

Clinical trial evaluating brain cancer vaccine is underway

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A clinical trial evaluating a brain cancer vaccine in patients with newly diagnosed brain cancer has begun at NYU Medical Center. The study will evaluate the addition of the vaccine following standard therapy with surgery and chemotherapy in patients with glioblastoma multiforme, a deadly form of brain cancer.

The vaccine, called DCVax-Brain, incorporates proteins found in patients' tumors and is designed to attack cancer cells containing these proteins. The study underway at NYU Medical Center is an expansion of an earlier phase I trial of the vaccine. The vaccine is made by the Northwest Biotherapeutics, Inc., based in Bothell, Washington.

"We are really excited about the promise of this vaccine," said Patrick J. Kelly, M.D., the chairman of the Department of Neurosurgery and the Joseph Ransohoff Professor of Neurosurgery at NYU School of Medicine. "Everything now depends on something in addition to surgery so that these tumors do not recur. A cancer vaccine like this may make a difference in extending life and maintaining a good quality of life."

"This is a form of individualized therapy," adds NYU neuro-oncologist Michael Gruber, M.D. "There is a lot of promise with this approach," he says. He and Dr. Kelly will be the lead investigators conducting the trial at NYU.

Despite surgery and chemotherapy, patients with glioblastoma multiforme brain cancer typically survive about 15 months. Even if only

a small number of tumor cells are left in the brain, that is enough for these fast growing and aggressive tumors to grow back. The tumors do not grow elsewhere in the body. “It is so frustrating,” notes Dr. Kelly, “because brain tumors don’t metastasize like other tumors. They recur locally but we just can’t cure it.”

A brain cancer vaccine is intended as a kind of immunotherapy, which means that it primes the patient’s own immune system to kill proteins found in cancer cells. The trial will enroll patients 18 to 65 years old with newly diagnosed glioblastoma multiforme brain cancer who will receive standard primary treatment with surgery followed by radiation with concurrent chemotherapy. Enrolled patients will be randomized to receive the standard of care, and others will receive the standard of care and the vaccine.

The vaccine will be made from the tumors and immune cells of each patient. When a patient’s tumor is removed during surgery it will be shipped to a laboratory where the tumor cells will be broken up to prepare the first component of the vaccine. Separately, patients’ dendritic cells, a powerful type of immune cell, will be obtained and sent to a laboratory for purification. Dendritic cells may be able to teach the immune system to recognize and destroy cancer cells. The patients’ tumor cell material is combined with the dendritic cells to form the vaccine.

Source: New York University Medical Center and School of Medicine

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