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Concentrations of Acute-Phase Proteins in Infants

To the Editor:

Properly conceived studies of plasma protein concentrations in infants are much needed, as stated by Kanakoudi et al. (1). However, it is important to reference values whenever possible to the currently recognized international reference material, CRM 470 (also known as the Reference Preparation for Proteins in Human Serum, or RPPHS), released jointly by the International Federation of Clinical Chemistry, the Bureau Communitaire de Référence, and the College of American Pathologists (2).

Kanakoudi et al. state that their reference materials had values “assigned with reference to the reference values of the International Federation of Clinical Chemistry.” Although this implies that all values were assigned from CRM 470, two facts contradict this: (a) Two of the proteins studied, retinol-binding protein and hemopexin, do not yet have values assigned to CRM 470, and (b) for at least one protein, the reference interval for adults given by these authors more closely resembles the previous Behring values, not the newer ones assigned from CRM 470: The tentative new reference interval proposed for α1-antitrypsin, based on CRM 470 and supported by Behringwerke, is 0.90–2.0 g/L for adults, significantly lower than that given for this study (1.34–2.59 g/L). Therefore, I question whether the values given for at least these three proteins should be considered as referenced to CRM 470.

Finally, the values given for transferrin (prealbumin) appear to be high by a factor of 100. The reference interval for adults, for example, should be 0.2–0.47 g/L rather than 19.2–46.8 g/L.

References


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Dr. Kanakoudi and coworkers respond:

To the Editor:

We greatly appreciate Dr. Johnson's comments, which give us the opportunity to clarify some points in our article. First, it is true that for retinol-binding protein and hemopexin there are not yet values assigned to CRM 470. For these two proteins we used the same N Protein Standard SY, and their values were assigned with reference to the Behring reference values. Second, the values for prealbumin are in fact expressed in mg/dL and not in g/L like the other protein values of the same table. We regret not to have clarified this exception with a footnote. Finally, differences in reference intervals for adults could be attributed to possible discrepancies between our material and that examined by others (ethnic, genetic, etc.).

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Colorimetric Assessment of Smoking Status and Relative Daily Nicotine Intakes

To the Editor:

The simple colorimetric procedure that Phillipou et al. (1) used to quantify the concentrations of nicotine and its metabolites in urine samples from diabetic subjects was, as they stated, based on the method my colleagues and I described in 1985 (2), namely, a variant of the König reaction, with barbituric acid as the condensing agent. However, in our paper, contrary to the impression given by Phillipou et al., we did not suggest using quantitative estimates of the urinary nicotine metabolite concentrations to distinguish between smokers and nonsmokers, but rather described and evaluated three alternative qualitative variants of the König procedure for determining smoking status.

The most efficient method used diethylthiobarbituric acid (DETBA) as the condensing reagent and extracted the pink/red chromophores formed from nicotine and its metabolites into ethyl acetate. Apparent sensitivity and specificity of this method were 100% and 97%, respectively; we therefore recommended it for identifying active smokers and stressed its simplicity, speed (potential throughput of greater than 60 samples per hour), and cheapness.

In the same paper (2) we also reported that if urinary nicotine metabolite concentrations were determined quantitatively by the barbituric acid method, and were ratioed to creatinine to allow for the effects of diuresis, the urinary nicotine metabolite...