

Bankhead-Coley Cancer Research Program

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*2009 Program
New Investigator (3-year project)*

Project Title: Dendritic Cell Vaccine for Malignant Glioma and Glioblastoma Multiforme in Adult and Pediatric Subjects

Project Summary: This project aims to develop a new treatment for brain tumors that has been started in Europe, but to add Florida-specific research changes to it that should benefit both the citizens of our state as well as patients globally. We are studying dendritic cell (DC) vaccination in patients with high grade glioma and glioblastoma multiforme. These brain tumors strike both children and adults and are lethal and take these patients quickly. DCs are naturally occurring blood cells that trigger the immune system by showing foreign protein to T cells. Many researchers have used DCs as a vaccine to "show" that cancer cells are foreign to the immune system in hopes that this action will cause the immune system to destroy the tumor. By taking DCs through blood draws, we are able to add protein from brain tumors that have been cut out, and then give the vaccine back to the patient as a way to trigger immune attack on the brain tumor. Although DC vaccination has been tried for patients with brain tumors elsewhere in the United States, no other investigators have used this strategy, which has shown amazing preliminary results in patients in Europe. The special step for this protocol is to use imiquimod, a skin medication, to help make the vaccination more effective. Researchers in Miami are experts at DC vaccines so we will be able to start this complex treatment and make improvements upon it. We will be the only center in the United States doing this work.