



Discussion

ABU-B represents the second mailing of the Accuracy-Based Urine (ABU) Survey, which is composed of pooled, real urine specimens selected to achieve specified albumin concentrations. The Survey materials are expected to be free of matrix effects, and therefore comparisons may be made directly between participants' results and between participants' results and the reference method values for albumin. The reference method testing was performed in the Renal Testing Laboratory at the Mayo Clinic in Rochester MN, using calibration materials prepared from human serum albumin.

Sample ABU-04 had a reference method assigned albumin concentration of 1.08 mg/dL. All participants reported values that were lower than this, generally by about 40 to 60%. Sample ABU-05 had a reference method assigned albumin concentration of 51.83 mg/dL. Participants again tended to underestimate the albumin concentration by approximately 2 to 3 mg/dL. Sample ABU-06 had a target albumin concentration of 9.60 mg/dL. Once again, participants tended to underestimate this by approximately 1 to 2 mg/dL. The overall performance of participating laboratories in the albumin survey was generally good but with a tendency toward slight negative bias.

Although reference method measurements were not performed for urine calcium or urine creatinine, it is possible to make comparison between methods because of the presumed lack of matrix effects in the Survey materials. These samples were not intended to achieve any specified target values for these two analytes. The variation in reported values between different methods for these analytes was approximately 8-12%. The combined variation in albumin and creatinine values gave a large range of values for the albumin/creatinine ratio, especially with samples containing low albumin (ABU-04). This is reflected in variation in the urine albumin/creatinine ratio which ranges from over 300% at the low end of albumin concentrations (ABU-04), to 141% at the high end in this Survey (ABU-05).

Accurate measurement of urine albumin is very important in evaluating patients for renal disease. The ABU Survey allows participants to gauge the accuracy of their urine albumin methods in comparison to other participants and a reference method.

References:

1. National Kidney Disease Education Program, Quick Reference on Urine Albumin Creatinine Ratio and Estimated GFR: <http://www.nkdep.nih.gov/resources/quick-reference-uacr-gfr.shtml> (Last accessed January 21, 2014)

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