patients with NO were not undergone to adjuvant treatment, patients with N1 had adjuvant therapy. Stage III BC patients (75) were undergone to preoperative chemotherapy or to irradiation, or to combine therapy. In case of operability modified radical mastectomy were performed followed with adjuvant therapy. Before any antitumoral treatment patients were injected intravenously by Na_2HPO_4' 32P labelling and after 4–72 hours 32PRUT was detected intratissualy by means of the semiconductor beta-detector. Disease free survival (DFS) and overall survival (OS) were estimated by Kaplan-Meier life table method, the significance of the differences was evaluated by means of the log rank test and considered significant at $p < 0.05$. 5-yrs DFS in stage I–II BC in patients with low 32PRUT was better (90 ± 9%), lower in patients with middle and high 32PRUT levels (50 ± 8%, $p = 0.03338$). Other comparing groups preferences of the DFS and S in patients with 32PRUT were not significant. The low level of the 32PRUT was a factor good prognosis, the risk of disease relapse in this patients having I–II s BC was in 5.1 times lower than in a hole I–II stage BC group. So, 32PRUT can be used as a prognostic factor in early BC.

PP-6-15 | The Levels of Estrogen Receptors (ER) and Progesterone Receptors (PR) and Treatment Results in Breast Cancer (BC) T1-2N0M0 Patients

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The goal of this paper was to evaluate the prognostic significance of ER and PR levels in early BC patients. 630 BC T1-2N0M0 patients after various types of operations and without any adjuvant systemic treatment were analyzed. ER and PR levels were measured by DCC radiolygand method, ER or PR level $> = 10.0$ fmol/mg protein was signed as ER+ or PR+, level < 10.0 fmol/mg protein was signed as ER– or PR–. Disease free survival (DFS) and overall survival (OS) were estimated by Kaplan Meier life table method, the significance of the differences was evaluated by means of the log rank test and considered significant at $p < 0.05$.

Presence of the PR in a tumor was a factor of a good prognosis, DFS and OS of PR+ patients was significantly higher, than in patients with PR– tumors. In PR– patients the frequency of disease relapse was 1.3 times higher than in RP+ patients. ER level has not any influence on the course of disease in the absence of systemic therapy.

PP-6-16 | Prediction of Relapse in Patients with Breast Cancer by Blood Flow Analysis Using Color Doppler Ultrasound

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Angiogenesis plays the important roles in the development of hematogenous metastasis in breast cancer. We studied the significance of the blood flow analysis within the mass using color Doppler ultrasound on prediction of relapse in patient with breast cancer. This study consisted of 64 women with breast cancer between October 1991 and September 1994. Analysis of the velocity wave form within the mass included determination of peak systolic velocity (PV), resistive index, acceleration and acceleration index (AI).

In a group of 11 patients with high PV (PV $\geq$ 15 cm/s) and high AI (AI $\geq$ 12/sec), 4 patients relapsed, while in other group of 53 patients, 2 had recurrences. There were significant differences between two groups.

The results of our study suggested that the blood flow analysis within the mass using color Doppler ultrasound might be an interesting role on prediction of relapse in patients with breast cancer.

PP-6-17 | Psychological Factors as Prognosticators in Metastatic Breast Cancer

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The possible prognostic influence from psychosocial factors upon breast cancer has been debated throughout the last decades. So far, conflicting results have been found in the literature.

A pilot study of patients with metastatic breast cancer was conducted to evaluate the possible impact of psychological factors in a well-defined group of patients. Fifty five women with metastatic breast cancer were followed prospectively during 2.5 years from time of their diagnosis. The psychological factors evaluated were: anxiety, depression, stress, and cop-

ing strategies. Results show that none of these psychological factors have any prognostic importance in this cohort. Indicating that among patients with metastatic breast cancer other factors related to the disease will determine the outcome.

PP-6-18 | Estrogen-Induced Proteins in Breast Carcinoma

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Purpose: To answer to the question whether the expression of estrogen-induced proteins (PR, pS2, cath-D) are similar or different across the ER status, as well as across clinical- and histological-related breast carcinoma subgroups.

Materials and Methods: This study included 70 histologically confirmed breast carcinomas with histologic grade II. Estrogen receptors and estrogen-induced proteins were assayed in citosol of breast carcinomas. Breast carcinoma subgroups were formed on the bases of age, menopausal status, nodal status, size of tumor and tumor type.

Results and Discussion: Estrogen-induced proteins were significantly higher in breast carcinomas with ER-positive status than in those with ER-negative status. Distributions of PR, pS2 and cath-D within tumor-host indicators of prognosis showed: a) There was significantly lower pS2 and higher cath-D in older than younger patients (< 45 vs. > 59); b) There was significantly lower PR and pS2 in peri-/post- than in premenopausal patients after adjustment for age. Distributions of PR, pS2 and cath-D within carcinoma indicators of prognosis showed: Cath-D was significantly higher in carcinomas larger than 2 cm with axilary node metastases than in those with negative ones. In spite of the above association, our results suggest that estrogen-induced proteins studied provide independent biomarkers, due to wide overlapping of individual values among examined breast carcinoma subgroups.

PP-6-19 | Pre-Operative Diagnosis and Establishment of Breast Cancer Phenotypic Features of Prognostic Relevance on Routine Fine-Needle Cytological Samples

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Fine-needle cytology has proven to be a valuable method of diagnosing malignancy of breast lesions. Since January 1991, more than a thousand cytological specimens from clinically suspicious lesions, after smearing the first drop on slides for diagnostic purposes, were systematically expelled in cryoprotectant-containing medium and stored in liquid nitrogen. Following microscopic confirmation of malignancy, the samples were sent to a different laboratory specialized in the measurement of prognostic factors. Steroid hormone receptor content was determined immunocytochemically and DNA-content analysis was performed on all samples by flow cytometry. Eliminating the paucicellular samples (less than 2%) by microscopic inspection, reduced the proportion of failures to less than 1%, mostly due to highly necrotic samples or to those containing too much blood. Classical correlations were obtained between DNA-ploidy, S-phase fraction, steroid hormone receptor content and cytological grade. Examples will be presented of the beneficial aspects of obtaining morphological features together with the expression of different proteins by tumor cells on the same samples. In a marginal fraction of cases, considered of difficult cytological diagnosis, cellular determinants may be helpfull, although histological confirmation was always judged necessary. This routinely performed procedure of pre-operative diagnosis with simultaneous measurement of prognostic factors was found highly reliable. It was also flexible since it allowed to include additional antigens in the pannel of cellular markers. Those that we have tested include cathepsin D and c-erbB2, but in the last months we have opted for p53 as an additional phenotypic feature, not only of prognostic relevance but also potentially interacting with treatment. This procedure allows the earliest possible biological characterization of breast cancers and can potentially influence treatment decision.

PP-6-20 | Survival Following First Episode of Hypercalcaemia in Breast Cancer Patients

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Hypercalcaemia is a frequent and often life-threatening metabolic complication in breast cancer. Survival time following hypercalcaemia is seldom