

Wrestling With Heart Disease: Kickstarting the Heart With New Therapeutics

Roger Hajjar, MD, and Yerem Yeghiazarians, MD, are two pioneers in the field of cardiac gene and stem cell therapy and both, in their respected clinics, are discovering novel treatments for heart failure. Heart failure is the number one diagnosed disease in US hospitals and has thus far been treated, but never cured.



Spearheading his efforts at one of the most venerated hospitals in the country, Dr. Hajjar is the Director of the Cardiovascular Research Center, and the Arthur & Janet C. Ross Professor of Medicine (Cardiology) at Mount Sinai School of Medicine in New York. His team of scientists and investigators are at the very forefront of cutting edge science and at the helm of a discovery that if successful, offers the hope of a cure to the 11.2 million people worldwide who suffer from various types of heart failure.

Heart failure costs the nation \$34.4 billion each year. Without a breakthrough in treatment, 70 percent of patients will die within 10 years and 50 percent will die within five years.

"As our population continues to age we will be seeing more and more patients with congestive heart failure which is already the most frequent cause of hospitalization of people over 65 in the US. The knowledge that using targeted gene therapy might improve function provides us with a target for a new strategy to prevent patients from progressing to end-stage heart failure, which has very few therapeutic options," Dr. Hajjar says.

In 1990, Dr. Hajjar discovered that a failing heart is characterized by abnormal calcium within the heart cells and that a gene which regulates calcium, named SERCA2a, was deficient in failing hearts. Restoring this gene to normal levels has been the focus of Dr. Hajjar's work for the last 17 years.

Dr. Hajjar received his BS in Biomedical Engineering from Johns Hopkins University and his MD from Harvard Medical School and the Harvard-MIT Division of Health Sciences & Technology. He completed his training in internal medicine, cardiology and research fellowships at Massachusetts General Hospital in Boston. Prior to joining Mount Sinai, Dr. Hajjar served as Director of the Cardiovascular Laboratory of Integrative Physiology and Imaging at Massachusetts General Hospital and was Associate Professor of Medicine at Harvard Medical School. Dr. Hajjar has also been a staff cardiologist in the Heart Failure & Cardiac Transplantation Center at Massachusetts General Hospital. On July 3, 2013, Dr. Hajjar will speak on "Gene Therapy for the Treatment of Heart Failure."

Dr. Yeghiazarians is currently an Associate Professor of Medicine and the Leone-Perkins Family Endowed Chair in Cardiology at the University of California, San Francisco (UCSF). He also serves as Director of the Translational Cardiac Stem Cell Program and Co-Director of the Adult Cardiac Catheterization Laboratory at UCSF.

Dr. Yeghiazarians received his undergraduate degree from Brandeis University and medical degree from The Johns Hopkins School of Medicine. He trained in internal medicine



and cardiology at The Brigham and Women's Hospital, Harvard Medical School, where he served as chief medical resident prior to joining the faculty at UCSF in 2003. He has a broad background in cardiology and clinical/basic research. His research involves using different types of stem cells to improve the heart function after a heart attack. Stem cell research holds the promise of curing many diseases, and Dr. Yeghiazarians and his team are diligently working with bone marrow, adult stem and embryonic stem cells to find the most effective therapy to erase heart disease.

"The passion for this research has always been there, there are a lot of challenges, but also a lot of new discoveries taking place," says Dr. Yeghiazarians. "It is my hope that this new therapy can minimize scar tissue and reverse the damage done by the disease."

On July 3, 2013, Dr. Yeghiazarians will be discussing "Advances in Cardiac Stem Cell Therapies."

Advanced registration for the 11th Armenian Medical World Congress ends on May 1, 2013. For more information and to register please visit our website at www.aamsc.com.