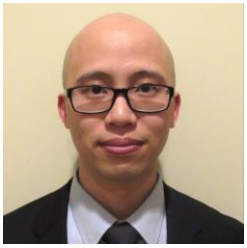
GRANT SNAPSHOT

2014 Skip Viragh – Pancreatic Cancer Action Network – AACR Career Development Award

Grantee:	Eugene Koay, MD, PhD
Institution:	MD Anderson Cancer Center
Research Project:	*Changes in mass transport as a biomarker of response in pancreatic cancer*
Award Period:	July 1, 2014 – June 30, 2016
Amount:	$200,000

Biographical Highlights



Dr. Koay obtained his MD and PhD degrees through a joint program between Baylor College of Medicine and the Rice University Department of Bioengineering. He joined MD Anderson Cancer Center as a resident in Radiation Oncology in 2009 and will continue as faculty in 2014. Dr. Koay will run a clinical service specializing in gastrointestinal malignancies and conduct translational research to understand how outcomes of patients with pancreatic cancer are affected by the physical properties of their tumors. Through this research, he hopes to help accelerate promising chemotherapies and develop new therapeutic strategies that will improve patient outcomes.

Project Overview

Dr. Koay's project seeks to identify biomarkers to quickly determine whether a patient is responding to a particular treatment regimen. His novel approach involves analyzing physical properties of pancreatic tumors that can be measured from a computed tomography, or CT, scan. The basis of this approach is that pancreatic tumors have physical features that distinguish them from the normal pancreas, allowing them to be seen on the CT scan. For example, pancreatic tumors typically have very few blood vessels and a dense, fibrotic stroma that surrounds the tumor cells. Both of these features can also influence drug delivery and response to therapy.

Dr. Koay plans to draw an association between a tumor's characteristics on a CT scan and its responsiveness to therapy. Preliminary studies have indicated that changes to physical features of a tumor measured from a CT scan within weeks after treatment can show whether the tumor is responding to the current treatment regimen. Therefore, decisions can be made whether to continue on the current treatment path, or to try a different regimen. Further, Dr. Koay and his colleagues believe that the validation of this method to measure treatment response could expedite the process of investigational drug approval, by quickly providing data about whether the drug is effective. In summary, Dr. Koay and colleagues will validate a novel early biomarker of response to treatment for pancreatic cancer. He proposes a rigorous plan to establish a clinically useful and scientifically meaningful method to help accelerate promising new treatment strategies for pancreatic cancer and more rapidly improve patient outcomes.