

Antigen Levels of Urokinase Type Plasminogen Activator and Its Inhibitors in Primary Breast Cancer

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The aim of the study was to monitor urokinase plasminogen activator antigen concentrations and its type 1 (PAI-1) and type 2 (PAI-2) inhibitors in histologically defined forms of primary breast cancer and a comparison with these antigens levels in normal tissue. Another goal was a search for a relationship / or its lack/ between the occurrence of the new generation markers of neoplastic disease and a presence /or absence/ of lymph node metastases. U-PA, PAI-1 and PAI-2 antigen levels were determined by ELISA tests in protein extracts of breast cancer tissues. Among the studied breast tumors 32 specimens were ductal carcinomas, 15 specimens were lobular carcinomas and the remaining 13 were other rare histological forms. In comparison to the obtained values of u-PA antigen levels in normal tissue, the values in neoplastic tissues were elevated several times: 11-fold, 6-fold and 15-fold in ductal c., lobular c. and other rare neoplasms. The values of PAI-1 antigen levels were about 20-fold higher for all studied, histologically defined primary breast cancers. The greatest differences of PAI-2 antigen levels growth was observed in histologically defined primary breast cancer forms. It was augmented 10-fold, 40-fold and 20-fold, respectively, for ductal carcinoma, lobular carcinoma and rare forms of neoplasms. In various forms of invasive breast cancer and those without lymph node metastases the content of u-PA, PAI-1 and PAI-2 were also significantly elevated. Among the new generation of independent markers of the neoplastic process, PAI-2 seems to be the most reliable marker for the identification of primary breast cancer.

The goal of the present study was to evaluate a possible combined prognostic value of the three major components of the u-PA system (u-PA, PAI-1 and PAI-2) in patients with defined histopathological forms of primary breast cancer.