Study shows cancer vaccines led to long-term survival for patients with metastatic melanoma

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Hoag Memorial Hospital Presbyterian today announced promising data from a clinical study showing patient-specific cancer vaccines derived from patients' own cancer cells and immune cells were well tolerated and resulted in impressive long-term survival rates in patients with metastatic melanoma whose disease had been minimized by other therapies.

The study entitled "Phase II Trial of Dendritic Cells Loaded with Antigens from Self-Renewing, Proliferating Autologous Tumor Cells as Patient-Specific Anti-Tumor Vaccines in Patients with Metastatic Melanoma," was published in the June 2009 issue of *Cancer Biotherapy and Radiopharmaceuticals* and was sponsored by Hoag Hospital Foundation.

"There is continued interest in developing new therapies for melanoma patients with recurrent or distant metastatic disease at the time of diagnosis because there are no systemic therapies that can be relied upon to cure them," said Robert O. Dillman, M.D., F.A.C.P., executive medical and scientific director at the Hoag Cancer Center and lead investigator for the study. "Patients with metastatic melanoma are at high risk for additional metastases and death."

During the study, 54 patients with regionally recurrent or distant metastatic melanoma were injected with a vaccine that included each patient's own immune cells (dendritic cells) and 500 micrograms of

granulocyte-colony stimulating factor (GM-CSF), an immune stimulator, three times a week and then monthly for five months for a total of up to eight injections. The patient's dendritic cells were obtained from their peripheral blood and mixed with a cell culture of the patient's own melanoma cells that had been self-renewing and proliferating in the laboratory. The patient-specific vaccine is designed to stimulate the patient's immune system to react against tumor stem cells or early progenitor cells that can create new depots of cancer throughout the body.

Data showed that the projected five-year survival rate is 54% at a median follow up of 4.5 years (range 2.4 to 7.4) for the 30 surviving patients. Although not a direct comparison, the results are superior to those observed following vaccination with irradiated tumor cells in 48 melanoma patients in a previous trial (64 vs. 31 months, p=.016). Eight patients in the dendritic cell vaccine study experienced remarkable long-term, progression-free survival after completing the vaccine therapy, even though they had widely metastatic disease and/or repeated appearance of new metastases despite various therapies. The vaccine treatment was well-tolerated, with most patients experiencing mild skin irritation and redness at the injection site.

"The one-year and projected five-year survival rates of 85% and 54%, respectively, are remarkable for melanoma patients with documented metastatic disease," said Dr. Dillman. "This study is extremely encouraging and shows the potential these types of personalized cancer vaccines have for patients diagnosed with metastatic melanoma."

Source: Hoag Memorial Hospital Presbyterian