Prognostic and predictive value of immunological parameters for chemoradioimmunotherapy in patients with pancreatic adenocarcinoma.

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Abstract

BACKGROUND: Chemoradioimmunotherapy of patients with pancreatic adenocarcinoma from the CapRI trial did not show any benefit of interferon-α in addition to a 5-fluorouracil (5FU)-based treatment. The aim of this study was to identify immunological parameters in patients from this trial to be used for predictive and/or prognostic purposes.

METHODS: The following methods were used: tumour immunohistology, FACS analyses, cytokine measurement, as well as cytotoxicity and ELIspot. Immunological parameters were correlated with patients' survival using the Kaplan-Meier method.

RESULTS: Irrespective of therapy type, high lymphocyte accumulation in tumours and frequencies of NK cells and effector (eff) CD8(+) T cells in peripheral blood of the patients were associated with patients' survival. Amount of CD3(+) and effector-memory CD8(+) blood lymphocytes, expression of CD152 and interleukin (IL)-2 serum level showed a predictive value for chemoradioimmunotherapy. Tumoural accumulation of CD3(+) and CD8(+) cells was predictive for outcome of chemotherapy alone. Besides, we identified the frequencies of CD3(+) lymphocytes, effCD8(+) T cells and NK cells in the peripheral blood of the patients, and IL-10 amount in serum, to be predictive values for 5FU-based chemotherapy.

CONCLUSIONS: Immunological parameters, identified in this trial as possible markers, may be of interest in personalized medicine towards the improvement of the treatment and prognosis of pancreatic carcinoma patients.

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