(all: $P < 0.01$). PAI-2 was not significantly related with response or PFS in univariate analysis. In multivariate analysis for PFS, using dichotomized variables (in addition to a basic model including age and menopausal status, disease-free interval, site of metastasis, ER and PgR), each factor when added separately contributed to the model. The relative hazard rate (RHR) for PAI-2 was 0.8, while for uPA, uPAR and PAI-1, the RHR varied from 1.23 to 1.35 (all: $P < 0.05$).

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PP-9-5 Expression of uPA, c-erbB2, EGF-R and p53 in 488 Primary Breast Cancer

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The prognostic impact of uPA, EGF-receptor, p53 and c-erbB2 proteins, was studied in 488 primary breast cancer patients treated at the Centre R Huguenin (median: 6.2 years). p53 and uPA were measured on classical hormone receptors cytosols using a novel luminometric immunoassay (Byk Sangtec, Sweden). EGF-R and c-erbB2 were detected on membrane extract using an ELISA method (Ciba Corning Diagnostics, USA). The candidate variables of the Cox model were: age, menopausal status, clinical and macroscopic tumor sizes, nodal status, SBR grade, modified SBR grade, ER, PR, uPA, p53, EGF-R and c-erb-B2. The cutoff points of the last 4 factors were determined using a minimum corrected p-value. In the overall population, for metastasis-free survival (MFS), the most significant factors were respectively uPA, nodal status, c-erbB2 and modified SBR grade; for overall survival (OS), nodal status, uPA, c-erbB2, modified SBR grade and clinical tumor size were selected as poor prognosis factors. In node negative patients, uPA was the only significant variable, thus confirming its prognostic impact.

PP-9-6 The Use of Molecular Markers to Predict Response to Preoperative Chemotherapy: Fact or Fiction?

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At present, no pathological or biological markers are available that can predict whether or not an individual breast cancer (BC) patient will benefit from adjuvant chemotherapy. Previously, we investigated the relationship between a number of prognostic factors and response to chemotherapy (CT) in patients randomised to receive one course of peri-operative chemotherapy (EORTC Trial 10854). P53 accumulation was found to be associated with a lack of response to CT, as determined by disease-free survival, whereas other factors, like Bcl-2, did not predict responsiveness. Material from patients treated with pre-operative CT offers the unique possibility to directly monitor the response of the primary tumor to CT. For this reason, a project was started to assess the relationship between a number of molecular markers and response to CT in patients randomised to receive 4 courses of pre-operative CT (5-Fluorouracil, Epi-adriamycin and Cyclophosphamide) in EORTC Trial 10902. Both biopsy and tumor material were collected, as well as mammographies taken pre- and post-CT. Tumor response (WHO-criteria) will be evaluated using the mammographies as well as the histological changes following CT. Data will be presented on the predictive value of 15 prognostic markers, including markers associated with proliferation, resistance to apoptosis and multi-drug resistance, currently under investigation.

POSTER PRESENTATIONS

PP-9-7 Immunohistochemical Expression of c-erbB-2, p53, and bcl-2 Oncoprotein and Response to Endocrine Therapy in Advanced Breast Cancer

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To determine whether oncoprotein expressions in advanced breast cancer may regulate the response to endocrine therapy, we investigated immunohistochemical expression of c-erbB-2, p53, and bcl-2 protein in 92 advanced breast cancer patients, treated with adreno-oophorectomy as the 1st line treatment. There were no relations between the expression of these oncoproteins and clinical background factors, except the inverse correlation between p53 and ER. Univariate and multivariate analyses showed that ER was the first, and p53 was the second determinant of the response to endocrine therapy, as well as the time to progression. These results suggested that the combination of these 2 covariates might be useful for the prediction of response to total estrogen blockade treatment.

PP-9-8 Fatty Acid Synthetase (FAS) and Survival in Breast Cancer

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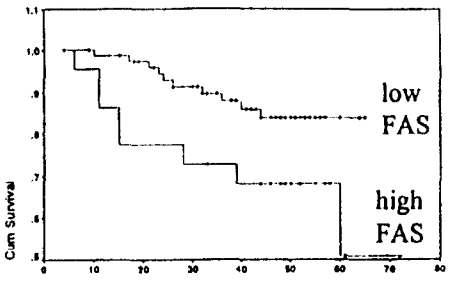
Ninety-five patients with primary breast carcinoma had FAS-mRNA determined in the tumour by Northern blots. Subsequently the patients were followed for an average of 47 months. Patients with carcinomas expressing high levels of FAS-mRNA had a significantly shorter survival than patients with low level FAS-mRNA (Kaplan-Meier test). Fewer patients with low FAS-mRNA had recurrent disease (21%) than those with high FAS-mRNA, but the difference was not significant.



PP-9-9 DNA Image Cytometry (ICM), Oncogenes and Prognostic Factors in Breast Cancer

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Objective: Aneuploidy, high S-phase fraction (SPF%) and alteration of oncogenes mean an unfavorable prognosis. Goal of the investigation was 1. to determine the frequency of diploid-neardiploid breast cancers. 2. to calculate SPF (%) 3. to demonstrate relations between DNA cytometric data (DNA Index, grade of malignancy), erb B oncogenes, c-myc and prognostic factors.

Methods: Imprint cytology of 125 primary breast cancers, Feulgen technique, interactive cell analysis, Hilgers, Koenigswinter, Germany. Detection of oncogenes by differential polymerase chain reaction.

Results: 1. Low frequency of diploid-neardiploid breast cancers (24%). 2. ICM allows only determination of SPF (%) of diploid-neardiploid breast tumors. 3. No correlations between cytometric data and oncogenes. 4. Correlations between DNA data and conventional prognostic factors.

Conclusion: Numbers of frequency of diploid-neardiploid breast cancers examined by flow cytometry seem to be too high (50–60%). Proliferation fraction (S + G2M) could be calculated in diploid and aneuploid tumors instead of SPF (%). Oncogenes seem to be independent prognostic factors.