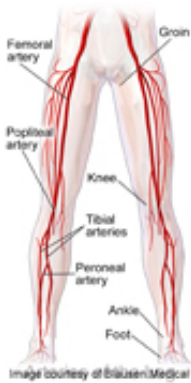


Cardiac autonomic dysfunction is linked to arterial stiffness

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Cardiac autonomic dysfunction as measured by lower heart rate variability is associated with increases in both central and vascular vascular stiffness among youths with type 1 diabetes regardless of underlying cardiovascular disease risk factors, according to research published online Feb. 22 in *Diabetes Care*.

(HealthDay)—Cardiac autonomic dysfunction as measured by lower heart rate variability (HRV) is associated with increases in both central and vascular vascular stiffness among youths with type 1 diabetes regardless of underlying cardiovascular disease (CVD) risk factors, according to research published online Feb. 22 in *Diabetes Care*.

Mamta Jaiswal, M.B.B.S, Ph.D., of the Colorado School of Public Health in Aurora, and colleagues conducted a sub-study to the SEARCH for Diabetes in Youth Study to explore the associations between reduced HRV and increased arterial stiffness (AS) in 344 youth with [type 1](#)

[diabetes](#) and 171 youth without.

According to the researchers, in youths with type 1 diabetes, lower HRV, as measured by SD of normal R-R interval (SDNN), was associated with lower brachial distensibility (BrachD), a marker of peripheral AS (P = 0.01), and higher pulse wave velocity in the carotid to femoral segment (PWV-trunk) (P = 0.0001), as well as a higher augmentation index adjusted for heart rate of 75 beats per min (AIx75), (P = 0.007), markers for central AS. Adjustment for CVD risk factors attenuated these associations, except for BrachD and PWV-trunk. Although a similar association was observed between HRV and BrachD in youth controls, lower HRV was not associated with higher PWV-trunk and AIx75.

"We found a strong association between cardiac [autonomic dysfunction](#) and both central and peripheral AS in youth with type 1 diabetes, independent of traditional CVD risk factors," the authors write. "While lower HRV was also associated with increased peripheral stiffness in non-diabetic control youth, the association with central stiffness may be unique to individuals with type 1 diabetes. This association may contribute to the increased and premature cardiovascular disease burden in people with type 1 diabetes."

More information: [Abstract](#)
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