Title of the contribution:
Measurement of plasminogen activator system components in plasma and tumor tissue extracts obtained from patients with breast cancer: an EORTC Receptor and Biomarker Group collaboration.

Abstract:
The plasminogen activator (PA) system comprises the 2 serine proteases, urokinase PA (uPA) and tissue PA (tPA), the 2 serpin inhibitors, PAI-1 and PAI-2 and the uPA receptor (uPAR; CD87). High levels of uPA, PAI-1, uPA-PAI-1 complex and uPAR in breast cancer tissue are associated with poor prognosis, while high levels of tPA or PAI-2 correlate with good prognosis. In this study, pre-operative plasma levels of uPA, PAI-1, uPAR, tPA, uPA-PAI-1 complex, and tPA-PAI-1 complex were measured in patients with benign (n=103) and malignant breast disease (n=113) by immunoenzymatic assays (ELISA). While plasma antigen levels of uPA, PAI-1, uPA-PAI-1 complex and uPAR were not significantly different in the 2 groups, antigen levels of tPA and tPA-PAI-1 complex were significantly higher in patients with breast carcinoma compared to the control group. In plasma from the breast cancer patients, uPA levels correlated weakly but significantly with those of tPA (r=0.20, p=0.035) and uPAR (r=0.208, p=0.028). tPA levels correlated strongly with tPA-PAI-1 complex (r=0.972, p=0.0001) while uPA-PAI-1 levels were significantly associated with PAI-1 levels (r=0.534, p<0.0001), tPA levels (r=0.348, p=0.0003) and tPA-PAI-1 levels.
(r=0.356, p=0.002). However, no significant correlation was found between plasma and tumor tissue levels of uPA, PAI-1, uPA-PAI-1 complex, tPA or tPA-PAI-1. Our findings indicate that determination of these factors in plasma do not reflect their concentration in tumor tissue. Therefore, measurement of PA components in blood cannot be recommended for assessing prognosis in breast cancer.