SWIM ACROSS AMERICA
★ MAKING WAVES TO FIGHT CANCER ★

SITEMAN CANCER CENTER
Washington University in St. Louis School of Medicine | BJC HealthCare

MAKING WAVES, MAKING AN IMPACT

How your donations and contributions are making a difference at Siteman Cancer Center

2021 GRANT AMOUNT: $200,000
GRANT RECIPIENT: Imran Zoberi, MD

PROJECT GOAL: To reduce the number of required post-lumpectomy radiation treatments for breast cancer patients by determining whether just one treatment of Accelerated Partial Breast Irradiation is as safe and effective as the five-treatment standard of care.

PROJECT SUMMARY: Women with small breast cancers often are treated with a surgery called a lumpectomy. This surgery removes the breast cancer and a small amount of surrounding normal breast tissue. Some of these women also are treated with radiation therapy. This is given after a lumpectomy to lower the chance of the breast cancer coming back. This treatment has been performed since the 1980s and involves X-ray treatments to the entire breast, given once a day for several weeks. Trials done in the early 2000s on women with small breast cancers have proved that radiation therapy does not need to be given to the entire breast. This type of radiation therapy is called Accelerated Partial Breast Irradiation, or APBI. Later trials have shown that APBI can be given using X-rays for five treatments, which is the current standard of care for APBI at Siteman.

There is another method of APBI that gives a single radiation treatment immediately after a lumpectomy in the operating room. This is called intraoperative APBI. Washington University radiation oncologists at Siteman liked the idea of one radiation treatment but were not comfortable giving this radiation therapy without knowing all the details of an individual patient's breast cancer. Instead, in 2014, they did a trial of a single APBI treatment given in a regular radiation room a few weeks after surgery in patients whose cancer had been completely removed with spread of cancer to lymph nodes. Fifty women participated in that trial, and there were no troublesome side effects from the treatment.

The current proposed trial continues to study single APBI treatment by testing it against the five-treatment standard of care. The trial is open to breast cancer patients who are postmenopausal and who have small cancers that have not spread to lymph nodes. These patients will either get one or five ABPI radiation treatments. We will check on all participating patients for five years to see if one group does better. Our hope and expectation is that both groups do well. If breast cancer patients could be treated with just one radiation treatment that is safe and effective, it would be great news for this large group of patients.

2020 GRANT AMOUNT: $140,000
GRANT RECIPIENT: David DeNardo, MD

PROJECT GOAL: Restoring PDAC responsiveness to immunotherapy by targeting conventional dendritic cells

PROJECT SUMMARY: In human pancreas cancer patients, we have had limited success

in employing immunotherapy to combat this disease. Our data suggest that when people have pancreas cancer, the presence of the cancer impairs the function of a critical immune cell type needed to respond to traditional immunotherapies. This cell type is called a "dendritic cell." Dendritic cells act as the "field generals" for the immune system. They coordinate the ability of the immune system to attack the cancer. When these cells are dysfunctional, as they are in human pancreas cancer patients, the immune system lacks the ability to attack the cancer in a coordinated way. Imagine an army with no generals or leadership, the ability to fight the opposing force effectively is almost completely lost. While we know this is happening in patients, we do not understand the exact mechanisms. We believe if we can fully understand the exact way in which this happens, we can come up with better strategies to overcome it. To accomplish this, we will deeply analyze this immune cell type in healthy donors and pancreas cancer patients. We will use a state-of-the-art technique that can measure changes in the cells' proteins and genes at the same time. We believe this will result in understanding how these cells are impaired and will identify proteins that we can target.

PROJECT UPDATE: With SAA's support, we were able to open a new clinical trial for pancreas cancer patients. This trial will test a new set of agents, which we believe can trigger the patient's own immune system to attack the cancer. These agents were identified as critical for enhancing the ability of the immune system to fight pancreas cancer specifically, which will allow us to directly address the pieces missing in the immune control of pancreas cancer. We are excited about our initial immune impact in the first few patients.

2019 GRANT AMOUNT: $267,000
GRANT RECIPIENT: Mark Schroeder, MD

PROJECT GOAL: To explore whether blood cancer patients who receive blood or marrow transplants experience less Graft versus Host Disease when given baricitinib.

PROJECT SUMMARY: Blood cancers remain a significant public health problem (~10% of new cancer diagnoses). These patients can often be cured by blood or marrow transplants. However, in about 50% of cases the donated immune system sometimes attacks the patient's skin, intestines, and liver. This very debilitating and sometimes fatal condition (~25% of victims) is known as Graft versus Host Disease (GvHD). In our first-in-human phase I clinical trial we will explore whether blood cancer patients who receive blood or marrow transplants experience less GvHD when given baricitinib. In studies in mice, baricitinib was shown to prevent GVHD while allowing the immune cells to retain their ability to attack the cancer cells. Our hope is that this simple approach will improve transplant outcomes by decreasing a major side effect after transplant, result in cures of blood, bone marrow, and lymph node cancers, and provide a significant step forward in the field.

PROJECT UPDATE: To date the study has completed accrual and transplanted all subjects at two dose levels (2mg and 4mg) of baricitinib. No safety or tolerability issues have been identified to date with all subjects having engraftment and there have been no unexpected severe adverse events. Correlative studies of pharmacokinetics and pharmacodynamics are ongoing.