Circulating biomarker tissue kallikrein-related peptidase KLK5 impacts ovarian cancer patients' survival.

Effective cancer biomarkers for early detection, prognosis, or therapy response prediction are urgently needed in ovarian cancer. Kallikrein-related peptidases, including KLK5, have been reported to play an important role in the course of the disease. KLK5 antigen content was determined by enzyme-linked immunosorbent assay in ovarian cancer patients' [FIGO (International Federation of Gynecology and Obstetrics) stages I-IV, n = 52] serum as well as ascitic fluid and compared with KLK5 content in serum of patients with benign ovarian tumors (n = 45). KLK5 antigen content was significantly elevated in the serum of ovarian cancer patients compared with the serum of patients with benign ovarian tumors. Forty-two of 52 ovarian cancer serum samples, 42 of 43 benign ovarian tumor serum samples, and all 41 ascitic fluid samples were KLK5 positive. Elevated KLK5 antigen in serum and ascitic fluid of ovarian cancer patients was a prognostic factor for progression-free survival. Our data support the finding that ovarian cancer patients release significant amounts of KLK5 into serum and ascitic fluid but KLK5 antigen is low in serum of patients with benign ovarian tumors. Increased serum and ascitic fluid KLK5 levels are associated with poor patient outcome, thus underlining the importance of KLK5 as a biomarker for...
early detection as well as for disease management in ovarian cancer.