Materials and Methods: Between 2003 and 2008, 200 patients with Stage II and III breast cancer previously treated with PST were enrolled in this study. The eligible criteria for PST were (a) primary tumor >3 cm or (b) positive axillary lymph node status on initial examination. FNA biopsy was performed for clinically or ultrasonographically suspicious axillary lymph nodes. The patients then underwent SLNB, which involved a combination of intradermal injection over the tumor of radiocolloid and subareolar injection of blue dye. This was followed by Level I/II axillary lymph node dissection (ALND).

Results: The median patient age was 49 years, and the median primary tumor size was 4.9 cm. The overall SLN identification rate was 94.5% (189 of 200). In 178/189patients (94%) the SLN accurately predicted the axillary status. Eleven patients had a false-negative SLN biopsies, yielding a false-negative rate of 12.9%. There were no significant differences in the SLN identification rate according to tumor classifications before PST, the clinical nodal status before PST, the clinical tumor response after PST, or pathological response of the tumor after PST, although the SLN identification rate tended to be lower in patients with a T4 primary tumor.

Conclusions: Our data suggested that SLNB was feasible method for axillary staging in breast cancer patients who received PST even in patients who initially with lymph node positive disease. However, false-negative rate of SLNB in patients with clinical and pathological complete tumor response tended to be higher than other group.

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The impact of the Sentinel Node concept on overall survival, disease-free survival and axillary recurrence of breast cancer patients

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Introduction and Aims: The Sentinel Node (SN) concept emerged as a way to improve Breast Cancer (BC) staging and to reduce the morbidity of the Axillary Dissection (AD). But the influence of the SN concept on long term BC outcomes is not well defined. The aim of this work is to assess the impact of the SN concept on the overall and disease-free survival and on the axillary recurrence, in a prospectively controlled series of BC patients.

Methods: This revision includes 394 consecutive BC patients, from two successive randomized clinical protocols. The first (n = 166) elapsed from April 2001 to June 2003 and the second (n = 228) accrued from September 2003 to January 2005. The first study included patients with tumours less than 30 mm and the pN0sn patients were randomized between AD and SN only. The second study was divided into two groups. Group A received uT1 patients; pN0sn patients were spared from the AD and pN+sn patients were submitted to AD. Group B received uT2 patients; those with pN0sn were randomized between AD and SN only. Patients were followed-up at the out-patient breast clinic, every 3 months during the first 3 years, every 6 months until 5 five years and then yearly. Events were prospectively registered in an Institutional database.

Results: Median patient's age was 55 years (range: 20−78). Median follow-up time was 66 months (range: 4–100). Two men were included. Mean overall survival time for SN only patients was 98 months and for the AD patients was 93 months (p = 0.003). Mean relapse-free survival time for the SN only patients was 97 months and for the AD patients was 99 months (p = 0.43). At five years of follow-up, overall survival was 98% for the SN only group and 92% for the AD group and disease-free survival was 99% for the SN only group and 100% for the AD group. There were not detected axillary nodal recurrences among SN only patients or between AD patients.

Conclusions: Long-term follow-up of BC patients submitted to SN biopsy-only showed similar results to AD submitted patients, in terms of overall survival, disease-free survival and axillary node recurrence, therefore ensuring clinical perdurable adequacy of the SN concept.

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Micrometastasis and isolated tumour cells in the sentinel lymph node after neoadjuvant treatment in breast cancer patients may reflect residual disease in non sentinel nodes

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Background: Recommendations about performing a complete axillary node dissection in sentinel node (SLN) with micrometastasis and isolated tumor cells in early stage breast cancer have been controversial. While SLN biopsy is considered an accurate method for staging the axilla in patients with breast cancer before systemic treatment, the use of SLN after neoadjuvant treatment (NAT) is less well established. The aim of this prospective study is to determine the accuracy of SLN technique after NAT and the significance of micrometastasis and isolated tumor cells in the SLN in this group of patients.

Material and Methods: From June 2005 to June 2009, a total of 71 patients with T1−3 N0−1 breast cancer who underwent NAT (chemotherapy or hormonetherapy) were included in the study. After NAT, patients with a clinically negative axilla underwent sentinel node biopsy and full axillary dissection. All patients were injected subareolar with Tc-99 the day before of surgery. The SLN was identified by the gamma probe, and sent to Pathology for frozen (FS) and H&E paraffin-sections. If the SLN was negative by H&E paraffin-sections, then immunohistochemistry was performed.

Results: The SLN identification rate was 95.8%. Mean number of sentinel nodes removed were 2.2 (range, 1−7). Twenty three (32.3%) patients had a positive axilla. The sentinel node was positive in 22 patients, with a false negative rate of 4.3%. Three patients had isolated tumor cells in the sentinel node, 2 of this (66%) had additional positive non sentinel nodes. Four patients had micrometastasis to the sentinel node, 3 of this (75%) had additional positive non sentinel nodes. The sentinel node was the only positive node in 7 patients (32%). Pathologic complete response was achieved in 30% of patients.

Conclusion: Patients with NAT can benefit from sentinel node biopsy as an accurate technique and may be spared axillary node dissection and its associated morbidity. The significance of micrometastasis or isolated tumor cells to the sentinel node in NAT patients may reflect residual tumor in the axilla and these patients should have a completion axillary node dissection as 70% of patients will have additional positive non sentinel nodes.

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Value of sentinel lymph node identification in high risk ductal carcinoma in situ

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Background: Although sentinel lymph node (SLN) identification have a definite role in breast cancer staging it has not yet been totally accepted for patients with ductal carcinoma in situ (DCIS) of the breast.

Aim: To evaluate the applicability and results of SLN technique in high risk DCIS patients.

Method: We studied 200 patients with preoperative diagnosis of high risk DCIS from two tertiary hospitals. The day before surgery a lymphoscintigraphy was performed by using 111 MBq of 99mTc-nanocolloid in 1 intratumoral, peritumoral or subdermal injection way based on every case. Intraoperative detection of the SLN was performed by using a hand-held gammaprobe. In 100 cases vital blue dye was used.

Results: One hundred and thirty six patients showed a pure DCIS, 45 an invasive carcinoma and the remaining 19 had microinvasion in definitive histology. Lymphoscintigraphy and radioguided surgery identified SLNs in 98% (197/200) of patients. The vital dye injection identified SLNs in 77% of patients.

Thirteen patients showed metastatic SLN (10 micrometastases and 3 macrometastases). Eight of them in the group with invasive carcinoma (i.e. metastatic rate 19%). The remaining five presented two micrometastasis