The higher rates of LR in the EPG & GPG were brought about by the majority receiving neither RT not Tamoxifen in these groups. In all NPI groups survival was worse in those suffering LR.

The risk of death after LR in every prognostic group and the relative risk being higher in the best NPI groups give strong evidence that it is the occurrence of LR rather than poor prognostic features coding for both death and LR.

Local control is as important as the application of systemic therapies in improving survival.

O-103. Clinical value of CEA, CA 15-3 and TPS in breast cancer

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The purpose of our study was to compare carcinoembrogenic antigen (CEA), the mucin associated tumor antigen (CA15-3), and the tissue polypetide antigen (TPS) in primary breast cancer and gauge the correlation of the prognostic factors. In 321 patients with breast cancer, the level of the serum tumor markers, CEA, CA15-3, and TPS were determined preoperatively and during follow-up. The sensitivity and specificity of tumor markers in patients with breast cancer were CEA 44.6%. 94%; CA15-3 51.8%, 99%; and TPS 66.07%. 94%. CA15-3 and TPS increased with tumor size, the number of involved lymph nodes and progression of grade. CEA, CA15-3 and TPS were not related to estrogen or progesterone receptor status. Tumor markers in cases of organ or multiple metastasis were higher than in cases of local recurrence. Increasing levels of tumor markers were independent of the site of metastasis, where elevated levels of CA15-3 were primarily related to visceral metastasis. The preoperative serum concentration for CA15-3 and TPS appears to have a significant relation to the outcome in patients with early-stage breast cancer and may have a potential role in the rational selection of high risk patients for whom additional treatment and careful follow-up studies should be undertaken. Postoperative serial measurement of plasma CEA, CA15-3, and TPS is a cost-effective method to detect recurrent breast cancer and the association of these tumor markers may provide tumor profiles with a predictive value superior to a single parameter.

O-104. Should computerised tomography (CT) replace abdominal ultrasonography and chest radiography (USG + CXR) as initial staging investigation for visceral disease in patients with metastatic breast cancer (MBC)?

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CT has been replacing USG+CXR for initial staging and monitoring therapy for MBC. It is costly and may lead to unnecessary radiation exposure. This has prompted investigation into whether a subgroup can be identified where initial USG+CXR may be more appropriate.

A retrospective audit was carried out on all newly diagnosed MBC patients within a 12-month period prior to using CT for initial staging. An index of high suspicion for visceral metastases was defined as having one of the followings: deranged liver function, abdominal or chest symptoms.

Of 119 patients, 64 underwent USG+CXR initially. Further imaging with CT was considered necessary (1) as extrahepatic metastases were identified on USG+CXR ($N = 12$), or (2) for monitoring therapy ($N = 6$). For these 18 patients, CT could have replaced initial USG+CXR. Of the remaining 46 patients who underwent USG+CXR without CT, 21 were found to have visceral metastases and a further 7 had a normal scan but a high index of suspicion. Excluding 6* who were too frail for active treatment, it would have been appropriate for 22 to have further imaging with CT. 18* patients had normal USG+CXR and low index of suspicion and would not therefore require CT. At least 24 (*6 + 18) (37.5%) could have been staged appropriately with USG+CXR.

In patients who have a low index of suspicion of visceral metastases and/or who are considered inappropriate for active treatment, initial USG+CXR appear to be most suitable with further CT imaging if indicated. The selection criteria with the mentioned index of suspicion will be validated in an ongoing audit on using CT for initial staging.

O-105. Bioinformatic analysis using TMAS in breast cancer: age-related heterogeneity within grade 3, node negative disease

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In planning chemotherapy or hormonal therapy for breast cancer, increasing attention is being paid to the use of biomarkers that may predict for treatment response. ER, PgR and Her2 are still the only established predictors. However, regardless of age, there is increasing pressure to tailor therapy according to risk and predicted benefit. It is assumed that the biology of breast cancer is similar irrespective of the age of the patient. The aim of this study was to evaluate the heterogeneity of biomarker expression in two distinct pre and postmenopausal age groups. Representative paraffin blocks were selected on forty-two Grade 3, node negative, ductal carcinoma patients (pts) from the histological archive of Singleton Hospital. 21 pts were under 43 (young) and 21 over 70 (old) at the time of operation. Cores were taken from 3 representative areas of invasive tumour to make a single tissue microarray (TMA). Immunocytochemistry was performed for the following markers: ER, PgR, ki67, mcm-2 and Her2. ER and PgR were scored using the Allred system, the proportion of positive nuclei was scored in each core for ki67 and mcm-2. The standard Her2 scoring system was used. Bioinformatic and statistical analysis revealed clear differences between the two groups. Whereas ER status and ki67 positivity rates showed no significant differences ($p = 0.786$; Mann Whitney test), the young group showed a much higher frequency of Her2 positive cases (6/21 positive young, none in the old group) and a much higher proportion of mcm-2 positive nuclei, particularly in the ER negative subgroup ($p = 0.0323$; Mann Whitney test). Agglomerative hierarchical cluster analysis and principal components analysis is being applied to examine more complex interactions between markers.