13 Novel Genetic Components of Coronary Artery Disease Identified

University Of Pennsylvania

PHILADELPHIA – An international analysis of 14 genome-wide association studies involving over 100,000 patients has identified 13 new genetic risk factors for coronary artery disease (CAD).

- New Research Shows Certain Genetic Profiles Increase Risk of Coronary Artery Disease, While Others Increase Risk of Heart Attack [1]
- New Diagnostic Tools and Advanced Research Go Hand-in-Hand to Prevent Heart Disease [2]
- University of Pennsylvania School of Medicine Researcher Receives $6 Million Grant for Cardiovascular Disease Study [3]
- Gene for Cholesterol and Cardiovascular Disease Identified through Genome Scan [4]
- What Your Genes Say About You [5]
- Penn Preventive Cardiology Program [6]
- University of Pennsylvania School of Medicine [7]
- University of Pennsylvania Health System [8]

Muredach P. Reilly, MBBCH, MSCE [9], associate professor of Medicine**,** University of Pennsylvania School of Medicine [7], and colleagues played a central organizing role in the international consortium, CARDIoGRAM (Coronary Artery Disease Genome-wide Replication and Meta-analysis), that combined and analyzed data from all currently published genome-wide association studies (GWAS) on heart attack and CAD, as well as some unpublished data. The data include more than 22,000 patients, 60,000 healthy individuals, and 45,000 additional subjects, meaning CARDIoGRAM is ten times bigger than the largest previous study. By pooling all of the published and unpublished data, they sought to make discoveries that might have been overlooked. The study is published online this week in *Nature Genetics.*

“This very large international collaboration has doubled the number of new CAD and heart attack genes and provides major opportunities for better understanding of causes, advancing personalized risk assessment, and developing new treatments to prevent and treat heart disease,” said Reilly.

CAD is a common condition where the arteries supplying blood to the heart develop cholesterol rich plaques which can rupture suddenly causing a heart attack. CAD is a complex condition that has both genetic and lifestyle components.

In addition to identifying the 13 novel loci associated with CAD, the researchers also discovered that only a minority of the established and novel CAD genes act through traditional risk factors while the majority reside in gene regions that were not

previously connected to heart disease.

SOURCE [10]

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http://www.mdtmag.com/news/2011/03/13-novel-genetic-components-coronary-artery-disease-identified

Links:
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[3] http://www.uphs.upenn.edu/news/News_Releases/2011/01/heart-disease-genetics-grant/
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