correlate well with other accepted methods for measuring glycosylated hemoglobin. We remain concerned about the effects of both hemoglobin A1c and methemoglobin formation on the value of HB A1c, as these are both potential sources of inaccuracy. It would be useful to know how Jepson et al. dealt with these problems in developing their current assay.

References

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Negative Interference with the Du Pont aca Method for Measuring Digoxin

To the Editor:

Currently available procedures for digoxin determination in serum include the Abbott "TDx," Dade's "Stratus," and various radioimmunoassay (RIA) methods. Despite the different principles used in these methods, they all give results that are falsely increased by digoxin-like substances, predominantly in sera from neonates, pregnant women, patients with renal failure, and patients with hepatic failure accompanied by renal failure (1-3). The aca (Du Pont Instruments, Wilmington, DE) method for digoxin measurement, unlike the aforementioned methods, involves an affinity-column-mediated immunoassay, in which serum digoxin reacts with digoxin-specific F(ab')2 fragments conjugated to beta-galactosidase (EC 3.2.1.23) (4-6). This method, too, is affected by digoxin-like substances that cause a positive interference (R. Valdes, personal communication).

Recently we uncovered a new type of interference with the aca method. During the past 10 months we occasionally compared digoxin results obtained with the aca and TDx methods with results obtained with the Corning RIA, the method that reportedly demonstrates the least effect from digoxin-like substances (3, 7). We identified four patients whose serum samples appeared to demonstrate a negative interference with the aca method; that is, the aca method gave lower values for digoxin than did the TDx and Corning RIA methods:

<table>
<thead>
<tr>
<th>aca</th>
<th>TDx</th>
<th>RIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.60</td>
<td>1.3</td>
<td>1.2</td>
</tr>
<tr>
<td>0.35</td>
<td>0.7</td>
<td>0.62</td>
</tr>
<tr>
<td>0.89</td>
<td>1.9</td>
<td>ND*</td>
</tr>
<tr>
<td>&lt;0.2</td>
<td>2.3</td>
<td>2.4</td>
</tr>
</tbody>
</table>

TDX and RIA results agreed with each other for the three serum samples for which such data were available. However, the aca gave digoxin values about half of those obtained by the TDx or RIA methods for three of the patients, and it measured no digoxin for the fourth patient. It is of note that three of the patients had serum creatinine concentrations >50 mg/L (normal 7-15 mg/L) before dialysis. (Medical and laboratory data were not available for the fourth patient.)

A representative of Du Pont, acknowledging the existence of a negative interference with the aca method, suggested that the negative interference would cause undetectable digoxin values (i.e., <0.2 µg/L) in patients known to be receiving digoxin, such that the inaccuracy of the result would alert us to the presence of the negative interference and the need to cross-check such results with another method. However, from the data presented above, the negative interference is not always expressed as the representative suggested. If we had cross checked only "abund" aca results with the TDx and RIA methods, we would have reported incorrect results with medical significance for the first three patients.

Because of the current lack of information on the prevalence of these types of samples or on the mechanism of interference, and because there is no easy way of identifying such samples other than by reassaying with another method, we alert users that the aca method for measuring digoxin may give inappropriately low results.

References

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More on Serum Fructosamine Assay

To the Editor:

The interference data on the fructosamine assay carried out by Baker et al. (1) were derived with the Cobas Bio centrifugal analyzer (F. Hoffmann-La Roche, Basle, Switzerland). Reaction parameters for four alternative automated instruments were provided, but separate interference studies on these