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SYMPOSIUM

The Clinical Use of Hemoglobin A1c

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Abstract

Hemoglobin A1c (HbA1c) has been accepted as an index of glycemic control since the mid-1970s and is the best marker for diabetic microvascular complications. Clinically, it is now used to assess glycemic control in people with diabetes. Assays are most reliable when certified by the National Hemoglobin Standardization Program but are subject to confounders and effect modifiers, particularly in the setting of hematologic abnormalities. Other measures of chronic glycemic control—fructosamine and 1,5-anhydroglucitol—are far less widely used. The relationship of HbA1c to average blood glucose was intensively studied recently, and it has been proposed that this conversion can be used to report an "estimated average glucose, eAG" in milligrams/deciliter or millimolar units rather than as per cent glycated hemoglobin. Finally, HbA1c has been proposed as a useful method of screening for and diagnosing diabetes.

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Abbreviations: (ADAG) HbA1c Derived Average Glucose, (1,5-AG) 1,5-anhydroglucitol, (HbA1c) hemoglobin A1c, (CGM) continuous glucose monitoring, (DCCT) Diabetes Control and Complications Trial, (eAG) estimated average glucose, (NGSP) National Glycohemoglobin Standardization Program

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