

Clinical and Immunologic Evaluation of Dendritic Cell-Based Immunotherapy in Combination With Gemcitabine and/or S-1 in Patients With Advanced Pancreatic Carcinoma

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Objectives:

In the current study, we have evaluated the clinical and immunological responses in patients with advanced pancreatic carcinoma who received dendritic cell (DC)-based immunotherapy in combination with gemcitabine and/or S-1.

Methods:

Dendritic cell-based immunotherapy (DC vaccine alone or DC vaccine plus lymphokine-activated killer [LAK] cell therapy) in combination with gemcitabine and/or S-1 has been carried out in 49 patients with inoperable pancreatic carcinoma refractory to standard treatment.

Results:

Of 49 patients, 2 patients had complete remission, 5 had partial remission, and 10 had stable disease. Prolongation of survival in this cohort was highly likely (median survival, 360 days). Survival of patients receiving DC vaccine and chemotherapy plus LAK cell therapy was longer than those receiving DC vaccine in combination with chemotherapy but no LAK cells. Increased numbers of cancer antigen-specific cytotoxic T cells and decreased regulatory T cells were observed in several patients on immunotherapy, but increased overall survival time tended to be associated only with the latter. None of the patients experienced grade 3 or worse adverse events during the treatment period.

Conclusions:

Dendritic cell vaccine-based immunotherapy combined with chemotherapy was shown to be safe and possibly effective in patients with advanced pancreatic cancer refractory to standard treatment.

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