

Formula Links HbA1c to Average Plasma Glucose

BY MIRIAM E. TUCKER
Senior Writer

AMSTERDAM — Data from an interna
tional trial have yielded a formula that ac
curately converts hemoglobin A1c values to an estimated average blood glucose. The results of the A1c-Derived Average Glucose (ADAG) study, comprising 4,736 months’ worth of glucose data from 643 di
betic and nondiabetic subjects from 10 centers around the world, provided this “simple, linear” equation to obtain glucose values in mmol/L (1.583 × HbA1c) − 2.52. Thus, when multiplied by 18 to get the val
ue in the American units (mg/dL), a hemo
globin A1c value of 6% is converted to an
glucone level of 242 mg/dL, 7% is converted to 255 mg/dL, and 8% is converted to 280 mg/dL. The results are even better than we ex
pected. The study’s principal investigator, Dr. Daniel Drori of the Technion-Israel Institute of Technology, reported this week that the ADAG formula was as accurate as the glycated hemoglobin assays for estimating average glucose concentrations in a large number of patients (p<0.0001). A great proportion of the time was described as the clinical challenge of monitoring glucose levels, and the formula could provide a much needed tool for improving glycemic control.


developments provide an opportunity for physicians to begin shifting discussions away from hemoglobin A1c and toward average glucose.

The study was supported by grants from several pharmaceutical and glucose monitoring device manufacturers. Among its limitations were the inclusion of only white Caucasian and African American minority groups, and the lack of any data on children, pregnant women, or patients with renal impairment, Dr. Kuenen noted.

Independent commentator Dr. Philip Home, professor of diabetes medicine at the University of Newcastle-upon-Tyne (England), cautioned that it will take time to transition to using new numbers that don’t correlate with a huge amount of published literature on data using the HbA1c measure to predict diabetes complications and other important clini
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Carbs Often Undercounted by Diabetic Patients

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The ability to accurately estimate the carbohydrate content is key to a patient’s efficacy in making appropriate therapy de

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