amplified cases as compared to polysomic 17 or *HER-2/neu* negative cases.

Conclusion: Based on the current findings, we hypothesize that the biological significance of polysomy 17 is different from that of *HER-2/neu* gene amplification in breast cancer. The observation that polysomic 17 cases showed ER and PR expression rates similar to those encountered in *HER-2/neu* negative breast cancers is in line with this hypothesis.

References

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Expression of insulin-like growth factor-1, aromatase and oestrone sulphatase breast cancer tissue

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Aim: Local oestrogen production by Aromatase and Oestrone Sulphatase enzyme (STS) and Insulin-like Growth Factor-1, IGF-1 play pivotal roles in growth stimulation of breast cancer cells. We investigate the influence of the local production of IGF-1 of breast tumours on the expression of these oestrogen producing enzymes.

The Aromatase(Cyp-19 gene), STS and IGF-1 gene expressions in 71 oestrogen receptor positive breast cancer tissue and their corresponding adjacent normal tissue (ANT) were analysed using real-time quantitative-PCR. Their expression levels were compared to that of beta-actin (housekeeping gene). Data was interpreted using Spearman's Correlation test and paired sample T-test.

Results: The mean IGF-1 mRNA levels were higher in ANT than in tumour tissue but this was not statistically significant ($p = 0.212$). There was no correlation was found between the tumour tissue and ANT in terms of IGF-1 expression in each case($p = 0.844$). There was an inverse relationship between tumour IGF-1 and tumour STS expression ($p = 0.000$). This relationship was also present between IGF-1 expression in ANT and tumour STS expression ($p = 0.014$). ANT IGF-1 expression also had an inverse relationship with tumour Cyp-19 expression but this was only marginally significant ($p = 0.079$). Tumour expressed IGF-1 did not correlate with tumour Cyp-19 ($p = 0.129$).

Conclusion: IGF-1 expression in higher in ANT than in tumour tissue. These results suggests that IGF-1 expression in tumour and ANT may act as downregulators to STS expression and to a lesser degree to Cyp-19 expression.

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POSTER SESSION

Pre-operative management

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Additional work-up of new lesions found in breast MRI for staging purposes in 345 patients with breast cancer

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Purpose: Breast MRI is increasingly being used as a staging tool in breast cancer. Our purpose is to evaluate the additional work-up procedures generated by the integration of this technique in everyday practice.

Material and Methods: We staged 345 consecutive patients with fine needle aspiration biopsy (FNAB) or core-biopsy (CB) proven breast cancer or cancer of unknown origin (CUP) syndrome. T1-weighted FLASH 3D pre- and post-contrast images were obtained. Morphologic and semi-quantitative analysis was done in all patients. Additional lesions with potential change in therapeutic approach were evaluated with second-look ultrasound and FNAB or CB when needed. If necessary, new lesions were localized with a radiotracer (Tc-99m). BIRADS 3 lesions were followed-up with breast MR. Our gold standard was the pathologic report in all cases. All the procedures were carried out by dedicated breast radiologists.

Results: Additional lesions in the same or contralateral breast were found in 97 patients (28.1%). These lesions were due in part to multicentricity or multifocality in 67 patients (19.4%), also due to contralateral lesions in 25 patients (7.2%), extensive intraductal component in 7 patients (2%) and CUP syndrome in 5 patients (1.4%). Work-up of all these additional lesions originated 89 ultrasound procedures (in 25.7% of patients), 28 pre-surgical localizations with radiotracer (8.1%), 26 FNAB (7.5%) and 16 core-biopsies with 14G (4.6%). Additional breast MR exams were needed in 47 patients with BIRADS 3 lesions. Mean follow-up time was 13.8 months and no malignant new lesions were seen. For multicentric-multifocal disease, sensitivity was 75% (CI 62–83%) and specificity 99% (CI 96–99%). After all the work-up was done, patients were reevaluated and breast MR changed therapeutic approach correctly in 66 patients (19.1%) and incorrectly in 12 patients (3.4%).

Conclusions: Additional lesions are found in almost a third of patients staged with breast MR and work-up of these lesions is cumbersome but it changes therapeutic approach in 1 out of every 5 patients in our series and is therefore recommended in the staging of women with breast cancer.

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Screen detected breast cancer: is preoperative staging necessary?

