

There was no correlation between radio-isotope uptake and size of metastasis in the SN. There was no correlation between blue dye uptake and tumor burden in the positive SN.

**Conclusion:** In an individual SN, the PR by tumor and EI are markers of lymphatic obstruction and significantly associated with reduced radio-isotope uptake. These results suggest that >50% replacement of the node by tumor will compromise the lymphatic flow and may lead to failed localisation of the node if the radio-isotope is used alone. However, the SN tumor burden does not affect blue dye uptake. This result provides an argument for using a combination of blue dye and radio-isotope for SN biopsy.

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#### Is axillary dissection necessary for breast cancer patients with micrometastasis in the sentinel lymph node?

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**Background:** As sentinel lymph node biopsy (SLN) has become a widely accepted alternative to axillary lymph node dissection (ALND), identification rate of micrometastases (>0.2 mm but <2 mm) has increased. The more extended procedure when micrometastases are founded in the SLN is completion ALND because of the risk of additional non-SLN metastases. However, this risk varies depending on the series so the need for ALND with its associated morbidity in patients (pts) with micrometastases in SLN remains controversial.

**Methods:** From November 2000 to December 2004, SLN biopsy was successfully performed in 702 pts. All patients had a negative axillary ultrasound scan. Out of 702 pts, 40 had micrometastases to the SLN. Following our institution's protocol based upon previous experience no ALND was performed in patients with micrometastatic involvement of the SLN. Nine pts out of the 40 underwent ALND as the intraoperative study of the SLN yielded a positive result. Of these patients, non-SLN metastases were found in only one patient (the non-SLN metastasis size was 4 mm).

Regarding adjuvant systemic therapy decision, all these patients were considered as having positive lymph nodes, so all of them received either chemotherapy, hormonal therapy or the combination of both.

**Results:** After a median follow-up of 33 months (5-51), all but one of the 31 pts with pN1mi and no ALND were free of disease. The patient presenting a relapse was a 63 years old patient who declined postoperative breast irradiation and developed a breast recurrence followed by distant metastatic spread. None of the patients bearing micrometastases in the SLN and in whom ALND was omitted, presented axillary recurrence.

**Conclusion:** Axillary lymph node involvement is the most important prognostic factor in early breast cancer. The size of SLN metastasis is associated with the magnitude of risk of non-SLN involvement. ALND is a staging procedure and it is important in treatment selection, but may not have a therapeutic role in itself in these cases. Omitting ALND in pN1mi can be an option to avoid the associated morbidity of ALND and if adjuvant systemic therapy is considered. Results of prospective studies on this topic are awaited.

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#### 2D and Color Doppler ultrasound in preoperative axillary staging for sentinel lymph node (SLN) biopsy in breast cancer patients

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The SLN biopsy in breast cancer became recently a standard procedure in many centers. In principal of this method, axillary lymph nodes should be clinically classified as N0. The aim of this study was to evaluate the diagnostic value of ultrasonography with color Doppler and clinical examination in qualification patients to SLN biopsy.

**Method:** 61 patients with early (up to 3 cm of diameter) breast cancer were qualified to SLN biopsy. The status of axillary node was evaluated by palpation and ultrasonography features of presence of metastasis in lymph nodes like the size, shape and longitudinal/transverse axis ratios of each node, absence of echogenic hilum, asymmetrical cortical thickening, and presence of peripheral, transcapsular flow.

**Summary:** SLN was identified in 71 patients. By 21 patients SLN (s) were positive in histological report. The concordance between clinical examination, ultrasound and definitive status of axillary nodes in 71 patients was respectively: 60% and 87%. By ultrasound, the most apparent

features of malignancy were asymmetric cortical thickening and presence of peripheral, transcapsular flow.

**Conclusion:** Based only on clinical examination a lot of patients would be inappropriately qualified to SLN biopsy procedure. Additional ultrasound with color Doppler examination may improve appropriate selection of patients to this procedure.

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#### The hottest sentinel lymph node for breast cancer dose not always contain metastasis

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**Purpose:** To verify whether the most radioactive sentinel lymph node (SLN) has always metastases in patients with the positive SLNs and how many radioactive SLNs should be removed.

**Methods:** Between January 1999 and December 2003, 551 cases with a clinical tumor size < 5.0 cm and a clinical node negative breast cancer underwent SLN biopsy using the combined method with blue dye and radio-isotope (RI). SLN biopsy was continued until all blue and hot nodes were removed. A specific SLN-to-background ratio was not specified in this study for defining an SLN. A count of radioactivity of the harvested node was performed in ex-vivo. All SLNs were initially evaluated by frozen section analysis, intraoperatively. Patients with a positive frozen section immediately underwent axillary lymph node dissection. The SLNs and other dissected non-SLNs were later examined in permanent sections by routine hematoxylin-eosin staining of single sections. This analysis includes 495 cases with successful RI localization.

**Results:** The mean number of SLNs harvested was 1.7 ± 0.9 (range 1-7). Twenty-three percent of cases (115/495) were node-positive. In 94 (82%) of SLN positive cases, the hottest SLN contained tumor. Two hundred fifty-six (52%) had two or more SLNs identified. Of these multiple SLNs harvested cases, 67 had positive nodes. Forty-six (69%) contained tumor in the hottest SLN, but 21 (31%) in the less radioactive (the second or third hottest) SLN, and 4 (6%) in no radioactive and blue stained SLN.

The all positive nodes with the less radioactive SLN count showed 10% or more of the hottest SLN count, except for the four no radioactive and blue stained cases with 0% of count ratio. For 97% (111/115) of node-positive cases, metastasis was detected within the first three hottest SLNs removed.

**Conclusions:** These data suggest that the hottest SLN does not always contain metastasis. However, the result were reached with using the combined method with blue dye and measuring the count of radioactivity in the "ex vivo". Practically, we should remove all nodes containing RI and/or staining with blue dye.

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#### A subjective analysis of the influence of sentinel node concept on the aesthetic outcome of breast conservative surgery

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**Introduction and Aims:** Sentinel node concept brought numerous advantages to women with breast cancer (BC). Sparing axillary nodes anatomy physiology may allow a better tolerance to the effects of surgery and radiotherapy and therefore enhance the cosmetic results. Our aim was to compare the cosmetic of two randomised groups of patients, on a subjective basis.

**Methods:** A consecutive series of pN0 BC patients submitted to either partial mastectomy plus axillary dissection or partial mastectomy plus sentinel node biopsy (included in a randomised trial) was photographed. Photos were analysed by a panel of 7 persons (4 women: a junior surgeon, a surgery resident, a breast cancer nurse and a healthy women; 3 men: a senior surgeon and two junior surgeons), considering the following variables: global aspect, scar, breast size, breast shape, nipple position, areola shape and skin colour. Participants were blinded for the type of surgery applied to each patient; they were also blinded for each other appraisals. Results were assessed based on a four levels classification: excellent (1), good (2), fair (3) or bad (4).

**Results:** We studied 47 female patients, 20 allocated to arm 1 (axillary dissection) and 27 to arm 2 (sentinel node biopsy). Median of age was 56 years (range: 32-71). Median follow-up time was 40 months (range: 29-55). All patients received partial mastectomy and adjuvant radiotherapy (50 Gy plus external boost or brachytherapy). Chi-square test and Student's t-test showed that the only variable which good results were associated significantly with sentinel node biopsy only was skin colour (p < 0.005). We