Human kallikrein 8 protein is a favorable prognostic marker in ovarian cancer.

Abstract:

Human kallikrein 8 (hK8/neuropsin/ovasin; encoded by KLK8) is a steroid hormone-regulated secreted serine protease differentially expressed in ovarian carcinoma. KLK8 mRNA levels are associated with a favorable patient prognosis and hK8 protein levels are elevated in the sera of 62% ovarian cancer patients, suggesting that KLK8/hK8 is a prospective biomarker. Given the above, the aim of the present study was to determine if tissue hK8 bears any prognostic significance in ovarian cancer. Using a newly developed ELISA, hK8 was quantified in 136 ovarian tumor extracts and correlated with clinicopathologic variables and outcome [progression-free survival (PFS); overall survival (OS)] over a median follow-up period of 42 months. hK8 levels in ovarian tumor cytosols ranged from 0 to 478 ng/mg total protein, with a median of 30 ng/mg. An optimal cutoff value of 25.8 ng/mg total protein (74th percentile) was selected based on the ability of hK8 values to predict the PFS of the study population and to categorize tumors as hK8 positive or negative. Women with hK8-positive tumors most often had lower-grade tumors (G1), no residual tumor after surgery, and optimal debulking success (P< 0.05). Univariate and multivariate analyses revealed that patients with hK8-positive tumors had a significantly longer PFS and OS than hK8-negative patients (P< 0.05). Kaplan-Meier survival curves further confirmed a
reduced risk of relapse and death in women with hK8-positive tumors (P = 0.001 and P = 0.014, respectively). These results indicate that hK8 is an independent marker of favorable prognosis in ovarian cancer.