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Introduction: Staging investigation to exclude metastatic disease in patients with early stage Breast cancer is routinely carried out. However such a practice has not often been scrutinised for its clinical value and cost effectiveness. Expectedly the earlier the stage of the disease the lesser the chance of finding evidence of metastatic disease with commonly used methods. Consequently the use of routine preoperative investigations may be of little value but adding more financial strain on already stretched resources. This instigated the current study to evaluate the benefit of commonly used tests, full blood count (FBC), liver functions (LFS) and chest x-ray (CXR) as preoperative staging in women with mammographically detected breast cancer diagnosed by pre-operative core biopsy.

Methods: The results of routine preoperative investigations, FBC, LFS and CXR in patients with mammographically detected breast cancer were reviewed. Breast cancer diagnosis was established preoperatively by core biopsy. Patients with palpable tumours and those who had investigations for symptomatic reasons were excluded from the study,

Results: Total of 146 patients with mammographically detected breast cancer were included in the study. Patients aged between 37–90 years. One hundred and sixteen cases had invasive carcinoma and 30 had DCIS only. In those with invasive disease histological tumour size ranged from 1.8 mm to 30 mm. Twenty cases had axillay node involvement. Tumour grade was I, II and III in 36, 49 and 27 cases respectively. Four cases could not be graded because of small tumour size. There was no evidence of metastatic disease detectable on preoperative staging in any of these patients.

Conclusion: This study does not support the routine practice of pre-operative staging in patients with mammographically detected breast cancer. Therefore routine bloods and chest x-ray should not be carried out in this cohort of patients. Omitting these tests not only prelude wasting valuable resources but should also have positive financial implications.

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Prevention of wound infection in breast cancer surgery with a strategy based on administration of antibiotic prophylaxis in patients at high risk of wound infection occurrence

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Background: In a previous study, we showed that neoadjuvant chemotherapy and immediate breast reconstruction were associated with an increased risk of wound infection (WI) in patients undergoing breast cancer surgery. The objective of this study was to evaluate the impact on WI occurrence of a preventive strategy based on administration of

antibiotic prophylaxis (AP) in patients at risk of wound infection occurrence undergoing breast cancer surgery.

Material and Methods: In the setting of breast cancer surgery, we compared the incidence of WI in two prospective cohorts of patients, respectively followed before (September 1996-April 1997) and after (May-July 2004) implementation of a preventive strategy that consisted in: (i) identification of patients at risk of wound infection (i.e., previous chemotherapy and breast reconstruction) and (ii) administration of antibiotic prophylaxis (i.e., cefuroxime) in those patients. The incidences of WI in the two groups were compared with Fisher exact test. The impact of the strategy was analyzed using a logistic regression model after adjustment on potential confounding variables. Confounding variables were defined as those variables who had a significantly different distribution in the two periods and were statistically associated to the WI occurrence.

Results: WI incidence was estimated at 19/542 (3.5% [95% CI, 1.9–5.05]) before the implementation of the preventive strategy compared to 2/247 (0.8% [95% CI 0–1.8]) after the implementation of that strategy (Crude Odd Ratio 0.22 [95% CI 0.05–0.97], p = 0.03). We identified three potential confounding variables: breast reconstruction, previous breast surgery, and duration of surgical procedure. After adjustment for these variables in the multivariate analysis, the preventive strategy implemented decreased the risk of WI by 81% (adjusted Odd Ratio 0.19 [95% CI 0.04–0.85], p = 0.03).

Conclusion: The present study illustrates the benefit of an antibioprophylaxis strategy targeting those patients at high risk of WI occurrence in breast cancer surgery.

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Image guided histological core needle biopsy of palpable breast lesions are significantly more accurate than palpation guided biopsy

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A histological core needle biopsy of a palpable breast lesion can be performed under image or palpation guidance. Image guidance is more expensive and may require additional equipement and expertise. The purpose of this study was to determine differences in diagnostic performance of the histological core needle biopsy of a palpable breast lesion obtained by image guidance (stereotactic or ultrasonographic) or by palpation guidance.

Methods: A group of consecutive patients with a palpable breast lesion who underwent a histological core needle biopsy was studied retrospectively. Between January 1999 and July 2002, 239 women with 267 palpable breast lesions underwent a histological core needle biopsy. Weather image guidance by the radiologist or palpation guidance by the surgeon was performed depended on logistic reasons and the waiting list of the image guidance biopsy at the department of radiology. The biopsy was performed on palpation in 58 cases and by image guidance in 209 cases (ultrasonography in 167 cases and stereotactic in 42 cases). The results of the histology of the core needle biopsy were compared with the findings at excision (216), or 12 months follow-up (51).

