HbA1c variability linked to cardiovascular disease risk

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(HealthDay)—For patients with newly diagnosed type 2 diabetes, visit-to-

visit hemoglobin A1c (HbA1c) variability is associated with increased risks for cardiovascular disease and microvascular complications, according to a study published online Nov. 14 in *Diabetes Care*.

Sheyu Li, M.D., from Sichuan University in Chengdu, China, and colleagues conducted a retrospective cohort study involving patients with newly diagnosed type 2 diabetes with at least five HbA1c measurements. They examined the correlation between HbA1c variability score (HVS), calculated as the percentage of the number of changes in HbA1c >0.5 percent among all HbA1c measurements within an individual, and 10 outcomes.

A total of 13,111 to 19,883 patients were included in the analyses for each outcome. The researchers found that compared with patients in the lowest quintile, patients with HVS >60 percent had elevated risks for all outcomes (HVS >80 to ≤100 versus ≥0 to ≤20): hazard ratios, 2.38 for major adverse cardiovascular events, 2.4 for all-cause mortality, 2.4 for atherosclerotic cardiovascular death, 2.63 for coronary artery disease, 2.04 for ischemic stroke, 3.23 for heart failure, 7.4 for diabetic retinopathy, 3.07 for diabetic peripheral neuropathy, 5.24 for diabetic foot ulcer, and 3.49 for new-onset chronic kidney disease. The robustness of the results was confirmed in four sensitivity analyses.

"Frequent fluctuations of HbA1c of patients with diabetes may be an independent risk factor for poor prognosis, and more stable HbA1c control may benefit the patients in clinical practice," the authors write.

More information: Abstract/Full Text (subscription or payment may be required)