When time matters...

...know for sure if it's Ketosis. Ask for Beta-Hydroxybutyrate.

Accurate

Uses serum or plasma sample

Specific

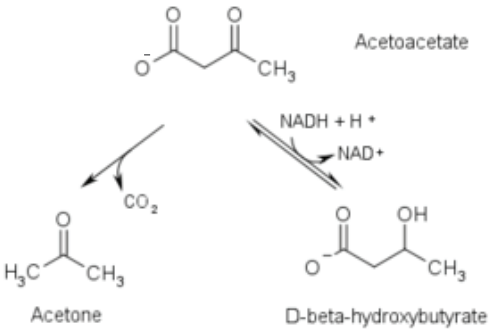
Measures predominate ketone body during DKA

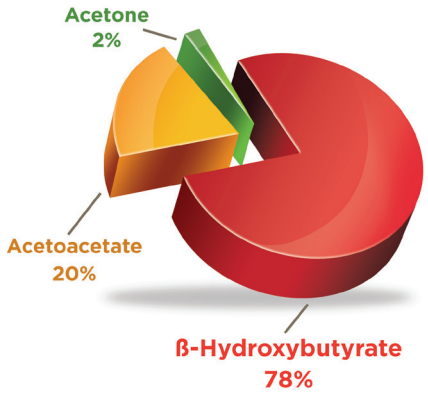
Quantitative

Provides an objective result versus a qualitative positive/negative

Beta-Hydroxybutyrate (β-HB) is the superior indicator of ketosis

- Blood ketone values provide crucial information about impending and present ketoacidosis (i.e. DKA) due to diabetes and other conditions
- Ketosis, which is a symptom, not a disease, may indicate problems from diabetes, malnutrition or alcoholism
- The presence of ketosis can be determined by measuring β-HB





- In diabetics, the measurement of β-HB along with glucose is helpful for assessment of the severity of diabetic coma and the exclusion of hyperglycemic, hyperosmolar syndrome (i.e. HHS)
- β-HB is the predominant ketone body present during DKA
- In acute DKA, the ketone body ratio (β-HB: Acetoacetate) can rise to as high as 10:1

β-HB results are quantitative

- Quantitative, objective β-HB results provide a better tool for differentiating metabolic acidosis and monitoring therapy

β-HB may be useful in differential diagnosis of HHS

- β-HB values are crucial for exclusion of hyperosmolar non-ketotic diabetic coma, as β-HB levels typically do not increase with HHS

β-HB is the best predictor of resolution of DKA

- In response to insulin therapy, β-HB levels commonly decrease long before Acetoacetate levels
- The β-HB test does not react with drugs containing free Sulfhydryl groups, unlike nitroprusside based tests

Expected Values

- In studies of healthy individuals who had fasted for 12 hours before blood collection, the range of β-HB was found to be from 0.02mmol/L (0.2mg/dL) to 0.27mmol/L (2.81mg/dL)

Test automation

- The β-HB test is available on over 30 chemistry analyzer platforms with downloadable applications or a hand-held dry reagent strip meter

[1] Sacks DB, Arnold M, Bakris GL, Horvath AR, Kirkman MS, Lernmark A, Metzger BE, Nathan DM. Guidelines and Recommendations for Laboratory Analysis in the Diagnosis and Management of Diabetes Mellitus. Diabetes Care. 2004:34:e61-e99.

[2] Laffel L. Ketone bodies: a review of physiology, pathophysiology and application of monitoring to diabetes. Diabetes Metab Res Rev. 1999 Nov-Dec; 15(6):412-26.

[3] Kitabchi A, Umpierrez G, Miles J, Fisher J. Hyperglycemic crises in adult patients with diabetes. Diabetes Care 2009; 32 (7) : 1335-1343.

[4] Umpierrez G, Watts N, Phillips L. Clinical Utility of Beta-Hydroxybutarate determined by reflectance meter in the management of diabetic ketoacidosis. Diabetes Care 1995; 18 (1), 137-138.

[5] Savage MW, Dhatariya KK, Kilvert A, Rayman G, Rees JAE, Cortney CH, Hilton L, Dyer PH, Hamersley MS. Joint British Diabetes Societies Guideline for the Management of Diabetic Ketoacidosis. Diabetic Medicine, 2011; 28(5):508-515.

[6] Foreback C. Beta-Hydroxybutarate and acetoacetic acid levels. Am J Clin Pathol, 1997; 602-604

[7] Csako G. Unrecognized false-positive ketones from drugs containing free-sulfhydryl groups. JAMA 1993; 269(13): 1364. Csako G. False-positive results for ketones with the drug mesna and other free-sulfhydryl compounds. Clin Chem, 1987; 33: 289-292.

[8] Wiggam MI, O'Kane MJ, Harper R, Atkinson AB, Hadden DR, Trimble ER, Bell PM. Treatment of diabetic ketoacidosis using normalization of blood 3-hydroxybutyrate concentration as the endpoint of emergency management. A randomized controlled study. Diabetes Care 1997; 20: 1347-1352.

[9] Vanelli M et al. The direct measurement of 3-beta-hydroxy butyrate enhances the management of diabetic ketoacidosis in children and reduces time and costs of treatment. Diabetes Nutr Metab. 2003 Oct-Dec; 16(5-6):312-6.

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