Results: Tumor PSA levels (median 20 pg/mg protein, range 0–50.000) were significantly associated with young age (p < 0.0001), small tumor size (p < 0.001) and positive PgR status (p < 0.0001), but not with nodal status and grade. PSA levels were not associated with relapse rate. A positive association of PSA with an improved overall survival (p = 0.009) disappeared after correction for age. In 434 patients with recurrent disease a high PSA level was significantly (P < 0.01) related with a poor response to first-line tamoxifen therapy as assessed by response rate, PFS and overall postrelapse survival.

Conclusion: In Cox multivariate analysis PSA had no prognostic value for (relapse-free) survival, but an independent predictive value for response to tamoxifen therapy.

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487   POSTER

The relationship between nm23 gene expression and distal metastasis and prognosis in breast cancer

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Mortality associated with human breast carcinoma is almost entirely due to subsequent metastatic disease, but the micrometastasis is difficult to be detected. Elucidation of the genetic control ofmetastatic propensity of a tumor is important in determing prognosis and choice of therapy.

The nm23 gene is a putative metastasis suppressor gene originally identified in murine melanoma cells. The purpose of this study was to investigate the relationship of nm23 gene mRNA and protein expression with distant metastasis and prognosis in breast cancer.

We detected nm23 protein expression in 101 patients with primary breast cancer by means of immunohistochemistry. Expression of nm23 gene was inversely associated with lymph node metastasis and distant metastasis (p 0.05). Overall survival was better in patients in whom expression of nm23 was positive than in those in whom it was negative (p 0.05). In patients with negative lymph node, overall survival was better in patients in whom expression of nm23 was positive than in those in whom it was negative. In multivariate analyses using a Cox's proportional-hazard regression model, nm23 showed contribution to patient survival (= 0.4288).

In the mean time, expression of nm23 mRNA and protein in 68 patients with primary breast cancer was detected by means of RT-PCR and immuno-histochemistry. The results show consistency with the former one. Within the following two years after the surgery, three patients recurred and one occurred distant metastasis. Expression of nm23 mRNA in all of them was lower.

This study showed that the nm23 gene may perform a independent role in disease prognosis in addition to its participation in breast cancer metastasis.

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488   POSTER

New era of treatment in breast cancer – Neoadjuvant therapy without surgery

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Purpose: This study was conducted to investigate the usefulness of using prognostic factors in predicting patients response to neoadjuvant therapy, thus improving the efficacy and decreasing toxic side-effects of therapeutic agents.

Methods: 60 invasive breast cancer patients were treated, patients ranged in age from 25 to 83. All patients received at least four courses of adriamycin, cyclophosphamide and 5-FU, unless tumor growth was observed. Analysis of the tumors for various prognostic factors was done on all patients using immunohistochemistry combined with image analysis.

Results: More than four cycles were given in patients who showed continued tumor dissolution. Primary chemotherapy and tumor markers has identified "responders" who showed consistent tumor ablation to the point of total tumor dissolution. Six patients had no demonstrable tumor at surgery. Four patients had mastectomy and fifty-two had lumpectomy. Four patients had no demonstrable tumor after primary chemotherapy and did not have surgery.

Conclusion: We recommend individualized treatment, based on factors predicting response to chemotherapy, to obtain maximum local control including minimizing or avoiding surgery.

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489   POSTER

Lymphocyte subgroups in breast cancer and the effect of tumor removal

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It is known that immune function is effected in cancer patients. However the effect of tumor removal on host immune function is not known.

Fifty-one breast cancer patients who underwent modified radical mastectomy were studied. There were 12 patients with stage I, 16 with stage IIA, 13 with stage IIB and 10 with IIIA. The control group consisted 20 women who underwent either thyroid surgery for benign causes or open cholecystectomy. Preoperative and postoperative (on the seventh day) blood samples were taken for flow-cytometric analysis from the study and control group patients. T lymphocyte, B lymphocyte, Natural killer (NK) cell, T-helper (Th), T-cytotoxic-supressor (Ts), T active (Ta) cell counts and Th/Ts ratios were evaluated. Ts cells of the breast cancer patients were significantly higher than the control group (p < 0.05). Among the breast cancer patients Th cells were higher in early stages (p < 0.05). There were no difference between pre and postoperative lymphocyte profile in the control group. However operation made certain changes in the breast cancer patients. Postoperatively, B lymphocyte, T lymphocyte, Th counts, and Th/Tsor ratios increased (p < 0.05 for each). Ts (p < 0.01) and NK (p < 0.05) counts decreased.

The difference between the immune profiles of the breast cancer and the control groups showed that antigenic stimulus of the tumor influences the parameters of the host immune functions. Operation had no effect in the control group, but had a certain effect in the breast cancer patients. Thus we believe that the removal of the tumor causes a considerable difference in immune parameters.

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490   POSTER

Assessment of the response with color-doppler sonography (CDS) in patients affected by breast cancer (BC) in neoadjuvant chemotherapy (NCT)

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NCT is advised for patients with large-sized BC with the aim of reducing the neoplastic mass and increasing the possibility of conducting conservative surgery. The purpose of this study is to test the role o CDS in assessing the response to NCT. From 1/95 to 2/98 CDS has been used to study 32 patients (31 F, 1 M) affected by 3.5 cm average diameter BC (2.5–5 cm), subjected to accelerated NCT with 3 cycles of 120 mg -MQ EPI-ADM and 600 mg/Mg CTX every 2 weeks. CDS assessment was carried out for all patients before beginning treatmend and a re-assessment was made before each new cycle. Diagnosis was always confirmed by cyto-histology and before beginning the NCT the BC was marked with intravital stain. 95% of the BC examined showed an increase in vascularization both peritumoral and intratumoral and about 30% showed anarchic vascularization. After 3 NCT cycles 90% of patients displayed modifications in the nature of the echography of the nodular mammary lesions and 60% of patients showed variations also at the CD with reduction in the vascularization. In Three cases RC of the BC was found. Echography together with CD in BC patients would seem to demonstrate good accuracy in monitoring the response to CT. By providing a semi-quantitative assessment of BC vascularization before and after CT, the CD examination could have predictive value also on the aggressiveness of the disease.

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491   POSTER

Prognostic markers in neoadjuvent chemotherapy

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Purpose: To perform immunohistochemistry on breast cancers before and after primary medical treatment to see if there was a particular profile that would predict a good response. A detailed review of the histological feature was also undertaken.

Methods: 15 biopsies from 10 patients were assessed for expression of Ki67, bcl2, p53, oestrogen receptors and progesterone receptors using standard immunohistochemical techniques. The were analysed by a single