contraindications to the technique. Up to date, there is little data to recommend sentinel node biopsy in patients with previous aesthetic breast surgery. Here we discuss our experience on sentinel node biopsy in patients with previous aesthetic breast surgery.

Materials and Methods: Between April 2001 and June 2007, 70 patients with previous breast aesthetic surgery underwent SLNB. Seventy five percent of patients had had a previous breast augmentation and 25% a breast reduction mammoplasty. All patients underwent lymphoscintigraphy with 99Tc the day before surgery. Sentinel node biopsy was performed in all patients and followed by axillary dissection when it was positive.

Results: The mean time from aesthetic surgery to tumour diagnosis was 10 years. Mean age at cosmetic surgery was 38 years old. Seventy percent of patients underwent conservative breast surgery and 30% mastectomy. The sentinel node Identification rate was 100%. Lymphoscintigraphy showed bilateral drainage in two patients and drainage to the ipsilateral internal mammary chain in one case. The SLNB was positive in 23 cases (32%), of which 5 (7%) had micrometastasis, and 18 (25%) had macrometastasis. After a median follow up of 19 months no axillary recurrences were observed. One patient developed an ipsilateral breast local recurrence and one patient a distant metastasis.

Conclusions: Lymphoscintigraphy and sentinel node biopsy can accurately stage the axilla in patients with early-stage breast cancer and a previous aesthetic breast surgery. The presence of breast augmentation or reduction surgery is not a contraindication to SLNB technique.

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Axillary recurrence of breast cancer after negative sentinel lymph node biopsy

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Background: Sentinel lymph node biopsy (SLNB) is gaining popularity over axillary lymph node dissection for the detection of node-negative breast cancer, as it is less invasive and false negative results are generally less than 22%. However, regional node recurrence is a major concern for those whose cancer is detected by SLNB. We conducted a retrospective analysis of patient outcomes for those who had received SLNB to assess the rate of recurrence.

Materials and Methods: We examined the charts of 720 patients who had been diagnosed with breast cancer between December 2003 and January 2006 and whose SLNB was negative. Of this sample, 174 underwent the SLNB and axillary dissection; 453 patients had an SLNB and node sampling; 93 received only the SLNB. The SLNB was performed using a 99mTc-radiocolloid subareolar injection.

Results: The mean number of sentinel lymph nodes removed was 2.1 per patient. At a median follow up of 26 months (range 16−48 months), recurrence appeared in only 3 cases. All three had originally received only the SLNB; all three were also hormone receptor negative. Two of the cases were also c-erbB2 negative. All three recurrences occurred in the axilla; in two of the cases, there was also a recurrence in the internal mammary lymph node.

Conclusion: Axillary recurrence of breast cancer is low in patients who receive an SLNB. For those who are also hormone receptor negative, however, it may be important to also sample lymph nodes and examine internal mammary lymph nodes.

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Breast cancer patients with micrometastases versus non-metastatic lymph nodes – what is different?

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Background: Characterization of Breast Cancer (BC) patients (pts) with micrometastases (micm) in Sentinel Lymph Nodes (SLN) and comparison with BC pts with non-metastatic SLN (pT1 BC).

Material and Methods: Analysis of 312 BC pts diagnosed and treated in our department from January 1998 to October 2007.

Results: Micm in SLN were found in 28 pts, mean age 55.7 (40−81), 50% post-menopausal. Histology revealed 85% ductal invasive carcinoma, 7% mucinous invasive carcinoma and 4% lobular invasive carcinoma. Tumors measured 0.1−2 cm in 82%, 2−5 cm in 14% and >5 cm in 4%. Multifocal lesions were found in 21%. Seventy-five percent presented associated ductal carcinoma in-situ, 14% associated with necrosis. Concerning citonuclear grade, 14% were G1, 71% G2 and 14% G3 tumors. Estrogen receptors (ER) were positive in 96%, positive progesterone receptors (PR) in 62% and Cerb2 was positive in 23%. Analysis of SLN revealed one LN with micm in 84% (92% referring to 1 focus, 8% to 2 focus) and in two LN in 4% (50% referring to 1 focus, 50% to 2 focus). Considering complete axillary dissection, just 1/28 presented other metastatic lymph nodes. Comparing micm BC pts (N = 28) vs non-metastatic pts (N = 284), pT1, palpable lesions were found in 75% vs 35% ($p < 0.005$). Multifocal lesions were detected in 21% vs 6% ($p = 0.046$). Positive ER in 96% vs 80% ($p = 0.022$). Superior-external quadrant was the prevalent location of micm tumors (71%) ($p < 0.005$). Other parameters as hormonal stage, histological type, cito-nuclear grade, PR and Cerb2, did not reveal significant differences between both groups.

Conclusions: Although tumors with micrometastases in SLN were smaller, they were more frequently palpable lesions ($p < 0.005$). Complete axillary dissection revealed lymph node invasion just in one patient. Other surprising differences found in micrometastatic lymph node tumors were related to multifocal lesions ($p = 0.046$), ER positivity ($p = 0.022$) and topography of tumors, being superior-external quadrant significantly more frequent.

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The impact of the sentinel node concept on the aesthetic outcome of breast cancer conservative surgery – an objective analysis in a randomized series, using the new BCCT.core® 1.0 software

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Introduction and Aims: Sparing Breast Cancer (BC) patients to Axillary Dissection (AD) could reduce axillary and breast deformities and maintain the regional lymphatic physiology; these factors are thought to improve global cosmetic outcome. Few reports have addressed the issue of the positive influence of the Sentinel Node (SN) concept on the aesthetic outcome after BC Conservative Surgery. The aim of this work is to assess the influence of the SN concept on the aesthetic outcome on a randomized series of BC patients, with the help of a recently developed computer software.

