ONCOPOOL gives an excellent intercentre and international validation of the new survival figures according to NPI of women treated to modern protocols.

| NPI Group | % Selected | | 10 Year BCS | |
|---|---|---|---|---|
| | NCH | ONCOPOOL | NCH | ONCOPOOL |
| EPG | 14 | 19 | 96±2 | 94±2 |
| GPG | 21 | 26 | 93±2 | 91±2 |
| MPG I | 28 | 27 | 81±4 | 84±2 |
| MPG II | 22 | 18 | 74±4 | 76±4 |
| PPG | 10 | 9 | 55±8 | 53±6 |
| VPG | 4 | 5 | 38±12 | 40±8 |
| Overall | 77 | | 81±0.4 | |

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**The prognostic factors for the breast cancers with 10 or more lymph node metastases**

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**Background:** The presence of axillary lymph node metastasis is the most important prognostic factor in breast cancer. The locally advanced breast cancer patients have very poor prognosis with very low disease free and overall survival. Even high-tech diagnostic tools have been developed, locally advanced breast cancers consist of about 10% of all breast cancers. Thus, we investigated the prognostic factors in 10 or more axillary lymph node metastasis.

**Materials:** Between April, 1986 and December, 2004, a total of 290 breast cancer patients including 44 patients who had neoadjuvant chemotherapy, were reported to have 10 or more axillary lymph node metastasis. It consisted of 5.9% of all breast cancers. All patients' medical records were reviewed. Disease free (DFS) and overall (OS) survival curves were generated using Kaplan–Meier method, with comparison of curves with log-rank test. Cox regression test were used for multivariate statistical analysis.

**Results:** The average of positive axillary lymph nodes was 18.3 (10−68 in range). Mean age was 47 years (22−81). Median follow-up was 58.8 months (6.1–224.0). The 5-year and 10-year disease free survival (DFS) rates were 46.9% and 36.0%, respectively. Also, overall 5-year and 10-year survival (OS) rates were 58.1% and 45.6%, respectively. In multivariate analysis, age (<35 vs $\geqslant$35, relative risk = 1.816, p = 0.0070), having neoadjuvant chemotherapy (relative risk = 2.413, p = 0.0001), more than 20 nodes involvement (relative risk = 2.105, p = 0.0001), type of adjuvant chemotherapy (CMF vs Anthracyclines or taxane, relative risk = 1.753, p = 0.0001), local recurrence (relative risk = 3.090, p = 0.0001) were revealed to be independent variables for disease free survival. And having neoadjuvant chemotherapy (relative risk = 2.446, p = 0.0001), more than 20 nodes involvement (relative risk = 2.189, p = 0.0001), type of adjuvant chemotherapy (CMF vs Anthracyclines or taxane, relative risk = 2.253, p = 0.0001) were revealed to be independent factors for overall survival.

**Conclusion:** As expected, previous neoadjuvant chemotherapy, extensive lymph nodes involvement, and regimens of adjuvant chemotherapy are significant factors associated with either disease free or overall survival. It would be better to change the chemotherapy regimens in patients who did not respond well to neoadjuvant chemotherapy. For this high risk group, more potent regimens are expected to improve the outcomes. Additional studies to find out molecular markers are mandatory.

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**New cutoff points of tumor size discriminates patients' survival time more precisely than T classification of the 6th AJCC cancer staging system of breast carcinoma**

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**Background:** Tumor (T) classification is one of the most important components of TNM system, and provides information regarding prognosis and treatment options for patients with breast carcinomas. Therefore, in order to estimate more precise outcome of patients, application of the more refined staging system is necessary.

**Materials and Methods:** We evaluated tumor size in 609 patients of breast carcinoma by measuring only infiltrating breast carcinoma component, and compared this evaluation to survival time and other clinical and pathologic parameters, including the current T classification of AJCC cancer staging system.

**Results:** A complex pattern of survival time versus the tumor size was observed by censored local regression. The recursive-partitioning technique was coupled with the log-rank test to identify 2 significant cutoff points for the tumor size, 3 cm and 5 cm, which segregated patients into 3 groups with statistically significant decreasing 5 year survival rates (3 cm and 5 cm, 65%, P2 cm and 5 cm, 65%).

**Conclusion:** Based on the present data, we propose that the T classification of breast carcinoma should be changed to incorporate this measurement: T1 (3 cm and 5 cm).

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**Epidermal Growth Factor Receptor (EGFR) in primary breast cancer – protein expression, but not gene copy number, gives important prognostic information in tamoxifen treated patients**

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**Background:** EGFR is a tyrosine kinase receptor being overexpressed in several epithelial malignant tumours (breast, colorectal, lung) and associated with an aggressive phenotype. Targeted therapies are today introduced in order to inhibit EGFR's negative effect and the predictive information achieved by EGFR protein expressesion and gene copy number are thus being explored in different malignancies.

**Material and Methods:** Tumours from patients operated for primary breast cancer stage II treated with adjuvant endocrine therapy with tamoxifen for two years were included in a tissue microarray. EGFR protein expression was assessed by immunohistochemistry and membrane staining was scored semiquantitavely considering both fraction and intensity on a scale 0−7 and EGFR gene copy number by FISH. FISH positivity, increased gene copy number, was definied as either amplification with EGFR/CEP7 ratio >2.0 or high polysomy as >4 copies per cell. 297 tumours were evaluable by IHC, 252 by FISH and 237 tumours by both IHC and FISH.

**Results:** EGFR protein overexpression (score 7) was found in 11% of the patients and correlated with ER negativity and PgR negativity, high S-phase fraction, and inversely correlated with nodal metastases. In univariate analysis, EGFR protein overexpression was associated with shorter distant disease free survival (DDFS) (hazard ratio 2.1; p = 0.017) at 5-years follow-up, and reached borderline significance in a multivariate analysis, adjusting for ER, menopausal and lymph node status, tumor size, and HER2 (p = 0.057). Only two patients had amplified tumours, whereas 27 (11%) displayed high polysomi and the two groups were analysed together. By a linear regression model, there was a significant correlation between EGFR protein overexpression and EGFR gene copy number, p = 0.002. EGFR gene copy number was significantly correlated to ER- and PgR negativity, but not to any other of the clinicopathological variables and did not add prognostic information in terms of DDFS.

**Conclusion:** EGFR protein overexpression is associated with an aggressive phenotype in primary breast cancer and contributes to a shorter DDFS in patients treated with adjuvant tamoxifen. Increased EGFR gene copy number is correlated with hormonereceptor negative breast cancer, but adds no prognostic information in tamoxifen treated breast cancer.

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**Prognostic significance of basal and luminal markers in triple-negative breast cancer**

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**Background:** Recently, many efforts had been focused on classification of breast cancers according to molecular features, with particular emphasis on triple-negative (TN) (estrogen receptor-negative, progesterone receptor-negative and HER2-negative) breast cancers. In this study, we examined