O-48. DOES RADICAL SURGERY TO THE AXILLA GIVE A SURVIVAL ADVANTAGE IN MORE SEVERE BREAST CANCER?

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Recent Danish studies have shown a survival advantage from radiotherapy in node positive disease.

734 patients with invasive breast cancer, presenting between January 1986 and December 1997, were treated by axillary clearance n = 350 or sampling n = 384. Sampled patients had less severe disease and were more often treated by wide local excision and radiotherapy to the breast and low axilla, than mastectomy. In order to compare the outcome of the clearance versus sampling, patients were separated into good, intermediate and poor prognostic groups by the Nottingham Prognostic Index.

Local recurrence occurred in patients with axillary clearance in 11% v 6% with axillary sampling, regional recurrence in 2% v 3% and distant metastases in 28% v 13% respectively. Kaplan-Meier curves were plotted for the three NPI prognostic groups between the radical and conservative groups and there was no difference in absolute survival. (log rank test: p = 0.3, p = 0.8 and p = 0.6 respectively).

We conclude that a conservative surgical approach to the axilla did not increase the incidence of regional recurrence and the expected survival benefit from the more radical approach was not apparent.

O-49. SENTINEL NODE BIOPSY IN SCREEN DETECTED IMPALPABLE BREAST CANCER USING PERI-AREOLAR RADIONUCLIDE INJECTION

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It is clear regarding palpable tumors that radionuclide can be injected peritumorally. But for the impalpable ones, there is a practical difficulty. To circumvent this, keeping in mind Sappey's description of lymphatic drainage of breast, we injected the radionuclide at four sites subdermally around the areola.

Between August 1999 and March 2001, 82 patients had sentinel node biopsy done for breast cancer in our hospital. 49 out of these were for screen detected impalpable tumors. These patients underwent peri-areolar injection. 10–20 Mbq of 99mTc labelled colloidal albumin was injected 3–4 hours prior to operation. Sentinel node(s) was removed under guidance of a Gamma ray probe. Further axillary node sampling was done in all patients.

Sentinel node(s) was identified and biopsied in 45 of 49 patients. In total, 285 nodes were removed with an average of 6.3 nodes per patient. 14 of these patients had metastases in the axillary nodes. In 8 of these patients the only node involved was the sentinel node. Only in one patient sentinel node was negative and other axillary nodes were positive for metastases.

Our localisation rate of 89% and false negative rate of 2.8% is comparable to results of most studies where peritumoral injection has been used. So in our experience, peri-areolar injection for localisation of sentinel node is as reliable as a peritumoral injection.

O-50. SENTINEL NODE – A NEW INJECTION TECHNIQUE

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One of the international quality criteria for SN (Sentinel Node) diagnosis is >90% identification rate. Many centres perform blue dye and isotope combined in order to achieve high enough rates. We have concentrated upon use of isotope alone and inject 20 MBq 99Tc peritumorally and 20 MBq as four periareolar injections subdermally. This technique combines the need for demonstrating alternative and parallel routes and the need for an effective drainage to the SN. All patients without clinically suspected lymph nodes were included. Lymphoscintigraphy is taken after 3 hours, and the operation was performed 24 hours later using Navigator probe for detection. One or two SNs were investigated by frozen section. During the following days further histology was performed in six sections using H&E staining and cytokeratine immunohistochemistry. When SN was positive axillary dissection was performed. During the last 18 months 154 pts are included, 120 have received breast conserving surgery and 34 mastectomy. 148 have been found by this isotope technique alone (97%), 137 were detected by lymphoscintigraphy (89%). Among the 6 SNs not detected, two were clinically fully infiltrated and should not have been included, and in two pts the tumor was removed earlier in the upper lateral quadrant interrupting the lymph drainage. The axilla was positive in 59/154 (38%) in this mixed screening and clinical population, and SN showed this in 56/59, three were palpabel and completely infiltrated. SN was the only positive node in 36/59 (61%).

The novel injection technique here presented gives very high identification rate, in fact 99% of those having any chance of identification. The main reason for combining with blue dye seems to disappear. The method of SN identification can be simplified, which is important when many surgeons are going to learn the procedure.

O-51. THE ROLE OF DYNAMIC IMAGING IN SENTINEL BIOPSY IN BREAST CANCER

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The aim of this study is to evaluate and to define the role of dynamic imaging in sentinel node (SN) biopsy for breast cancer.

73 patients with T1/T2, N0 lesions were investigated. Each patient received a subdermal injection of 15 MBq ^{99m}Tc nanocolloid. Anterior oblique (AO) dynamic imaging commenced immediately for 45 minutes (min.). Imaging data for each patient was reformatted into various image files: 90 × 10 seconds frames, 15 × 1 min. frames, 45 × 1 min. frames, 3 × 5 min. frames, 9 × 5 min. frames. Patterns of uptake were analysed using the

sequences of dynamic frames. Time-(radio)activity curve (TAC) analysis was performed when visual interpretation was problematic.

