

# Measures of glucose and its variability are inter-related

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Hemoglobin A1c and glycated albumin are inter-related and correlate with retinopathy and nephropathy, while only hemoglobin A1c correlates with cardiovascular disease, according to a study published online Aug. 29 in *Diabetes*.

(HealthDay)—Hemoglobin A1c (HbA1c) and glycated albumin (GA) are inter-related and correlate with retinopathy and nephropathy, while only HbA1c correlates with cardiovascular disease, according to a study published online Aug. 29 in *Diabetes*.

David M. Nathan, M.D., from Massachusetts General Hospital in Boston, and colleagues examined the inter-relationships between long-term, intermediate-term, and acute measures of glucose and its daily variability on microvascular and cardiovascular disease. HbA1c, GA, and seven-point glucose profile concentrations were measured longitudinally in a case-cohort subpopulation of the Diabetes Control and Complications Trial.

The researchers found that HbA1c and GA were closely correlated with each other and with the mean [blood glucose](#) (MBG) concentration calculated from the seven-point profile. Glucose variability and post-prandial concentrations were relatively weakly correlated with HbA1c and GA, and these correlations were further reduced on inclusion of MBG in multivariate models. HbA1c and GA were similarly associated with retinopathy and nephropathy, and the correlations were strengthened when both measures were included. For cardiovascular diseases, a significant correlation was only seen for HbA1c.

"The demonstrated inter-relationships among different measures of glycemia will need to be considered in future analyses of their roles in the development of long-term complications of type 1 diabetes," the authors write.

**More information:** [Abstract](#)  
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