CAP TODAY

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Immunohistochemistry Committee

Q. What is the standard of practice for confirmation testing with Acetest tablets?

A. Testing urine for ketones using the nitroprusside reaction has been a common practice for many decades.[1]

During that time, a common practice evolved to "confirm" a positive ketone reaction in a multianalyte dipstick using a tablet test, Acetest being the long-standing brand. At this time, the wisdom of such a practice is questionable for several reasons. First, the tablet uses the same simple chemical reaction as the strip; hence, the test can hardly be regarded as a rigorous confirmation. Second, experience has shown that a positive dipstick ketone test will fail to confirm with the tablet only rarely—about two percent of the time in one published study.[2] Third, the clinical implications of this simple, qualitative test are meager. They don't justify the trouble and expense of a confirmatory test. Serious evaluation of ketosis, as in the setting of diabetic ketoacidosis, warrants rigorous modern tests such as quantitative measurement of beta-hydroxybutyrate, a ketone body that the nitroprusside reaction does not even detect. The Clinical and Laboratory Standards Institute says: "Many of the historical confirmatory chemical urinalysis tests such as sulfosalicylic acid (SSA) test for protein, tablet test for ketones, and the tablet test for bilirubin may not be relevant to current laboratory practice."[3]

References

1. Free HM, Smeby RR, Cook MH, et al. A comparative study of qualitative tests for ketones in urine and serum. *Clin Chem*. 1958;4:323–330.

2. Abdelaziz HM, Billett HH. Follow-up testing for ketonuria. Is it necessary? *Am J Clin Pathol*. 1994;101:346–348.

3. Clinical and Laboratory Standards Institute. *Urinalysis; approved guideline*—3rd edition. CLSI document GP16-A3. Wayne, Pa.: CLSI. 2009.

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