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The clinical significance of serum cytokine profile in variety of cancers

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Abstract

The previous studied confirmed that inflammation were involved in the development of cancer. In this study serum cytokines and tumor markers have been studies and explore their clinical utility of biomarker profile.

Serum cytokines of GM-CSF, IFN γ, IL-10, IL-1β, IL-2, IL-4, IL-6, IL-8, MCP-1 and TNFα have been analyzed by Luminex technology (Luminex200). Serum tumor marker of CEA, AFP, CA125, CA153, CA199, CA724 and CYFRA21-1 have been measured by the Electrochemoluminescence technology (Roche E170 molecular immunoassay analyzer) and SCC were detected by the Chemiluminnesent Microparticle ImmunoAssay technology (Architect i2000SR, ABBOTT). Patients who suffer colorectal cancer, pancreatic cancer, cervical cancer, hepatocellular cancer have been involved in these studies.

The results showed that serum levels of interleukin-8 and monocyte chemoattractant protein1 (MCP-1) were both significantly higher in cervical diseases patients (CIN and cervical cancer patients) than in healthy control ($P<0.05$). Serum IL-6 and IL-10 concentrations were significantly elevated CIN and cervical cancer patients, and cervical cancer group have more increased level compare with CIN($P<0.05$). IL-1β and IL-2 is obviously increased in pancreatic cancer, and compared to benign diseases, MCP-1 decreased and GM-CSF increased. The ratio of MCP-1/GM-CSF between pancreatic benign diseases and cancer will be more helpful for the differential diagnosis. The comparative studies of benign colorectal polyps (CRP) and colorectal cancer (CRC) patients showed that serum GM-CSF, IFN-γ, IL-1β and IL-6 which were used for differentiating the CRP and early stage CRC and IL-6 had the best diagnostic value. IL-10 and IL-1β showed significant difference between early stage CRC and advance stage CRC, also in the lymph nodes metastasis present and absent. Serum IL-6, MCP-1 and TNF-α also have been found have significant difference between different stage of CRC.

The above results indicated that the level of serum cytokines is closed related with the development of variety of cancer and combined use with tumor marker will be significantly improve the diagnostic value.

Biography

Ya-ping Tian has completed his Ph.D. at the age of 32 years from Academy of Military Medical Sciences and postdoctoral studies from The Queen Elizabeth Hospital, Adelaide University, South Australia. He is the Director of Department of Clinical Biochemistry, Chinese PLA General Hospital. He has published more than 300 papers in reputed Chnese or English journals and serving as an Editorial Board member of more than 20 repute academic association and journals.