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IGF-I, IGF-II, IGFBP-1, AND IGFBP-3 AS PROGNOSTIC MARKERS OF BREAST CANCER. H. Yu¹, M.A. Levesque¹, M.J. Khosravi¹, A. Papanastasiou-Diamandis¹, G.M. Clark², E.P. Diamandis¹. (¹Mount Sinai Hosp, Toronto, Ontario. ²Univ. of Texas Health Science Center at San Antonio, San Antonio, Texas.)

Insulin-like growth factors (IGF-I and IGF-II) and their binding proteins (IGFBPs) are believed to be implicated in the development and progression of breast cancer. Many laboratory and clinical studies have also indicated the presence of possible links between IGFs or IGFBPs and other prognostic indicators of breast cancer, including ER, PR, p53, and PSA (prostate specific antigen). In this study, we have examined the associations of IGFs or IGFBPs with ER, PR, mutant p53 protein, PSA, EGFR (epidermal growth factor receptor), Cathepsin-D, Her-2/neu protein, S-phase fraction, and DNA ploidy. The levels of IGF-I, IGF-II, IGFBP-1, and IGFBP-3 were measured with immunoassays in the tumor cytosol samples from 200 breast cancer patients. We found that the level of IGF-II, not IGF-I, was positively correlated with the levels of IGFBP-3 and IGFBP-1. Furthermore, IGF-II and IGFBP-3 tended to be positively associated with poor prognostic indicators of breast cancer such as mutant p53 protein, epidermal growth factor receptor (EGFR), and high percentage of S-phase fraction in cells, and negatively associated with steroid hormone receptors (ER and PR). We observed no correlation or association between PSA and IGFBP-1, IGFBP-3, IGF-I, or IGF-II. Our findings support the view that the IGF family may be involved in the development or progression of breast cancer.