



**Research**

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## GRANT SNAPSHOT

### 2008 Blum-Kovler – Pancreatic Cancer Action Network – AACR Career Development Award

Grantee:	Joseph Michael Herman, MD
Institution:	John Hopkins University School of Medicine, Baltimore, MD
Research Project:	<i>Evaluation of Focused Radiation to Potentiate a Pancreatic GM-CSF Vaccine</i>
Award Period:	July 1, 2008 – June 30, 2010
Amount:	\$100,000



#### Biographical Highlights

After receiving his MD from University of Maryland School of Medicine in Baltimore, Dr. Herman completed his postdoctoral studies in Internal Medicine and residency in Radiation Oncology at University of Michigan Health System. Currently, he is Assistant Professor at John Hopkins University School of Medicine. He has devoted his career to pancreatic cancer research in the hope of improving the quality and quantity of life of patients with this

diagnosis. He is specifically interested in vaccine therapy because it adds little toxicity to standard treatments. Efforts are being made to improve survival and quality of life of patients with pancreatic cancer by combining vaccine therapy with radiation and chemotherapy.

#### Project Overview

The funded research builds on previous work to develop GM-CSF, a novel pancreatic vaccine which is comprised of irradiated (killed) pancreatic cells and is administered under the skin to induce the body's immune system to attack the pancreatic cancer. In patients with resected pancreatic cancer (the pancreas tumor is surgically removed), a combination of vaccine with chemotherapy and radiation has been found to improve survival and result in less toxicity than traditional treatment. These results are encouraging for the up to 20% of patients with resectable pancreatic cancer. However, the vaccine alone is not adequate for patients with unresectable and metastatic pancreatic cancer because the tumor is bulky and it is hard for the vaccine to penetrate. More research is needed to determine how the use and effectiveness of vaccine therapy can be maximized, particularly among these patients.

This study focuses on how to enhance the impact of vaccine therapy in the treatment of pancreatic cancer. Specifically, it uses animal models with pancreatic cancer to test how radiation may make the GM-CSF vaccine work better and to determine the optimal treatment combination. Plans are to examine whether it is more effective to provide single dose stereotactic (focused) radiation therapy or the standard radiation regimen, which consists of 25 daily treatments, prior to vaccination. A focused, more concentrated exposure may cause fewer side effects and may be more convenient than the standard prolonged treatment schedule. Study results are expected to provide the preliminary data necessary to design clinical trials to treat pancreatic cancer patients with focused radiation therapy, vaccine and other medicines in the hopes of improving treatment outcomes.