Low childhood vitamin D linked to adult atherosclerosis

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Low levels of 25-OH vitamin D in childhood were associated with subclinical atherosclerosis over 25 years later in adulthood, according to a new study published in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism*.

The importance of vitamin D for cardiovascular health has been the focus of increasing interest. Low levels of vitamin D have previously been shown to be related to increased risk of stroke and heart attack. Vitamin D deficiency and insufficiency are highly prevalent among children worldwide, and this study examined the relationship between low childhood vitamin D levels and adult increased carotid intima-thickness (IMT). IMT is a marker of structural atherosclerosis, which correlates with cardiovascular risk factors, and predicts cardiovascular events.

"Our results showed an association between low 25-OH vitamin D levels in childhood and increased occurrence of subclinical atherosclerosis in adulthood," said one of the *JCEM* study's authors, Markus Juonala, MD, PhD, of the University of Turku Finland. "The association was independent of conventional cardiovascular risk factors including serum lipids, blood pressure, smoking, diet, physical activity, obesity indices and socioeconomic status."

This study analyzed 2,148 subjects from the Cardiovascular Risk in Young Finns Study, aged 3-18 years at baseline. Subjects were re-examined at age 30-45 years. Childhood levels of vitamin D were

measured from stored serum. Carotid IMT was measured on the posterior wall of the left carotid artery using ultrasound technology. Study subjects with 25-OH vitamin D levels in the lowest quartile in childhood had a significantly higher prevalence of high-risk IMT as adults (21.9% vs. 12.7%).

"More research is needed to investigate whether low vitamin D levels have a causal role in the development increased carotid artery thickness," Juonala said. "Nevertheless, our observations highlight the importance of providing children with a diet that includes sufficient vitamin D."

More information: "Childhood 25-OH Vitamin D Levels and Carotid Intima-media Thickness in Adulthood: The Cardiovascular Risk in Young Finns Study," *Journal of Clinical Endocrinology & Metabolism*, 2015.

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