Study shows patient-specific vaccines for metastatic melanoma may induce durable complete regression

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Hoag Memorial Hospital Presbyterian recently announced encouraging clinical study results for patient-specific vaccine therapy to treat metastatic melanoma. The study is ongoing, but the report concludes that patient-specific vaccines can sometimes induce durable complete regression of progressing soft-tissue melanoma metastases, as demonstrated in one particular patient who participated in the trial.

The study report, entitled: "Durable Complete Response of Refractory, Progressing, Metastatic Melanoma after Treatment with a Patient-Specific Vaccine," will appear in the October issue of *Cancer Biotherapy and Radiopharmaceuticals*. Lead author of the report is Robert O. Dillman, MD, FACP, medical oncologist and cancer immunologist, as well as executive medical and scientific director at Hoag Cancer Institute. The study was sponsored by Hoag Hospital Foundation.

"Although we had previously shown that patient-specific vaccines can be associated with long-term disease control and survival despite previous recurrences of widespread metastatic melanoma, this is the first complete regression we have observed with a dendritic cell-based patient-specific vaccine therapy in patients with measurable metastatic melanoma," said Dr. Dillman.

The patient profiled in the study presented with cervical spine metastases and within the year had experienced local disease progression and, despite various therapies, metastases to the axilla, rectum, gall bladder, and multiple soft-tissue sites. She had previously received radiation therapy, combination chemotherapy, interleukin-2 plus interferon biotherapy, gamma knife radiosurgery, and undergone multiple surgical resections. At the time vaccine therapy was initiated, she had multiple new, measurable, soft-tissue metastases that were increasing in size.

The patient was treated with a vaccine consisting of autologous dendritic cells incubated with irradiated tumor cells from an autologous tumor cell line and suspended in GM-CSF, with s.c. injections once a week for three weeks and monthly for five months. There was evidence of disease regression by the completion of therapy. A few months later, a complete response was documented by radiologic scans, and subsequently reconfirmed at six-month intervals. She remains in complete remission more than 2.5 years after starting the vaccine, and more than two years after completing the vaccine, and survives more than four years after her initial presentation with bone, bowel, and lymph node metastases. This is the first time she has been in a complete remission since her initial diagnosis.

"These results are extremely encouraging for patients suffering from metastatic melanoma," said Dr. Dillman. "The promise of new therapies such as personalized cancer vaccines may help contribute to survival rates in these patients."

More information: 1 Dillman RO, DePriest C, DeLeon C, et al. Patient-specific vaccines derived from autologous tumor cell lines as active specific immunotherapy: results of exploratory phase I/II trials in patients with metastatic melanoma. Cancer Biother Radiopharm 2007;22:309
2 Dillman RO, Selvan SR, Schlitz PM. Patient-specific dendritic cell vaccines for metastatic melanoma. N Engl J Med 2006;355:1179.
3 Dillman RO, Selvan SR, Schlitz PM, et al. 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: Final Report. Cancer

Biother Radiopharm 2009; 24:311.