Conclusion: The success and accuracy of SLN mapping in breast cancer is optimized by the combined use of blue dye and isotope. Using a single localising agent would more than triple the failed localisation rate, and also lead to an appreciable increase in the clinically more serious false negatives.

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Reproducibility study of lymphoscintigraphy: excisional biopsy of breast lesions changes drainage patterns

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A previous study established a 100% reproducibility of preoperative lymphoscintigraphy using intralesional tracer injection in patients with their primary breast cancer still present. The purpose of the current study was to validate the sentinel node procedure in patients after prior excisional biopsy by means of determining the reproducibility of lymphoscintigraphy before and afterwards.

Methods: Twenty patients scheduled for excisional biopsy of a breast lesion were investigated. Informed consent was obtained from all patients. The same investigator performed two scintigraphic studies in each patient. The day before surgery, ^{99m}Technetium-nanocolloid was injected into the tumor. Anterior, lateral, and – if needed – oblique images were obtained after twenty minutes, two hours and four hours. Lymphoscintigraphy was repeated after a minimum of two weeks post-operatively. The radioactive tracer was then injected around the biopsy cavity but otherwise the procedure was identical.

Results: Preoperative lymphoscintigraphy visualized at least one sentinel node in all twenty patients. Discrepancy in the drainage patterns was seen in fourteen out of the twenty patients (70%). A change in drainage pattern to the axilla after excisional biopsy of the breast lesion was seen in nine patients (45%): an original sentinel node could not be visualized in six patients whereas additional hot spots were visualized in the other three.

Drainage to the internal mammary chain was preoperatively seen in ten of the twenty patients. After excisional biopsy, only two of these patients showed the same drainage pathways. The location of a hot spot changed to another intercostal space in six patients whereas in two patients, no hot spot was visualized in the internal mammary chain the second time around.

Conclusions: Compared to preoperative drainage from the actual breast lesion, post-excisional lymphoscintigraphy shows a different drainage pattern in 45% of the patients with axillary sentinel nodes and in 80% of the patients with internal mammary sentinel nodes. This implies that sentinel node biopsy should be performed prior to excisional biopsy to ensure optimal sensitivity.

79 POSTER HIGHLIGHT

EORTC 10981–22023 trial. AMAROS: after mapping of the axilla: radiotherapy or surgery? Trial update

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Background: The EORTC-AMAROS trial is a phase III randomised non-inferiority trial comparing a complete axillary lymph node dissection versus radiotherapy to the axilla in sentinel node biopsy positive patients, whereas sentinel node negative patients will be followed for the endpoints of the study as well. The main objective of the trial is to prove equivalent local/regional control for patients with proven axillary lymph node metastasis by sentinel node biopsy with reduced morbidity if treated with axillary radiotherapy instead of axillary lymph node dissection. The involved patients will have an operable invasive breast cancer of over 5 mm and less than 3 centimetres, without clinically suspected regional lymph nodes. Quality control constitutes an important part of the trial design.

Methods: Before the participating centre is allowed to enter patients, at least 30 sentinel node procedures have to be performed, with a minimum of 27 patients with accurate sentinel node identification and not more than one false negative. After 30 cases, the participating centre will be site visited and all the cases will be reviewed. If quality criteria are fulfilled, the participating team can enter patients in the trial. The quality of radiotherapy will be controlled before participation by evaluation of a dummy run.

Current status: The trial started in February 2001 and has randomised 825/3485 patients till September 15th. At the moment 14 institutions are recruiting patients actively, another 7 centres will participate in the near future.

Interim results: Sentinel node biopsy results show that 37% is positive and 61% is negative. Due to the quality control, identification rates in the participating centres are excellent (98%).

Prospects: With the introduction of Remote Data Capture, paper case report forms will be replaced by webforms. Access will be on the EORTC.be website without any special software necessary. The advantages are less administration, a better accuracy of data and a faster process of data.

More information: www.amaros.nl

80 POSTER HIGHLIGHT

Multifocality is not a contraindication to sentinel node biopsy in breast cancer

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Background: Multifocal breast cancer has been suggested as a contraindication for sentinel node biopsy. However, recent studies have demonstrated that the lymphatic drainage of the entire breast coincides with drainage of the tumour bed, regardless of the quadrant. This should mean that the presence of multifocal tumour should not affect the lymphatic drainage. The purpose of this study was to evaluate the feasibility and accuracy of sentinel node biopsy in patients with multifocal breast cancer using a peritumoural injection technique for SLN mapping.

Methods: In the ALMANAC multicentre trial validation phase, we took sentinel node biopsy samples from 842 patients with node negative, invasive breast cancer with use of a blue dye and radiolabelled colloid mapping technique at the peritumoural injection site. All patients underwent standard axillary treatment after sentinel node biopsy. 75 of the 842 patients had multifocal lesions on histopathologic examination. The following analysis is restricted to patients with multifocal or multicentric lesions.

Results: A mean number of 2.4 SLNs were identified in 71 of 75 patients (identification rate: 94.7%). Thirty one patients had a positive SLN, 40 a negative SLN. Standard axillary treatment confirmed the SLN to be negative in 37 of 40 patients, whereas three patients revealed positive non-sentinel lymph nodes (false-negative rate: 8.8%). Overall SLN biopsy accurately predicted axillary lymph node status in 68 of 71 patients (95.8%).

Conclusion: SLN biopsy accurately staged the axilla in multifocal breast cancer and may become an alternative to complete axillary lymph node dissection in node negative patients with multifocal breast cancer.

81 POSTER HIGHLIGHT

Routine internal mammary sentinel node (IM-SN) biopsy in breast cancer is clinically relevant

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Background: Routine internal mammary sentinel node (IM-SN) biopsy is feasible and allows for more accurate nodal staging, by identifying patients with worsened prognosis, as based on the presence of metastases in the IM-chain. Thus, adjuvant therapeutic strategies can be tailored accordingly, to gain survival advantage in this subgroup.

Material and methods: Within an ongoing prospective clinical study 720 consecutive clinically $T_{1-3}N_0$ breast cancer patients underwent lymphatic mapping, using peritumoral injection of 370 MBq ^{99m}Tc nanocolloid and intradermal injection of 0.8 ml patent blue dye. IM-SN biopsy was attempted in all cases showing IM-hotspots on the preoperative scan.

Results: Lymphoscintigraphy showed axillary SNs in 97% (701/720) and additional IM-SNs in 21% (152/720). Routine IM-SN biopsy was successful in 67% (102/152), revealing overall 22.5% (23/102) internal mammary metastases. Five of these patients had no axillary metastases. All IM-SN positive patients received adjuvant chemotherapy, changing systemic therapeutic strategies in four out of five axillary node-negative patients, i.e. in 17% (4/23) of this group. Additionally, all IM-SN positive patients received adjuvant parasternal radiotherapy. In all, IM-SN biopsy changed adjuvant treatment in 15% (23/152) of patients with visualized IM-hotspots and in 22% (23/102) of patients with successful IM-SN biopsy, illustrating its clinical relevance.

Complete follow up of all IM-SN positive patients now ranges from 2 to 75 months (median 43, mean 37), showing no deaths and one event of distant metastases, diagnosed 7 months after surgery.

Conclusion: Routine IM-SN biopsy detects otherwise occult metastases in 15% of breast cancer patients with visualized lymph drainage patterns to the IM-nodes, enabling tailored adjuvant treatment strategies in order to improve overall survival in this poor prognosis subgroup.