20 mg/day (n = 50), or Anastrazole 10 mg (n = 50). Both BMD and Osteocalcin were assessed initially before treatment then at regular intervals for both groups. Use of Tamoxifen was associated with significant annual decrease in Osteocalcin. P = 0.001, whereas Anastrazole group had gradual increase of the annual levels P < 0.01. BMD decreases significantly in Anastrazole group versus Tamoxifen 2.6%, 0.4% respectively (P < 0.001). Osteoporosis T < −2.5 was reported significantly higher in Anastrazole group (P < 0.01). Women with initial osteopenia in Anastrazole group showed significant decrease in BMD P < 0.05. The addition of bisphosphonate for patients with early osteoporosis markedly improved both Osteocalcin level and BMD.

Conclusion: Tamoxifen preserves BMD in post menopausal breast cancer patients whereas Anastrazole accelerates age associated fall in BMD especially in the first year of therapy, more over the addition of bisphosphonate can help to decrease the skeletal related events associated with treatment to ensure better quality of life with treatment.

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The association of HER-2 status with disease outcome in premenopausal early breast cancer patients treated with adjuvant ovarian ablation

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Background: Steroid receptor (SR) – positive breast cancer (BC) patients (pts) have better prognosis and higher response to endocrine therapy, although some of them experience early relapse. We investigated the influence of HER-2 gene amplification on disease outcome in premenopausal women with SR-positive BC treated with adjuvant ovarian ablation (A-OA).

Patients and methods: One hundred and forty eight premenopausal pts with progesterone receptor (PgR)-positive BC were treated from 1988 to 1993 with A-OA only. The guidelines for the treatment of BC at that time proposed adjuvant endocrine therapy only in PgR-positive grade 3 node-negative BC pts and 1−3 node-positive pts, irrespective of tumor grade. SRs were determined prospectively by the classical biochemical DCC method, while HER-2 gene amplification was determined retrospectively by CISH in 66 women whose archival paraffin tissue samples were retrieved. Log rank test, cumulative hazard function (Peterson's method) and Cox regression models were used for statistical analysis.

Results: Sixty-six premenopausal BC pts, median age of 45 years (range 35−54), were treated with A-OA by irradiation after the radical mastectomy. The median SR contents were: estrogen receptor (ER) 22 fmol/mg protein (range 0–199) and PgR 65 fmol/mg protein (range 14–511). Median follow-up was 156 months (range 12–234). Disease relapse experienced 35 patients, while 26 women died, all from BC. According to HER-2 status, HER2 positive subgroup (10/66 pts) had almost similar risk of disease relapse [Hazard ratio (HR): 1.17; 95% CI: 0.512−2.69; Likelihood ratio test: p = 0.71)] and death (HR: 1.09; 95% CI: 0.411−2.90; Likelihood ratio test: p = 0.86) as HER-2 negative subgroup (56/66 pts). The ratio of hazard functions of disease relapse and death between HER-2 negative and HER-2 positive groups ranged from 1.46 to 3.68 at 3−10 years of follow-up and from 1.66 to 3.59 at 6−10 years of follow up, respectively.

Conclusion: There is no strong association of HER-2 status with disease outcome in SR-positive early premenopausal BC pts treated with A-OA, although the likelihood of disease recurrence from 3−10 years of follow up seemed to be higher for HER-2 negative in comparison to HER-2 positive pts. According to our opinion, the potential of oestrogen deprivation therapy in premenopausal SR positive/HER-2 positive BC pts deserve further investigation within randomized clinical trials.

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Strong age dependent increase in the use of adjuvant systemic treatment for early stage breast cancer in the period 1990–2006: a population based analysis

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Background: This study evaluated the impact of changing guidelines on the patterns of adjuvant systemic treatment for patients with early stage breast cancer from 1990 through 2006. Special attention was paid to patients aged 70 years and older due to absence of clear guidelines for this age group.

Methods: Patients diagnosed with early stage breast cancer (stage I−IIIa) in the period 1990–2006 were selected from the cancer registry of the Comprehensive Cancer Centre South (n = 8,261). Based on the publication date of the guidelines and the changing indications for adjuvant systemic treatment, results were shown separately for the periods 1990–1997, 1998–2001, 2002–2006 and the age groups $\leqslant$35, 36−49, 50−69 and $\geqslant$70 years. To determine probability ratios (PR) of receiving adjuvant systemic therapy per tumor and patient characteristic, multivariate analyses were performed by SAS Proc Genmod using a modified Poisson regression approach.

Results: The use of any adjuvant systemic treatment increased significantly over time: 37% in 1990–1997, 51% in 1998–2001 and 53% in 2002–2006 (p for trend <0.0001). Patients aged $\geqslant$70 years compared to patients aged $\leqslant$35 years had less chance of receiving chemotherapy, or a combination of hormonal and chemotherapy (PR = 0.01; 95% CI, 0.01−0.02 and PR = 0.01; 95% CI, 0.00−0.02, respectively), and a higher chance of receiving hormonal therapy alone (PR = 2.39; 95% CI, 1.94−2.95). Tumor size, positive nodal status and undifferentiated tumors were positively associated with the probability to receive adjuvant systemic treatment. Patients with ER- and PR-negative tumors were more likely to receive chemotherapy (PR = 1.59; 95% CI, 1.47−1.71) and less likely to receive hormonal therapy (PR = 0.28; 95% CI, 0.23−0.33) or both chemotherapy and hormonal therapy (PR = 0.13; 95% CI, 0.08−0.20).

Conclusions: Trends in adjuvant systemic treatment over a large period of time (1990–2006) showed that treatment with hormonal therapy and chemotherapy increased significantly. The use of chemotherapy, alone, or in combination with hormonal therapy decreased strongly with age, while the use of hormonal therapy alone increased with age. Part of these age-related differences is attributed to the absence of clear guidelines for patients aged 70 years and older.

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Prognostic relevance of hormone receptor and HER2 status in T4 breast cancer patients who failed to receive a pathological complete response following primary chemotherapy. Long term results from a single institution

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Background: Pathological Complete Response (pCR) following primary chemotherapy in both the breast and the axilla is the main determinant for improved DFS and OS in patients (pts) with breast cancer, irrespective of hormone receptor (HR) status, HER2 or chemotherapy regimen. On the contrary, failure to achieve a pCR (<pCR) identifies an heterogeneous group of pts with different risks of recurrence and death even if they received the same standard neoadjuvant chemotherapy. The aim of our study was to evaluate the prognostic relevance of HR and HER2 status in terms of survival in <pCR T4 breast cancer patients.

Material and Methods: We analysed 58 of 74 consecutive stage T4 patients, observed between 1996 and 2007, who achieved <pCR following primary PEV regimen (cisplatin 50 mg/m^2; epirubicin 100 mg/m^2; vinorelbine 25 mg/m^2) for up to 6 cycles (4−6). All pts, subsequently, received surgery, radiation, adjuvant chemotherapy and hormone therapy when indicated. Median age was 51years (29−70); 45 pts (78%) were T4abc and 13 pts (22%) were T4d; 52 pts (90%) had clinical axillary nodes involvement; 39 pts (67%) were ER+, 19 pts (33%) were ER−; 23 pts (40%) were PgR+, 35 pts (60%) PR−; 18 pts (31%) ER−/PR−; 22 pts (38%) ER+/PgR+; 6 pts (10%) HER2+, 40 pts (69%) HER2−, 12 pts (21%)