Research shows correlation between adult height and underlying heart disease

December 12 2013

Minneapolis Heart Institute Foundation research cardiologist Dr. Michael Miedema is the lead author of a paper published by *Circulation – Cardiovascular Imaging*, a journal of the American Heart Association, that suggests a connection between an adult's height and the prevalence of coronary artery calcium (CAC), a direct marker of plaque in the arteries that feed the heart. Coronary artery calcium is a strong predictor of future heart attacks with a nearly 10 fold increase in the risk of coronary heart disease (CHD) in patients with elevated CAC.

The article is based on research in 2,703 patients from the Family Heart Study, a government sponsored study of the relationship between potential risk factors and heart disease and is the first study to examine the relationship between adult height and CAC in a large population. It suggests that taller adults tend to have lower levels of plaque, and thus, a lower risk of CHD. This relationship persisted even after accounting for standard cardiovascular risk factors such as age, smoking, high cholesterol, and diabetes.

The full article can be found at:
http://circimaging.ahajournals.org/content/early/2013/12/10/CIRCIMAGING.113.000681.abstract

"A potential link between height and CHD has been shown in several studies but the mechanism of this relationship has not been clear and our study suggests the relationship is mediated by plaque build up in the coronary arteries", said Michael Miedema, MD, MPH, from the

Minneapolis Heart Institute Foundation. There may be as much as 30% lower risk of plaque build-up in the top quarter of tallest adults compared to the bottom quarter. These results had to be adjusted for gender, given the differences in height between men and women, but the relationship was consistent in both men and women."

Why taller individuals develop less plaque is not entirely clear.

"Some studies suggest that taller people have favorable changes in their blood pressure due their height but these changes are quite small and unlikely to be the sole cause of this relationship", Miedema stated. "It may be more likely that this relationship is mediated through a common link, such as childhood nutrition or other environmental factors during childhood, which may be determinants of both adult height as well as future coronary heart disease."

Provided by Minneapolis Heart Institute Foundation