Guidelines and Recommendations for Laboratory Analysis in the Diagnosis and Management of Diabetes Mellitus

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Abstract

Background: Multiple laboratory tests are used in the diagnosis and management of patients with diabetes mellitus. The quality of the scientific evidence supporting the use of these assays varies substantially.

Approach: An expert committee drafted evidence-based recommendations for the use of laboratory analysis in patients with diabetes. An external panel of experts reviewed a draft of the guidelines, which were modified in response to the reviewers’ suggestions. A revised draft was posted on the Internet and was presented at the AACC Annual Meeting in July, 2000. The recommendations were modified again in response to oral and written comments. The guidelines were reviewed by the Professional Practice Committee of the American Diabetes Association.

Content: Measurement of plasma glucose remains the sole diagnostic criterion for diabetes. Monitoring of glycemic control is performed by the patients, who measure their own plasma or blood glucose with meters, and by laboratory analysis of glycated hemoglobin. The potential roles of noninvasive glucose monitoring, genetic testing, autoantibodies, microalbumin, proinsulin, C-peptide, and other analytes are addressed.

Summary: The guidelines provide specific recommendations based on published data or derived from expert consensus. Several analytes are of minimal clinical value at the present time, and measurement of them is not recommended.

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Guidelines and Recommendations for Laboratory Analysis in the Diagnosis and Management of Diabetes Mellitus. David B. Sacks,1* Mark Arnold,2 George L. Bakris,3 David E. Bruns,4 Andrea Rita Horvath,5 M. Sue Kirkman,6 Ake Lernmark,7 Boyd E. Metzger,8 and David M. Nathan9. BACKGROUND: Multiple laboratory tests are used to diagnose and manage patients with diabetes mellitus. The quality of the scientific evidence supporting the use of these tests varies substantially. Diabetes mellitus is a group of metabolic disorders of carbohydrate metabolism in which glucose is underutilized and overproduced, causing hyperglycemia. The disease is classified into several categories. PDF | Multiple laboratory tests are used to diagnose and manage patients with diabetes mellitus. The quality of the scientific evidence supporting the use of these tests varies substantially. An expert committee compiled evidence-based recommendations for the use of laboratory... Analysis in the Diagnosis and Management of Diabetes Mellitus. David B. Sacks