Critical study of the dynamic dataset showed all AO image information is present within the first 15 minutes post injection. In 90% of patients, the first 5 minutes imaging was adequate. In 8 patients, additional active foci were identified as second sentinel nodes (SN) or echelon nodes. This was achieved by interpreting the dynamic images alone (6) or by additional TAC analysis (2). In 6 patients, sites of uptakes were confirmed as transient.

Dynamic image acquisition does not required to extend beyond 15 minutes. 1 min. framing offers optimal imaging format. The role of dynamic imaging is to distinguish true SNs from transient hotspots and second echelon nodes.

O-52. INTRA-OPERATIVE FROZEN SECTION RELIABLY PREDICTS SENTINEL NODE STATUS IN PATIENTS WITH BREAST CANCER

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Aims: Routine histology of the sentinel lymph node (SLN) reliably predicts axillary node status in patients with breast cancer but a key clinical question is whether the technique can be used intra-operatively to decide if axillary node clearance (ANC) is required. We have performed frozen section analysis of SLNs to see if this can be used to reliably predict the necessity for ANC.

Methods: 114 SLN from 85 patients underwent frozen section analysis. A formal level I and II ANC was then completed and all harvested nodes including the remains of the sentinel node were analysed by routine paraffin histology.

Results: Frozen section was positive in 31 SLN from 27 patients and all of these were confirmed positive by paraffin histology. Frozen section was negative in 83 SLN from 58 patients but in 3 SLN from 3 patients the paraffin histology was positive, giving a false negative rate of 11% These results therefore represent a sensitivity of 90% (NPV 95%) and specificity of 100% (PPV 100%).

Conclusions: Intra-operative frozen section reliably predicted the status of the SLN in 96% of patients and based on these results, 68.2% of patients would have been spared an ANC with 3.5% requiring a delayed ANC due to a false negative result.

O-53. SENTINEL LYMPH NODE BIOPSY IN BREAST CANCER – IS LYMPHOSCINITIGRAPHY REALLY NECESSARY?

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Aim: Lymphoscintigraphy is regarded as a useful tool in sentinel lymph node (SLN) biopsy in breast cancer. The aim of this study was to ascertain its value in axillary SLN detection.

Methods: Axillary SLN biopsy was undertaken using the combined method of patent blue dye and gamma probe detection. Lymphoscintigraphy was performed but the operating surgeon was blinded to the results of the lymphoscintigram. Following SLN biopsy and prior to closure of the axillary wound the lymphoscintigram was reviewed. Internal mammary node dissection is not performed in this unit.

Results: Of 52 patients who underwent lymphoscintigraphy, 42 (81%) had successful scans. Of these, 33 (79%) had axillary nodes, 4 (10%) internal mammary nodes and axillary nodes and 5 (12%) internal mammary nodes on lymphoscintigrams. All of these patients had axillary sentinel nodes identified intra-operatively by gamma probe or visual detection of blue-stained lymphatics and node(s). Review of the pre-operative lymphoscintigrams demonstrated that they would not have influenced intra-operative axillary SLN detection in any patient.

Conclusion: Lymphoscintigraphy does not contribute to axillary SLN biopsy in women undergoing surgery for breast cancer.

O-54. THE ALMANAC TRIAL – EARLY RESULTS FROM THE AUDIT PHASE

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The ALMANAC trial (Axillary Lymphatic Mapping Against Nodal Axillary Clearance) is a two-phased, multicentre, randomised trial in progress in the United Kingdom, comparing Sentinel Node Biopsy (SNB) with standard axillary treatment in the management of breast cancer.

We present our early data of the audit phase, which includes 11 surgeons who performed a SNB, followed by the standard axillary procedure in 40 consecutive patients. All the surgeons involved in this trial attended a course on SNB and in addition were proctored in the procedure by the Principal Investigator of the trial. The SN was localised using a standard protocol involving a combination of a radiopharmaceutical and patent blue V dye. A lymphoscintiscan was performed around 3 hours after the administration of the radiopharmaceutical (Nanocoll 40 MBq or 20 MBq). Peroperatively, a gamma probe was used to identify the sentinel node. Standard H&E staining was used to assess the SN.

Of the 440 patients (436 female and 4 male) in this study 365 patients had palpable lesions, of which 150 were screen detected. The mean tumour size was 21 mms (range 1.7–100 mms). On the scintiscan, 68% had axillary drainage and 8% had internal mammary drainage. A SN was successfully identified in 425 patients (96.6%) and the mean no of SN's removed was 2.2 (range 1–8). There were 125 patients (34.8%) with positive axillae, 9 of these patients had a false negative SN resulting in a false negative rate of 5.9%.

The above results confirm that the SN in breast cancer can be accurately localised with an acceptable false negative rate if surgeons are adequately instructed in the procedure. The above