Methods: Sixty-two patients included in a larger randomized trial, comparing SN to AD, submitted to BC conservative surgery and radiotherapy (from May 2001 to June 2003) were photographed (minimum follow-up time: 3 years). Patients were divided into 3 groups: group 1, SN negative and AD; group 2, SN negative and no AD; group 3, SN positive and AD. Photos were analyzed by the BCCT.core® 1.0 software and statistical analyses were done by SPSS 13.0. Aesthetic results were classified as poor (score 4), fair (score 3), good (score 2) or excellent (score 1); poor and fair were grouped and re-classified to fair (score 2) and good and excellent were grouped and re-classified as good (score 1).

Results: Median patient's age was 54 years (range: 32−71). Nineteen patients were allocated to group 1, 27 patients to group 2 and 16 to group 3.

Mean score's result was 2.37 for group 1, 2.41 for group 2 and 2.63 for group 3, considering 4 categories and 1.53 for group 1, 1.44 for group 2 and 1.50 for group 3, considering 2 categories ($p = 0.86$ and $p = 0.59$, respectively). Chi-square test also didn't show differences between the 3 groups of patients ($p = 0.23$ when 4 categories were considered and 0.85 when 2 categories were considered).

Conclusions: The objective analysis of BC conservative surgery aesthetic outcome, utilizing the BCCT.core software, didn't show any advantage for the SN only group of patients. Good cosmetic results may not be dependent on the conservation of axillary nodes anatomy and physiology.

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Intra-operative palpation of the axilla and removal of palpable lymph node at the level of sentinel node during sentinel node biopsy procedure in breast cancer staging . . . Is it important?

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Introduction: Although sentinel lymph node biopsy (SLNB) is highly accurate in predicting axillary nodal status in patients with breast cancer, it has been shown that the procedure is associated with a few false negative results. A false-negative rate of 5% is considered acceptable. In the case of a false-negative SLNB, adjuvant local and systemic treatments might be suboptimal. There are some factors behind this false negative rate like obesity, tumor location other than the upper outer quadrant, number of SLNs retrived, Grade of the cancer and other factors.

Aim of this study: To study the value of removing any palpable lymph node (whether normal or suspicious) at the level of the sentinel node in terms of reducing the false negative rate of SLNB procedure.

Method: From June 2005 till June 2007, 101 patients with breast cancer planned to have SLNB at Leeds General Infirmary were included in this study. All these patients have negative axilla both on clinical ground and ultrasound examination of the axilla on diagnosis. All patients with SLNB for multifocal cancer, DCIS and those received neo-adjuvant chemotherapy were excluded from this study. Localisation of the SLN(s) was done by both TC-99 and blue dye with lymphscintiscan for every patient to show the lymphatic mapping. SLNB was done by only one surgeon. During the operation and after completion of SLNB, palpation of the axilla was done and any palpable lymph node at the level of SLN was retrieved separately for histopathology. Axillary clearance was done to all cases with positive SLN(s) or positive palpable lymph node.

Results: Palpable lymph node were identified in 21 patients (21.2%). In case of positive sentinel node biopsy, 2 cases the palpable lymph node were positive also while three cases were negative. in the group of negative sentinel node biopsy, 11cases the palpable lymph node was also negative while in 5 cases the palpable node was the only positive regarding metastasis. The false negative rate was 5.05%(. 3 out of these 5 cases (negative Sentinel node biopsy with positive palpable lymph node, the palpable lymph node was normal macroscopically but they are the only one with siginficant metastasis.Further analysis was done to those cases regarding the result of axillary clearance and th size and the grade of the breast cancer.

Conclusion: Removal of a palpable lymph node even it is normal looking at the level of sentinel node with reduce the false negative rate of this proceedure and increase the specificity.

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The prevalence of and risk factors for four or more metastatic axillary lymph nodes in breast cancer patients undergoing sentinel node biopsy

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Background: Axillary clearance (AC) is the standard treatment for patients with tumour positive sentinel nodes (SN) revealing the number of metastatic axillary nodes. This information is helpful when targeting postmastectomy radiation therapy (RT) and planning the radiation fields. However, some patients with tumour positive SN do not undergo AC, but receive axillary RT, instead. In addition, many plastic surgeons and radiation oncologists prefer delayed breast reconstruction in patients requiring postmastectomy RT. For these reasons, our aim was to investigate the prevalence of and risk factors for having four or more positive axillary lymph nodes among patients undergoing SN biopsy.

Patients and methods: Altogether 1062 breast cancer patients with clinical stage T1−T2 tumours underwent SN biopsy and AC, when SN was tumour positive between February 2005 and July 2007. These patients were identified in a prospectively collected database.

Results: Four or more positive axillary nodes were detected in 68 patients representing 6% of the entire study population and 16% of the 436 node positive cases. Features regarded as predictive for a very low risk included 1) T1a or T1b tumours, 2) grade I tumours, 3) tumours with a favourable subtype, that is mucinous, tubular or medullary breast cancer, 4) no nodal macrometastases and 5) SN ratio lower than 0.5.

Conclusions: Only few patients with T1a-b tumours or grade 1 tumours or tumours, as well as those with minimal involvement of the sentinel nodes have four or more positive axillary lymph nodes. However, these risk factors can be definitely assessed only after surgery, decreasing their value in the clinical decision making.