Results: Patients and lesions were comparable besides lesion size. The mean size of the palpable breast lesions biopted by palpation was significant larger than those biopted by image guidance. However compared to palpation guidance, biopsy by image guidance showed a better sensitivity (0.69 vs. 0.91, p < 0.001). Specificity showed no significant difference. After stratification for tumour size this difference still existed. Sensitivity for palpation guidance vs. image guidance was 0.57 vs. 0.92 for T1 tumours (p = 0.003) and 0.75 vs. 0.95 for T2 tumours (p = 0.014). Specificity for palpation guidance vs. image guidance was 0.69 vs. 0.98 for T1 tumours and 1.00 vs.0.94 for T2 tumours (p = 0.02!).

Conclusion: Image-guided histological core needle breast biopsies are significantly more accurate than palpation-guided biopsies. The smaller lesion size in the image-guided biopsy group suggests that clinicians choose to biopsy the larger lesions themselves and to refer smaller lesions to the radiologist. This selection bias reinforces the conclusion that image-guided biopsy is more accurate than a biopsy which is palpation-guided. We think the physician is lured by the size of the breast lesion to perform a diagnostic procedure, which he believes to yield a reliable result.

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Preoperative ultrasonography may decrease incidence of false negative sentinel node biopsy in clinically node negative, large-sized breast carcinoma

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Introduction: Sentinel node biopsy (SLNB) has become a standard of care for clinically node negative breast carcinoma patients with small-sized primary tumors limited to 2–3 cm. (Veronesi et al, 2003), (Ung, 2004). Egyptian patients population comprises tumours with relatively larger size and a high percent of heavy nodal invasion. Large tumor size increases the incidence of non-sentinel node infilteration up to 71% in T3 tumors *(Gervasoni et al., 2000)*. SLNB may lose its sensitivity with heavy infiltration due to total replacement of nodal tissue by the tumour. Ultrasonic visualization is particularly sensitive in this setting *(Bonnema et al,1997)*. We evaluated the accuracy of surgeon-performed, B-mode imaging alone in predicting final nodal status. This work may be further developed to suggest a management plan that maximize accuracy and cost-effectiveness of ultrasonography and sentinel node biopsy in T3 tumors.

Patients and Methods: 110 patients with breast carcinoma were examined. Ultrasonic-imaging of the axilla was done using 10 mHz linear transducer.

The whole area from the apex of the axilla above to the sixth rib below was scanned. Any imaged node was studied as regard its size, its contour, its internal echo. When feasible needle aspiration of the most suspicious node was performed.

Results: 110 patients with invasive breast carcinoma were included. Tumour size was T**1** in twelve cases, T**2** in 32 cases, T**3** in 22 cases and T**x** in 44 patients.

Pathologically, 80 axillae were infilterated. Using ultrasonography, sensitivity raised to 85% compared with 40% of clinical palpation alone. Low lying nodes visualized in relation to third to sixth rib or in the vicinity of axillary tail were more predictive of metastases (specificity of 80% while sensitivity was still around 81%) than isolated apical nodes. Multiplicity of visualized nodes was detected in 42 cases of the 80 visualized, metastatic nodes. Echoic pattern of the node and node contour were poorly correlated with histological findings. Also, sensitivity and specificity of ultrasonic examination was markedly decreased in the subgroup of axillae with one to three lymph nodes infilteration (76.4%, 66.6% respectivly).

Conclusion: Preoperative ultrasonography for clinically node negative breast carcinoma may select cases for either SLNB or full axillary dissection in clinical situation where a false negative SLNB is highly anticipated.

Thursday, 23 March 2006 16:00–16:45

POSTER SESSION

Adjuvant and neo-adjuvant therapy

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Effectiveness of Vinorelbine/Capecitabine (NX) versus Docetaxel/Doxorubicin/Cyclophosphamide (TAC) in patients non-responding to 2 cycles of neoadjuvant TAC chemotherapy: First Results of the phase III GEPARTRIO-Study by the German Breast Group

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Background: Breast cancer patients (pts) with no response to 2 cycles of neoadjuvant TAC experience a low pathologic complete remission (pCR) rate after further 4 cycles TAC (von Minckwitz et al, Ann Oncol 2005). These pts were randomized to continuation of TAC or to a non-cross resistant combination of NX.

Patients and Methods: Pts with operable (T 2 cm by palpation) or locally advanced (T4 or N3, M0) breast cancer (BC) were treated with 2 cycles TAC (75 mg/m / 50 mg/m / 500 mg/m day 1, q21, supported with