



WILL POWER RESEARCH FUND

Driven by the dedication to cure brain cancer.

IN BRAIN CANCER NEWS – CDX-110 (A new hope for many GBM patients)

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According to research conducted at Duke's Preston Robert Tisch Brain Tumor Center, the vaccine CDX-110 may significantly increase survival in patients with Glioblastoma Multiforms, the most common and deadly type of brain cancer.

The vaccine works by triggering an immune response to the tumor in patients who have a protein expressed on approximately half of patients with GBMs. This protein, known as epithelial growth factor receptor variant III (EGFRvIII), is not expressed in healthy tissues but is prevalent in GBMs, which makes it an attractive target for a vaccine.

The vaccine trains the immune to kill tumor cells that express the protein, helping to prevent the re-growth of brain tumors in patients who have already been diagnosed and treated with standard regimens including surgery, chemotherapy, and radiation.

"This vaccine represents a very promising therapy for a cancer that comes out of the blue and robs people of something most of us take for granted – time," said John Sampson, M.D., Ph.D., a neurosurgeon at Duke and lead investigator on this study. "The possibility of doubling expected survival – with few if any side effects – would represent a big step and a lot of hope for this group of patients."



The study was funded by the National Institutes of Health and Celldex Therapeutics, a subsidiary of Avant Immunotherapeutics, which has patent rights to the vaccine, has provided vaccine for use in the study. This study included 23 patients being treated at Duke and at M.D. Anderson Cancer Center. The patients all had GBMs and had already received standard treatment. Each patient received vaccine injections monthly and was given a chemotherapeutic agent called temozolomide (Temodar) in conjunction with the vaccine treatments. The temozolomide is believed to increase the immune response to the EGFRvIII, Sampson said.

"This reflected something of a surprising conclusion, because it stands to reason that chemotherapy, which suppresses the body's immune system, would make the vaccine less effective," Sampson said. "What we found was that the opposite is true. While the body is recovering from chemotherapy, immune response is actually stronger as the immune system overcompensates in order to right itself. It's the perfect time to introduce a vaccine."



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Patients were typically progression free for 16.6 months rather than the expected 6.4 months. Furthermore, study patients lived for an average of 33.1 months. In contrast, GBM patients who are only treated with standard therapy live an average of 14.3 months. "We're more than doubling survival time in this group, and we have some patients who are four, five or six years out from diagnosis, which is virtually unheard of in these people," Sampson said. Moreover, the vaccine has few side effects other than swelling at the injection site. A Phase III trial is now open at more than 20 sites nationwide.



Darell D. Bigner, MD, PhD, Director

Researchers involved with this study include Gary Archer, Darell Bigner, Henry Friedman, Duane Mitchell and David Reardon of Duke; Amy Heimberger and Raymond Sawaya of M.D. Anderson Cancer Center; and Tom Davis and Tibor Keler of Celldex Therapeutics.

See more about Duke's program:

<http://www.cancer.duke.edu/btc/modules/clinicaltrialsmain22/index.php?id=1>