308 Poster

Does 'intra-operative assessment' of sentinel lymph node biopsy increase patient's anxiety?

T. Sircar[1], P. Mistry[1], A. Eyers[1], T. Preece[1], N. Davis[1], S. Harries[1], D. Clarke[1], L. Jones[1]. [1]*South Warwickshire General Hospital, Breast & General Surgery, Warwick, United Kingdom*

Background: Intra-operative assessment (IOA) of sentinel lymph nodes (SLN) with touch imprint cytology is a recognized technique to stage the axilla in patients with breast cancer. If IOA is positive for metastasis, axillary clearance is performed during the primary procedure thus avoiding a second operation. However this approach can leave some apprehension in the patient's mind pre-operatively regarding the extent of surgery that will be undertaken. Waking up after operation to find an axillary drain implies more extensive surgery and worse prognosis disease. Besides, patients can be disappointed where IOA is negative but final histology of SLNs are positive. Patient counseling is therefore absolutely crucial.

The aim of this study was to assess if our patient counseling on IOA was adequate and if IOA increased the patient's anxiety pre-operatively.

Method: This was a prospective questionnaire survey. 61 consecutive patients were included who underwent operation for primary breast cancer along with SLNB and IOA. Pre-operatively they were counselled by the Consultant Surgeon and the specialist breast care nurses. These 61 patients were given a questionnaire before discharge. Completed questionnaires were sent by patients to the audit department. Their response data was analyzed.

Results: 98% of patients felt that the procedure of IOA was explained to them in a way that they could comprehend. 98% of patients understood that axillary clearance would be performed if IOA was positive. However 7/61 (11%) patients expressed that they were not aware that if IOA was negative, there was a chance that final histology could be positive. Seven patients (11%) required axillary clearance due to positive IOA. Only 8/61 (13%) patients felt that IOA increased their anxiety prior to operation while 52/61 patients (85%, 95% CI: 0.74 to 0.92) felt it did not. All 61 patients felt that IOA was a good option and would choose IOA again if necessary.

Conclusion: Intra-operative assessment of sentinel lymph nodes did not increase the anxiety in the majority of patients. Though nearly all patients felt that they were given an adequate explanation of IOA 11% patients expressed that they were not aware of the possibility of false negative IOA. Clearly more effort and time should be spent explaining the procedure, making it clear that a false negative result can occur. Combining written information on IOA along with counseling will probably be helpful.

309 Poster

Sentinel node biopsy in "high risk" DCIS patients

Z. Mentrak[1], J. Piechocki[1], R. Chmielewski[1], M. Nagadowska[1], L. Sienko[1], W. Kwiatkowski[1], E. Towpik[1]. [1]*Maria Sklodowska-Curie Memorial Cancer, Breast Cancer and Reconstruction Surgery Unit, Warsaw, Poland*

Background: Ductal carcinoma in situ (DCIS) becomes a more common finding recently among women with screen detected breast cancer. DCIS should not metastasise to the axillary lymph nodes. However, postoperative examination of breast specimens may reveal invasion in some cases, raising the question about the necessity and indications for sentinel node biopsy. Almost all surgeons find the necessity of sentinel node biopsy in simple mastectomy cases, but it is also important to select a group of patients with DCIS which should have sentinel node biopsy during the first operation.

Material and Methods: In years 2004−09, we performed sentinel node biopsy in 2468 women patients treated for breast cancer. 285 of them had initial diagnosis of DCIS and were included into this study. The preoperative diagnosis of DCIS was based on mammography result and core, vacuum assisted (VAB) biopsy or surgical excision biopsy. Mammography showed microcalcifications (6–160 mm in diameter, BIRAD 4a-c) in 72% cases, well defined tumor in 26% and spicular structure in the remaining 2%. The visualization of sentinel node was performed using both technetium (Tc99) and methylen blue. Simple mastectomy was performed in 36% and breast conserving therapy in the remaining 64% cases.

Results: Sentinel node metastases were found in 20/285 patients. All of them had subsequent axillary dissection, and further lymph node metastases were found in 6/20 cases. Postoperative pathological examination of breast specimens revealed macro- or microinvasion in 19/20 cases, no invasion was found in the remaining 1 case. 18 patients had similar preoperative mammography findings: large areas (40–160 mm) of microcalcifications, two of them had tumor well defined shown by preoperative mammography. Preoperative biopsy revealed high grade (nG3) malignancy in 14/20 cases, medium (nG2) in 4/20 and low (nG1) in the remaining 2/20.

