Poster Sessions

Breast cancer

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The sentinel node procedure in early breast cancer under local anaesthesia

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Introduction: Sentinel lymph node (SN) dissection is a highly accurate method of axillary staging in patients with early breast cancer. Patients without SN metastases will not need axillary dissection with its complications and morbidity. After the learning curve in our hospital (1997 -1998; 4% false negatives) and with an experience of more than 200 SN procedures in general anaesthesia, we offer our patients with proven breast cancer (< T4) the possibility of SN detection under local anaesthesia in an out-patient setting.

Patients and methods: From september 2000 until april 2001 58 women with proven breast cancer and without clinical evidence of axillary node involvement underwent a sentinel node procedure under local anaesthesia after informed consent. Preoperative lymphoscintigraphy in two planes was used to mark the sentinel node(s). 1 mC 99mTc-nanocolloid (18 hrs prior to the operation) and 0.5 cc patent blue (5 minutes before incision) were injected intradermally. The SN was identified intraoperatively under local anaesthesia (15 cc prilocaïne 1%) using the blue color and a handheld gamma-probe (Neoprobe 2000). After excision histopathologic examination including immunohistochemistry was performed. In the group with positive SN's an axillary dissection was added to the breast surgery in the same general anaesthesia.

Results: Lymphoscintigraphy enabled us to identify SN's in 56/58 women (97%). In all 58 patients the SN('s) were found using blue dye and gamma-probe (discovery 100%).The SN was positive in 19/58 patients (33%). Two of these (3%) were only detected with immunohistochemistry. In the patients with a positive SN the axillary dissection showed in 4 of 19 cases (21%) another (non-sentinel) positive node. The only complication encountered in the overall group was a haematoma.

Conclusions: A 100% detection of sentinel nodes in early breast cancer harvested under local anaesthesia was achieved without serious morbidity. This two-step procedure (SN under local anaesthesia/definitive breast surgery in general anaesthesia) enables a more individual approach in the surgical management of the patient with early breast cancer. It is less expensive and enables better operative planning. The two-step procedure saved 33% of the patients one general anaesthesia, while still 67% of our patients did not need an axillary dissection.

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Value of additional staging following tumour positive sentinel node (SN) biopsy in breast cancer

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Purpose: SN biopsy is a minimally invasive method for axillary staging in breast cancer. Following a positive result, i.e. if the SN contains tumour, additional staging in the form of liver ultrasound (US) and bone scintigraphy (BS) is often performed. We evaluated the yield of the US and BS in SN positive patients in our clinic.

Methods: From 1994-2000, 140 patients with a T1 and T2 tumour had a positive SN biopsy. All had a level I-III axillary dissection resulting in 1 positive lymph node in 81, 2 in 22, 3 in 7 and >3 in 21 patients, the SN included. An US and BS were obtained within 4 weeks following the SN biopsy.

Results: Initial postoperative staging resulted in 21 (US) and 29 (BS) patients where additional imaging was advised. None of the imaging procedures resulted in exposure of metastatic disease. In three patients biopsies (2 from the liver, 1 from the bone) were performed that were negative. The follow up period since surgery has been 34±20 (median 31) months. Four patients developed distant metastases after 18, 39, 45 and 48 months in bone (3x), liver (1x) and lung (1x). In none of these the metastases could be predicted on the basis of initial postoperative staging.

Conclusion: Additional staging following a tumour positive SN biopsy in T1 and T2 breast cancer is unnecessary and not cost effective.

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Interphase cytogenetics with DNA-probes for chromosome 8 to detect circulating tumor cells in breast cancer patients

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Purpose: The detection of micrometastases in the bone marrow or peripheral blood of cancer patients is increasingly used for a more sensitive tumor staging and prognostication. We tried to develop a new approach for the detection of circulating tumor cells in breast cancer patients combining immunomagnetic enrichment and interphase cytogenetics.

Methods: In a blinded study, we have analyzed matched pairs of primary breast cancers and circulating tumor cells from the same patients, isolated with immunomagnetic enrichment, with interphase cytogenetics for chromosome 8.

Results: After analyzing 27 patients with benign as well as malignant breast tumors we can demonstrate that the chromosomal pattern between malignant tumor and corresponding circulating tumor cells is identical. Furthermore, the detection of circulating tumor cells directly correlates with the primary tumor stage. We did not find any cells with chromosome 8 alterations in the patients with benign disease. Surprisingly, even in early breast cancers (T1N0) interphase cytogenetics identified circulating tumor cells in 2 out of 4 patients.

Conclusion: Interphase cytogenetics represents a non-invasive, sensitive and specific assay for the direct visualization of circulating tumor cells in the peripheral blood. The prognostic value of these findings remains to be further evaluated in larger prospective studies.

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Neoadjuvant chemotherapy paclitaxel + doxorubicin (PD) vs fluorouracil + doxorubicin + cyclophosphamide (FAC) in locally advanced breast cancer: Clinical and pathological response

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Purpose: The aim of study is to test efficacy of PD regimen vs FAC (clinical and pathological response, breast-conserving surgery rate).

Methods: 57 patients (pts) with locally advanced breast cancer (T2N2, T3N1, T4N0-1) received 4 cycles of neoadjuvant chemotherapy-Paclitaxel 200 mg/m^2 + Doxorubicin 60 mg/m^2 (PD-regimen), every 3 weeks (29 pts) vs 4 cycles of neoadjuvant 5-Fluorouracil 600 mg/m^2 + Doxorubicin 60 mg/m^2 + Cyclophosphamide 600 mg/m^2 (FAC), every 3 weeks (28 pts). Tumour response to preoperative chemotherapy was assessed after 4 cycles by palpation and mammography. Then appropriate surgery was performed. Surgical specimens were examined for the presence of microscopic residual tumour.

Results: From October 1999 to December 2000 57 pts were included (29-PD group, 28-FAC). Pathological complete response (pCR) was ob-