

Effect of maintenance therapy with dendritic cells: cytokine-induced killer cells in patients with advanced non-small cell lung cancer

Sheng Bin Shi, Ting Hang Ma, Chun Hua Li, and Xiao Yong Tang

Department of Internal Medicine V, Shang Dong Tumor Hospital, Jinan, PRC

ABSTRACT

Aims and background. The incidence and development of cancer are closely related to dysfunction of immune function. The immune system cannot identify and remove malignant and mutant cells, which cause tumor cells to escape from surveillance and clearance of the immune system. Immunobiological cancer therapy plays an important role in strengthening body immunological surveillance function and killing remaining tumor cells in the body. We investigated the role of DC/CIK (dendritic cell/cytokine-induced killer cells) immunobiological cancer therapy in maintenance therapy of advanced non-small cell lung cancer.

Methods. When 60 cases of non-small cell lung cancer patients in stage IIIb and IV reached stable disease after treatment with 4 cycles of a two-drug regimen with platinum, they were randomly divided into two groups. One group was treated with DC/CIK immunobiological cancer therapy, and the other was taken as a control group. Finally, cancer progression time and toxicity reaction of the two groups were evaluated.

Results. DC/CIK treatment prolongs progression-free survival (3.20 months [95% CI, 2.94–3.50] vs 2.56 months [95% CI, 2.39–2.73]; $P < 0.05$). In the treatment group, the proportion of NK cells, T-cell subgroups CD3+, CD4+ and CD8+ had a significant change before and after treatment. Liver and kidney function and blood tests of the treatment group were within the normal range before and after treatment. In the treatment group, 1 case suffered from chest distress, 3 cases suffered from acratia, and 4 cases suffered from pyrexia.

Conclusions. DC/CIK treatment had potential benefit for patients with advanced non-small cell lung cancer compared with the control group and had no obvious side effects. DC/CIK treatment is a safe and effective method for maintenance therapy of advanced non-small cell lung cancer.

Key words: cytokine-induced killer cells, dendritic cells, maintenance therapy, non-small cell lung cancer.

Acknowledgments: The study was supported by the Science and Technology Department of Shandong Province.

The authors have no conflicts of interest.

Correspondence to: Ting Hang Ma, Department of Internal Medicine V, Shang Dong Tumor Hospital, Jinan, 250117, PR China.
Tel 86+531-67626351;
fax 86+531-67626981;
email mth0981@163.com

Received July 24, 2011;
accepted November 3, 2011.