



VICTORS FOR MICHIGAN

MEDICINE NEEDS VICTORS

Santhi K. Ganesh, M.D.

Assistant Professor of Internal Medicine

Bo Schembechler Heart of a Champion Award Recipient

Santhi Ganesh, M.D., embodies the spirit and achievement of that category of person known as a “champion.” For starters, she’s brilliant — a gifted physician and researcher of diseases affecting the human heart. And she’s dedicated — leading consortiums of researchers, authoring multiple papers at a time and maintaining affiliations to prestigious health institutes amid her regular obligations as a doctor and scientist at the University of Michigan.

Most importantly, however, Dr. Ganesh is tenacious. Driven to find solutions for preventing and curing some of the most elusive diseases of the heart, she reveals her extraordinary capacity to keep going and persevere where there are no easy answers. For all of these reasons — and the future promise that her work holds — Dr. Santhi Ganesh has earned the 2014 Bo Schembechler Heart of a Champion Award.

Dr. Ganesh specializes in issues of vascular remodeling — when blood vessels change shape and size, sometimes causing stenosis, aneurysm, atherosclerosis or other complications. She is interested in why people develop different reactions to similar triggers. Among many other studies, Dr. Ganesh is investigating the causes and attributes of Fibromuscular Dysplasia (FMD), a rare disease of abnormal cell development in the arterial wall that primarily affects young women in their 30s and 40s.

“Patients with FMD often have malformed arteries that appear on imaging like a string of beads, putting them at risk for artery blockages, hypertension, stroke or aneurysm,” says Ganesh, assistant professor of human genetics and internal medicine at the University of Michigan.



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Further investigation into the triggering mechanism may lead to therapeutic applications that could dramatically change the outlook for FMD patients. Since the initial characterization of FMD 40 years ago, there has been little progress in understanding its mechanisms and no genes have been identified.

“The most overwhelming issue with this disease is the lack of any medical therapy aimed at preventing or treating the underlying problem in patients,” says Ganesh. “Clinicians have no way to identify individuals at risk for FMD or its vascular complications, which can be devastating.”

The cause for FMD is not well understood, but there appears to be a familial genetic component. However, even with similar genetics, a relative may have different artery involvement, different disease severity or not develop FMD at all. Dr. Ganesh and a team of scientists at U-M are zeroing in on this poorly understood disease to understand the molecular and genetic basis of FMD and what factors trigger its onset.

Already, their efforts have revealed that the cellular response to injury may be a key factor that causes the disease to manifest in certain patients.

“The Bo Schembechler Heart of a Champion Award has been essential to the initiation of our enrollment of families afflicted with FMD,” says Ganesh. “We’re enrolling patients and their family members from all over the world. Our collection of pedigrees is the largest known for FMD, and will be essential for conducting a well-powered genetic analysis to discover genes for FMD.”

With Dr. Ganesh at the helm, there is great potential to hone in on the causes that lead to better therapies for this enigmatic disease.