attractive, simple alternative that overcomes these difficulties and allows a one-step protocol. This concept has direct application to the laboratory as well as to ELISA kit manufacturers, whose dependence on antibody isolation and enzyme conjugation could be minimized.

References

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Excessive Phlebotomies

To the Editor:

I suggest as obligatory reading for any clinical laboratory who may have missed it Jocelyn Hicks’ Letter to the Editor (1) on excessive volumes of blood sampling or a prominent review in the September issue of Clinical Laboratory News (2). Hicks presents a horror story from the “Doctor, BE your Patient” standpoint. Her recital of her prolonged hospital stay in which 10 mL of blood was drawn twice daily for 2 weeks for only a complete blood count and white cell differential (defended as the “computer-dictated” volume) shocked me as much as it did her. I can vouch for the commercial availability of 4-mL blood collection tubes for hematologic measurements as early as the 1960s, and tubes of varying sizes for other specific uses have become available since then. (Has “Hal” taken over the decisions of the clinical laboratory?)

Undoubtedly, the great majority of current clinical laboratorians were not trained in the fading era of universal manual laboratory tests, when patient sample collection was performed not by “phlebotomists”, but by trained laboratory staff. The importance of the improvement between 10 mL and the miniscule samples now drawn for red blood cells and white blood cells in dilution pipettes from ear lobe- or finger-sticks is beyond estimation. Capillary sampling for the hematocrit has supplanted the several milliliters required by the old graduated tubes, and the Drummond system, with its guaranteed-bore small capillaries and high gravity centrifugation (as a percentage of an unmeasured negligible sample), and microscopic readers now permit precise measurements of (arterial) red cells and plasma hematocrit by sharp delineation of the white blood cell pack.

Of course, finger-stick sampling has the disadvantage of requiring an adequate puncture to avoid milking the site, and the samples represent capillary blood, giving somewhat higher cell/plasma ratios than venous samples. In addition, precise automated sample dilutors have limited drawn sample requirements for multiple assays.

Microchemical methods were being developed rapidly, notably by Manny Sanz in Berne, when they were overtaken by automated, and particularly “multiphasic”, testing for ever larger panels of analytes—most of which were ignored by the physicians who needed only a few critical results. These requirements appear to be perpetuated in excessive draws for modern technologies. Not that we can return to the “good old days”, but there are ways of drastically reducing this awful waste. All of this illustrates the fallacy of the assumption that real progress necessarily correlates positively with time over the years.

Elution of Hemoglobin

αMontgomery →βS2 Hybrid Tetramers by the Variant Apparatus

To the Editor:

Hemoglobin (Hb) Montgomery (α48 Leu→Arg) is an uncommon variant first reported in 1975 (1). We report here a case of the association of homozygous HbS (β6 Glu→Val) with this variant identified by the late Dr. T.H.J. Huisman in an 8-year-old black girl with a life-long sickling disorder.

We quantified Hb fractions by cation-exchange HPLC with the Variant® Hemoglobin Testing System Beta-Thalassemia Short Program (Bio-Rad Diagnostics) (2, 3). The complete blood count was determined by a Beckman-Coulter STKS®. Alkaline Hb electrophoresis was performed on cellulose acetate (Helena Laboratories). Solubility testing was done with phosphate-buffered saline using SickleScreenSTM (Pacific Hemostasis). The Hb was 88 g/L [reference interval (RI), 110–160 g/L], mean cell volume was 83.1 fl (RI, 80–98 fl), and the red cell distribution width was 19.5% (RI, 11.5–18.0%). HbF, HbA2, HbS, and “HbC” were 8.9%, 3.8%, 67.7%, and 15.8%, respectively, by HPLC (Fig. 1). The blood sample was solubility positive. Alkaline Hb electrophoresis had an “HbSCF” pattern with an abnormal HbA2 band.

Although Hb Montgomery is not rare in African Americans (4), it is less common than HbG-Philadelphia (α68 Asn→Lys); hence, the combination of homozygous HbS and Hb Montgomery in this patient (A. Kutlar, personal communication) is very

References

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