INNOVATION PARTNERSHIPS
UNIVERSITY OF MICHIGAN

Genetic Factors Influencing SCAD Risk

TECHNOLOGY NUMBER: 2020-231

OVERVIEW

Identification of three genetic loci associated with sudden cardiac artery dissection (SCAD)

- Association of loci with other illnesses including migraine headaches and fibromuscular dysplasia
- An avenue to identify at risk patients and potentially prevent disease manifestations

BACKGROUND

Spontaneous coronary artery dissection (SCAD) is a genetically influenced, life-threatening condition in which a tear forms in one of the blood vessels of the heart. SCAD is also correlated with migraine headaches and fibromuscular dysplasia (FMD). In its most dangerous manifestation, SCAD can slow or stop blood flow to the heart and cause aheart attack, abnormal heart rhythm, or sudden cardiac death. SCAD is uncommon but occurs suddenly and often in patients without cardiovascular symptoms, particularly in young women. The prevalence of SCAD is difficult to estimate and has likely been under-recognized. A need exists to identify a means by which to detect the risk for SCAD and to estimate the prognosis of patients facing manifestations of the disease.

INNOVATION

Researchers have identified three distinct genetic loci that are correlated with SCAD. The investigators performed a genome-wide association study for SCAD and found the three involved loci to be PHACTR1, ADAMTSL4, AND LRP1. These three loci are also associated with the incidence of migraine headaches and fibromuscular dysplasia (FMD). As such, the identification of these loci may provide a means by which to develop better strategies to treat or prevent these illnesses. Specifically, the ability to predict an individual's risk for spontaneous coronary artery dissection or myocardial infarction can decrease the incidence of death in at risk patients.

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Category

Diagnostics
Life Sciences

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