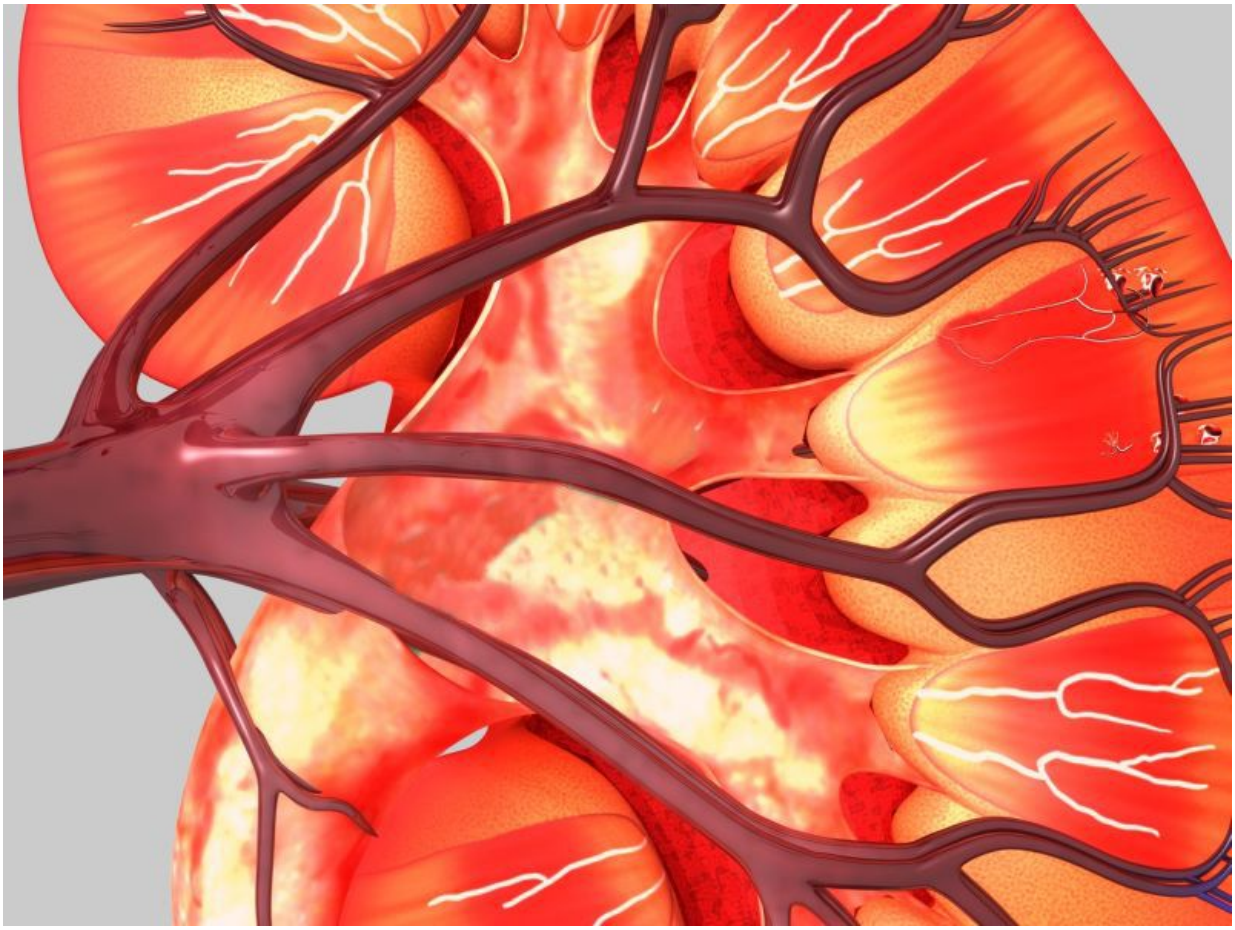
Significant differences for methods of measuring albumin

February 7 2017



(HealthDay)—Significant differences are seen for immunochemical,

bromcresol green (BCG), and bromcresol purple (BCP) methods of albumin measurement, according to a study published online Jan. 20 in *Clinical Chemistry*.

Lorin M. Bachmann, Ph.D., from the Virginia Commonwealth University in Richmond, and colleagues prepared pools from residual patient serum (50 samples) and heparin plasma (48 samples) from patients without renal disease, and 53 serum samples from patients with kidney failure before hemodialysis. The authors measured albumin in all samples, and in ERM-DA470k/IFCC reference material (RM) by three, nine, and 12 immunochemical, BCG, and BCP methods, respectively.

The researchers found that two immunochemical, five BCG, and 10 BCP methods recovered the RM value within its uncertainty. Compared with the RM value, one immunochemical and three BCG methods were biased. Based on recovery and results of error analyses the Tina-quant immunochemical method was chosen as the reference measurement procedure. For BCG versus Tina-quant, the mean biases were 1.5 to 13.9 percent, and these were larger at lower albumin concentrations. The mean biases of BCP methods were −5.4 to 1.2 percent, regardless of albumin concentration. For all method types, biases were generally higher for plasma than for serum samples. Biases were lower for serum from patients on hemodialysis versus patients without kidney disease for most measurement procedures.

"Significant differences among immunochemical, BCG, and BCP methods compromise interpretation of serum albumin results," the authors write.

Several authors disclosed financial ties to the biopharmaceutical industry.

More information: Full Text (subscription or payment may be

required)