

Researchers study vaccine as potential weapon against aggressive brain tumors

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Researchers at Northwestern Brain Tumor Institute (NBTI) are seeking to understand if a vaccine made from a patient's own blood cells may slow the growth of a type of brain tumor. The trial is studying the vaccine's effect on glioblastoma multiformes (GBM), the most common and aggressive type of primary brain tumor. The trial is an example of a growing trend in cancer research that seeks to understand if vaccines can be used to turn a person's own immune system into a weapon against cancers by slowing the growth of tumors.

GBMs, which occur in up to 10,000 Americans annually, are typically treated with surgical resection of the tumor followed by chemotherapy and [radiation treatment](#). "Glioblastomas are complicated to treat because they are aggressive, fast-growing tumors that are often resistant to standard treatment," said principal investigator James Chandler, MD, co-director of the NBTI and surgical director of neuro-oncology at Northwestern Memorial Hospital. "In this trial, a vaccine is made using the person's own [white blood cells](#), which we hope will have the power to stimulate an immune response to kill brain tumor cells."

The vaccine, called ICT-107, is created by collecting the participant's white blood cells through a process called apheresis, which separates the components in the blood. The white blood cells are then treated to recognize the tumor cells turning them into [immune cells](#), which early research indicates may be able to recognize and attack the [tumor cells](#). Patients receive the vaccine in addition to standard treatment.

"Vaccines hold great promise as potential treatments for all types of cancer," said Chandler, who is also a professor of neurological surgery at Northwestern University Feinberg School of Medicine. "More researchers are looking at this as a way to prompt an immune response to slow [tumor growth](#) and fight the cancer."

The phase II trial will examine both safety and efficacy of the ICT-107 vaccine. Researchers seek to enroll approximately 225 participants nationally who are newly diagnosed with a GBM. To be considered for enrollment, a person must be 18 years or older and not have a recurrent disease or any other active malignancy or history of malignancy. They must have undergone surgery to excise the GBM, but have not yet started chemotherapy or radiation. Full inclusion and exclusion criteria can be found on [ClinicalTrials.gov](#).

"[GBMs](#) are a devastating diagnosis and these patients unfortunately are not given a great deal of time," said Chandler. "Our goal at Northwestern Brain Tumor Institute is to provide patients with the best options to treat their cancer in a manner that not only gives them longer lives, but also improved quality of life."

Provided by Northwestern Memorial Hospital

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