

Bankhead-Coley Cancer Research Program

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*Gynecologic Oncology Program
Florida Hospital Cancer Institute*

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

Project Title: Cellular Therapy in Combination with Cytokines as Treatment of Ovarian Cancer

Project Summary: Ovarian cancer is the second most common gynecological cancer and the leading cause of death among gynecological cancers. While chemotherapy has impressive response rates, its impact on long-term survival is modest. Therefore, there is a compelling need to develop new strategies to treat this disease. Cellular therapy, in which the patient is treated with adult blood stem cells to elicit an immune response against the tumor is being explored. The aim of our grant is to test the use of cellular therapy in combination with cytokines (signaling proteins) to treat ovarian cancer. We have shown that when the cytokines interferon alpha-2b and interleukin-2 are combined with cells from the immune system, we can achieve up to 70 percent killing of the tumor cells. Also, we have developed ovarian cancer cells that when injected in mice develop tumors; this model is used to test which combinations of cytokines and immune cells have the greatest impact on the tumor. First, we will test the effects of cytokines in combination with cellular therapy on ovarian cancer cells from patients to identify which combination(s) have the greatest impact on tumor cells. Second, we will characterize tumors from patients to determine which tumor types respond best to treatments. Finally, we will test these combinations in our mouse model to determine which combination(s) have the greatest effect. These studies will lead to a better understanding of this complex subject, which may open avenues for new treatments for ovarian cancer patients.