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Prostate specific antigen (PSA) as a new prognostic marker in female breast cancer: molecular characterization and clinical implication. Yu, H., Diamandis, E.P., The Toronto Hospital, Toronto, ON M5T 2S8; Giai, M., Katsaros, D., University of Turin, Italy; Monne, M., Croce, C.M., Jefferson Cancer Institute, Philadelphia, PA 19107.

We recently found that 30% of breast cancer cytosols contained PSA immunoreactivity (IR-PSA) (a cutoff level of 0.03 ng/mg total protein). HPLC and Western blot analysis indicated that the molecular weight of IR-PSA in breast cancers was identical to that of PSA in seminal plasma. Using RT-PCR, Southern Blot and DNA sequencing techniques, we identified PSA mRNA in IR-PSA +ve tumors but not in IR-PSA -ve ones. In a clinical study of 174 female breast cancer patients, we found that the relative risk for relapse was 0.34 in PSA +ve patients compared to PSA -ve patients and the reduced risk for relapse was independent from nodal status, tumor size, ER and PR status, and other prognostic markers. The study also indicated that PSA +ve patients might respond better to adjuvant treatment than did PSA -ve patients. Our further studies of PSA in breast cancer comfirm the molecular identity of IR-PSA and indicate its usefulness as a prognostic marker.