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16:00–17:15

PROFFERED PAPERS

Sentinel node – technique, diagnosis and management

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ORAL

The impact of preoperative breast biopsy on the risk of sentinel lymph node metastases: analysis of 2502 cases from the Austrian Sentinel Node Biopsy Group

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Background: Preoperative breast biopsy might cause disintegration of tumour cells and tumour cell spread. The sentinel lymph node is examined more precisely and therefore tumour cell spread in a lymph node is detected more frequently. The purpose of this study was to investigate the impact of preoperative biopsy on the rate of metastases to the SLN of patients with primary breast cancer.

Methods: We report the results of 2502 patients with primary breast cancer who were operated and a sentinel node biopsy was performed. The association of preoperative biopsy with the risk of SLN metastases was examined by regression analyses and tested for possible confounding well known factors for axillary node metastases.

Findings: 1892 Patients were available for final analyses. 1048 (55.4%) patients had a preoperative diagnosis done by fine needle aspiration or core biopsy. 642 (33.9%) patients had a positive SLN when conventional H&E and IHC staining was performed. Patients with preoperative breast biopsy showed a 1.37 fold (95% CI, 1.13–1.66) increased relative risk for SLN metastases on univariate analysis but this result was not persistent when analysis was adjusted for other relevant factors for axillary node metastases RR 1.06 (95% CI, 0.83–1.34). In addition, subgroup analyses of the risk for occult micro metastases to the SLN (detected by IHC only) on H&E negative cases, did as well not reveal an accessory risk for preoperative biopsy RR 1.04 (95% CI, 0.67–1.60).

Conclusions: Preoperative breast biopsy does not cause artificial tumour cell spread to the SLN so – we assume – has no impact on survival or disease free survival.

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Non-Sentinel lymph node involvement in breast cancer patients with a micrometastatic sentinel lymph node: Results of the Austrian Sentinel Node Study Group

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Background: The impact of micrometastatic sentinel lymph node(s) on disease free and overall survival in breast cancer patients is still debated, as is whether a axillary lymph node dissection (ALND) is mandatory in case of a micrometastatic sentinel node (SN). The purpose of this study was to identify a subset of breast cancer patients with a micrometastatic SN, in whom ALND may be omitted.

Patients: Data from 2037 successfully performed SN biopsies from the Austrian SN study group data bank were analysed.

Results: The SN was negative in 1360 patients (67%) and positive in 677 patients (33%). 423 of 677 patients (62%) had macrometastases, 254 of 677 (38%) had micrometastases in the SN. 158/254 (62%) were found by H&E examination, whereas 96/254 (38%) were found by immunohistochemistry. Non-SN(s) were involved in 205/414 patients (49.5%) with a macrometastatic SN but only in 49/220 patients (22.3%) with a micrometastatic SN (IHC detected micrometastasis 19.2%, H&E detected micrometastasis 23.8%). Univariate and multivariate analysis of patient and tumor parameters found the incidence of non-SN metastases significantly related to the size of the SN micrometastasis ($p=0.028$). There was no such significance found with the other factors analysed (patient age, tumor size, histology, histological differentiation, receptor

status, tumor quadrant, department performing the SN biopsy, distance of micrometastasis to lymph node surface and location of micrometastasis in the SN). The micrometastasis in the SN was missed by frozen section in 167/232 patients (72%) who then required a secondary axillary dissection (in macrometastatic SN the metastasis was missed in only 9% of the patients). In 34 of 254 patients with a SN micrometastasis no ALND was performed. After a median follow up of 22 months there was one axillary recurrence and the patient underwent salvage axillary dissection.

Conclusion: In patients with a micrometastatic SN tumor involved non-SNs are found in 22%, with the incidence of finding a positive non-SN being significantly correlated to the size of the micrometastasis.

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ORAL

Discrepancies in current practice of pathological evaluation of sentinel lymph nodes in Europe

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The European Working Group for Breast Screening Pathology (EWGBSP) evaluated aspects of the current practice of sentinel lymph node (SLN) pathology in breast cancer via a questionnaire-based survey, in order to recognise major issues that the European Guidelines for Mammography Screening should address in the next revision.

A questionnaire was circulated by mail or electronically by the members of the EWGBSP in their respective countries. Replies from pathology units dealing with SLN specimens were evaluated further.

Of the 382 responders, 240 European pathology units were dealing with SLN specimens. 60% of these units carry out intraoperative assessment, most commonly consisting of frozen sections. Most units slice larger SLNs into pieces and only 12% assess these slices on a single haematoxylin and eosin (HE) stained slide. 71% of the units evaluated routinely use immunohistochemistry in all cases negative by HE. The terms micrometastasis, submicrometastasis, and isolated tumour cells (ITC) are used in 93%, 22% and 71%, respectively, but have a rather heterogeneous interpretation. Molecular SLN staging was reported from only 10 units (4%). Most institutions have their own guidelines for SLN processing, but some countries have also well recognised national guidelines.

Pathological examination of SLNs throughout Europe varies considerably and is not standardized. The European Guidelines should focus on standardizing examination. They should recommend techniques that identify metastases >2 mm as a minimum standard. Uniform reporting of additional findings may also be important, because micrometastases and ITC may in the future be shown to have some clinical significance.

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ORAL

Relative value of blue dye and isotope in sentinel node localization for breast cancer in a multicentre trial

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Background: Among the advocates of blue dye, isotope, or combined dye-isotope mapping of the sentinel lymph node(SLN) for breast cancer, there is no universal consensus as to which technique is optimal. The objective of this study was to examine the relative contribution of blue dye and radioisotope to identifying both the SLN and the positive SLN.

Methods: In the validation phase of the ALMANAC multicentre trial, 842 patients underwent sentinel node biopsy using a combined technique of blue dye and isotope mapping with preoperative lymphoscintigraphy according to a standardised protocol. SLN biopsy was followed by standard axillary treatment in all patients.

Results: Of the 815 patients with adequate data on method of localisation, 33 (4.0%) were failed localisations. This figure would increase to 117 (14.4%) if blue dye alone had been used, or if the isotope alone had been used.

Of the 782 patients who were successfully localised using both agents, 506 were true negatives. Of the 276 with positive axillae, 258 were correctly identified and 18 (6.5%) were false negatives. Also, of these 276 patients, an additional 7 (2.5%) would be false negatives if blue dye alone was used, or an additional 12 (4.3%) if the isotope alone was used.

Dye, isotope, and combined success rates

Patients	Success in identifying sentinel lymph node					
	Dye success		Isotope success		Combined success	
	n	%	n	%	n	%
All patients (n=815)	698	85.6	698	85.6	782	96
Success in identifying positive sentinel lymph node						
All pts with +ve axilla (n=276)	251	90.9	246	89.1	258	93.5