

First participant in Midwest enrolls in study of personalized vaccine for brain tumors

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Northwestern Medicine recently joined a landmark clinical trial to investigate if a vaccine made from a patient's own brain tumor is effective in slowing tumor progression and extending survival. The randomized phase II trial will study how well giving the study vaccine with or without Avastin (bevacizumab) works in treating patients with recurrent glioblastoma multiforme (GBM). The study is the largest randomized brain tumor vaccine trial ever funded by the National Cancer Institute (NCI) and is chaired by Andrew T. Parsa, MD, PhD, who joined Northwestern Memorial Hospital in July as the new chair of neurological surgery. The first participant in the Midwest, and only third in the country, was enrolled in the trial last week at Northwestern Memorial.

The trial will enroll more than 200 participants with recurrent glioblastoma that can be surgically removed. Following the participant's surgery, the tumor is sent to an industry collaborator Agenus Inc., where the participant's specific personalized vaccine, designated as HSPPC-96, is created. The vaccine is unique to the individual participant and is engineered to trigger an <u>immune system response</u> to kill <u>tumor cells</u> that may remain following surgery.

"This is truly personalized medicine where the patient's own tumor is being used to help fight their cancer," said Parsa, who is also the Michael J. Marchese Professor and chair of the department of neurological surgery at Northwestern University Feinberg School of Medicine and a member of the of Robert H. Lurie Comprehensive Cancer Center of



Northwestern University and part of the Northwestern Brain Tumor Institute. "The vaccine provokes a tumor-<u>specific immune response</u> that is specific to that patient. The T cells, which are the part of the immune system that fights disease, tracks down the <u>cancer cells</u> and kills them."

Parsa launched this area of research in 2006 at the University of California, San Francisco (UCSF). Previous phases of this research have returned promising results finding that the vaccine extended survival for participants with glioblastoma when compared to standard therapies. In this next phase, researchers are seeking to understand if the vaccine is safe and more effective when given with Avastin, a drug that is known to shrink brain tumors and is a standard therapy for recurrent glioblastoma. Trial participants will be randomized to either receive the vaccine alone, concurrently with Avastin or Avastin only. Jeffrey Raizer, MD, codirector of the Northwestern Brain Tumor Institute (NBTI), is the principal investigator for the trial at Northwestern.

"This vaccine therapy has the potential to extend the lives of patients who often have limited options when their tumor returns," said Raizer, medical director of neuro-oncology at Northwestern Memorial, associate professor of neurology at the Feinberg School and a member of the Lurie Cancer Center. "Previous results indicate that we may be able to extend survival longer by combining the therapy with other drugs, such as Avastin, that may boost the immune response of the vaccine."

Each year, 17,000 Americans are diagnosed with glioblastoma, a particularly aggressive form of brain cancer. This type of tumor is often resistant to standard therapies and median survival is approximately 15 months from the point of first diagnosis.

"This research does not present a cure for brain tumors, but instead a potential way to convert the cancer into a chronic disease – something comparable to diabetes that you may be able to live with and control



with medication," said Parsa.

A successful trial could lead to the <u>vaccine</u> potentially being approved to treat recurrent <u>brain tumors</u>, making it one of only a few approved therapeutic cancer vaccines.

"Vaccine therapy is rapidly emerging as a potential treatment for many types of cancers and we're proud that Northwestern is part of this exciting research," said Steven T. Rosen, MD, director of the Lurie Cancer Center, director of cancer programs at Northwestern Memorial, and Genevieve E. Teuton Professor of Medicine at the Feinberg School. "This field of research has the potential to offer safer and less toxic cancer therapies that can be personalized to each individual patient."

More information: <u>notis.nubic.northwestern.edu/P</u>... <u>6031&publishedOnly=1</u>

Provided by Northwestern Memorial Hospital

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