TUMOR MARKERS IN UROGYNAECOLOGICAL TUMORS

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The early detection and subsequent assessment of recurrence of urogynaecological tumors such as ovarian, bladder or prostate cancer is an essential perequisite to decrease the morbidity and mortality rate from these malignant diseases and to establish successful treatments. A number of circulating serum markers (AFP, _HCG, CA125, CA19.9, CA72.4, CEA, SCC for gynaecological tumors and BTA, Cyfra 21.1, LDH, NMP22, f/tPSA, TPA, TPS for urological tumors) are currently available as additional non invasive methods for the diagnosis and therapeutic monitoring of these diseases (1-3). However, a consistent limitation in their use stems from the inability to provide a clear distinction between benign diseases and malignant diseases, ie., they lack of a sufficient diagnostic accurancy in the routine clinical practice (1-3). Therefore, the development of novel molecular parameters with a better sensitivity, specificity and prognostic effectiveness may greatly improve the early detection and the prognosis of these tumors and may characterize new specific targets for more effective therapeutic approaches to the treatment of these diseases. In this context, a consistent bulk of investigations are currently directed to assess, by well established and standardized methods, i.e., radioimmunoassay (RIA) or immunoenzymatic assays (EIA, ELISA), the potential clinical usefulness of molecules specifically involved in tumor progression such as oncogene products, growth factors and receptors, hormones, adhesion molecules, cytokines, chemokines or proteolytic enzymes.(5-7). Furthermore, the recent advances in the serum proteomics technology such as surface-enhanced laser desorption ionization of time of flight assay (SELDI-TOF) and matrix-associated laser desorption/ionization time of flight (MALDI-TOF) have provided more powerful methods for on a large scale based screening and identification of novel sierological biomarkers, or patterns of markers, that will have higher sensitivity and lead time for preclinical diseases than the classical markers (7-9).

This topic focuses on the most recent advances in the discovery and pitfall of new markers for the diagnosis and therapeutic monitoring of gynaecological and urological cancers with particular emphasis on some our recent investigations on the role of Activin A, a member of the Transforming Growth Factor-_ superfamily (11), as new biochemical parameters in the diagnosis and therapeutic monitoring of patients with prostate cancer.

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