Blood serum levels of VEGF (ng/ml) were measured by an enzyme immunoassay. All experimental parameters estimated with the use of models of the regression analysis. On the 24th and 33rd day after tumor cells inoculation the dependence of VEGF level from the volume of tumor and metastases has significant correlation and linear character. On the terminal stage of tumor development (41st day) correlation in these parameters was lost, bat significant correlation between VLM and VEGF levels was present. These results indicate that major factor which determine the VEGF level is the size of tumor but not metastatic injuries. We suggest that the LLC in C57BL6 mice has become a veri promising preclinical model for the screening new antiangiogenic agents in prevention of tumor growth and metastasis.

P19

Estrogen receptor negative breast cancers express estrogen receptor mRNA

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Introduction: Approximately one third of primary human breast cancers do not express the estrogen receptor alpha and are termed ER-negative. Compared to ER-positive breast cancers, these cancers have a worse prognosis and limited treatment options. The ER-negative status of breast cancers is ascertained by ER alpha protein assays and very few studies have assayed ER alpha gene expression in this aggressive form of breast cancer. In this study, we have assayed ER alpha mRNA levels in a large cohort of archival primary human breast carcinomas to further elucidate the mechanisms leading to the ER-negative phenotype.

Methods: We examined the relationship between ER alpha mRNA expression using quantitative real time PCR and ER a protein status obtained by cytosolic assays in 250 archival primary human breast tumors. High quality RNA was extracted from 250 primary tumors that had been cryopreserved for up to nine years. RNA quality was verified by gel electrophoresis and visualization of ribosomal bands, by OD260/280 ratios and by amplification of house keeping genes. Quantitative real time PCR using the Light Cycler system was used to determine ER mRNA concentrations for all tumors.

Results: All of 200 ER-negative tumors expressed ER alpha mRNA at levels that significantly overlapped those in 50 ER-positive tumors. The mean ER alpha mRNA concentrations for the ER-positive and ER-negative tumors were 1.14 × 10exp3 fmol/ug RNA and 1.27 × 10exp3 fmol/ug RNA respectively. The lowest and highest ER mRNA concentrations were similar and the mean ER mRNA values did not differ significantly between the two breast cancer groups ($p>0.50$). Quantitative PCR of housekeeping gene h-PBGD in the ER-positive and ER-negative tumors showed similar starting RNA quantities and qualities in the two groups. This was further demonstrated on agarose gel electrophoresis.

Conclusions: Thus, the lack of ER alpha protein in ER-negative breast cancers is not due to a lack of ER alpha gene expression but is due to post-transcriptional mechanisms. Increasing evidence links ligand-activated ER-dependent gene transcription with ER proteolysis. The presence of ER alpha gene expression in ER-negative breast cancers may explain why some of these cancers respond to tamoxifen. Our data raise the possibility that ER-negative breast cancers are not estrogen-independent for growth.

P20

A new look at the prognostic value of the presence of estrogen, progesterone and epidermal growth factor receptors in breast cancer tissue of women patients

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The aim of the study was to evaluate the influence of the presence or absence in tumours of estrogen (ER), progesterone (PR) and epithelial growth factor receptors (EGFR) on the survival of women with breast cancer. The receptors were determined by biochemical radiocompetitive methods. In order to analyse disease-free survival (DFS) and overall survival (OS) we applied Cox's proportional hazard model, in which we analysed both the presence of receptors and clinical and morphological parameters of survival. The tumour size, metastatic lymph nodes and the presence of cancer infiltrations outside lymph nodes were negative prognostic factors. The mean relative risk (RR) were between 1.50 and 3.91. Our results suggest, that both disease free survival and overall survival is directly related to the concomitant presence or absence of ER, PR and EGFR in breast cancer. It was found that patients with receptor status ER+PR+EGFR+, ER-PR+EGFR-; ER+PR+EGFR-; and ER-PR-EGFR- had better parameters of DFS and OS (RR for DFS or OS were between 0.22-1.16). The patients with receptor status: ER-PR+EGFR+; ER+PR-EGFR-, ER-PR-EGFR+ and ER+PR-EGFR+ presented a more aggressive disease course (RR for DFS and OS were between 1.46-3.95). The presence of EGFR in breast cancer tissue is not always a negative prognostic factor for survival. It's coexistence with ER and PR is related to the best survival parameters (the group ER+PR+EGFR+, RR for DFS - 0.45 and for OS - 0.22). The survival of patients with only PR receptors or no receptors (ER-PR-EGFR-) within breast cancer tissue do not differ significantly from the parameters found in the reference variable ER+ PR+EGFR-, RR for DFS and OS are, respectively, less than 1 (0.63 and 0.26) or only slightly greater than 1 (1.07 and 1.16).