Conclusions: Our results suggest that sentinel node biopsy in patients with preoperatively diagnosed DCIS is justified and can save the patient an additional surgery in case of invasion findings in pathology report. One should localize a subgroup of DCIS patients, which may be called "high risk" in which the probability of underdiagnosing of the invasion component is so high that the sentinel biopsy is necessary. We suggest that sentinel node biopsy should be strongly recommended in DCIS patients with: large (>40 mm) areas of suspected microcalcifications, high or medium grade of malignancy showed in core biopsy and naturally in all cases when the patient chooses simple mastectomy.

310 Poster

A novel approach in sentinel node localisation in breast cancer: the UK experience in the use of Sentinella® the portable gamma camera in operating theatre

V. Stafyla[1], C. Wickham[2], D. Ghosh[1], A. O'Brien[1], J. Page[1], D. MacCool[1], T. Davidson[1], M. Keshtgar[1]. [1]*Royal Free Hospital, Breast Surgery, London, United Kingdom;* [2]*Royal Free Hospital, Nuclear Medicine, London, United Kingdom*

Background: Sentinel lymph node (SLN) biopsy is the standard practice for axillary staging in early breast cancer. Combining radio-isotope injection with patent blue dye is the most reliable detection technique. Sentinella® is a new portable imaging camera used intraoperatively to produce real time visual image of SLN, it also has an inbuilt gamma detection probe (GDP). Sentinella® was first tested in a controlled laboratory environment and followed by using in Breast cancer patients. We report the first use of this novel technique in Breast cancer patients from the UK.

Methods: Sensitvity and spatial resolution of Sentinella® was compared with a conventional single headed gamma camera (CGC), normally used for SLN imaging. Spatial resolution was measured by calculating the full width half maximum (FWHM) of a line profile measured perpendicular to the image of a capillary tube filled with high activity concentration of technetium-99m pertechnetate. In the second experiment a special simulator mimicking the axilla was planted with seeds containing radiocolloid Tc, mimicking lymph nodes. Seeds were placed at varying depths in the axilla. For each combination of depths and radioactivity images with Sentinella® and CGC were obtained. Sentinella® was also used in 10 patients who underwent Sentinel Node Biopsies.

Results: Sentinella® resolution is comparable with the CGC for objects close to the camera i.e. ~5 cm, but reduces rapidly as it's moved away from the camera. For distances up to about 7 cm the Sentinella® with the blue collimator is more sensitive than the CGC.

68 Sentinella® images and 34 CGC images were obtained from the simulated axilla. Sentinella® detects high radioactivity (500 kBq) faster than CGC (1 vs 2.5min). In cases of low radioactivity (10kBq) Sentinella® was equally accurate and faster than cGC, when placed close to the skin. Identification of different number of beads with varying radioactivity was similar in Sentinella and CGC.

Sentinella® images used in ten patients undergoing Sentinel node biopsy corresponded accurately to the scintigram images.

Conclusion: Sentinella® is accurate and fast in detecting radioactivity in the axilla. The anatomical shape of its collimator allows the operator to place it adjacent to the axilla, thus increasing its sensitivity in cases of low radioactivity. Its major advantage is that it can be used by surgeons in the operating theatre. Our independent tests and preliminary patient data confirms the high sensitivity and spatial resolution of the machine in localisation of radioactive nodes. This potentially increases the identification of the SLN and can resolve the problem of centres that do not have on site nuclear medicine department.

311 Poster

Feasibility and accuracy of sentinel lymph node biopsy after preoperative chemotherapy in breast cancer patients

T. Kinoshita[1], T. Nagao[1], N. Tamura[1], S. Akashi[1], T. Hojo[1], T. Hasebe[2], H. Tsuda[2]. [1]*National Cancer Center Hospital, Surgical Oncology Division, Tokyo, Japan;* [2]*National Cancer Center Hospital, Department of Clinical Pathology, Tokyo, Japan*

Background: Despite the increasing use of both sentinel lymph node biopsy (SLNB) and preoperative chemotherapy (PST) in patients with operable breast cancer, there is still limited information on the feasibility and accuracy of SLNB following PST. In this study, the feasibility and accuracy of SLNB for breast cancer patients with clinically negative lymph nodes after PST were investigated. In addition, conditions that may affect SLN biopsy detection and false-negative rates with respect to clinical tumor response and clinical tumor/nodal status before PST were analyzed.