gators concluded that the reagent strip is clinically useful (6–8).

References

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Dr. Zack comments further:
1. "... the specific gravity of urines from a dilution test should be 1.003 or less. ..." Of our 133 cases, there were five cases of urines where at least one result was ≤1.003. Of these five there was one case where both results were ≤1.003, two cases where the specific gravity strip read ≤1.003 when the refractometer read <1.022. The two specific gravity methods, used to assess concentration tests, gave results that agreed in only 31% of the cases.
2. "... [specific gravity] of urines from kidneys which have impaired function should be about 1.010." I suggest that "about" could reasonably be interpreted as being within ±0.005 of this value. Of the 133 cases in the present study, 100 patients had at least one value between 1.005 and 1.015; of these, 31 (31%) had one value outside these limits.

It was for the above reasons that I suggest that the accuracy of the specific gravity test strip does not permit clinical conclusions to be drawn in a significant number of patients. Each laboratory should undertake its own evaluation to evaluate the strip performance in their own hands.

J.F.Z., Jr.

Watery Diarrhea and Stool Osmolality

To the Editor:

When dealing with diarrheas of uncertain etiology it sometimes is helpful to distinguish between "osmotic" and "non-osmotic" diarrheas, a distinction that should be more widely known.

In osmotic diarrheas, poor absorption of nutrients, for whatever reason, will lead to their passage into the colon, where bacterial attack will produce much soluble low-molecular-mass material, such as small organic acids. Their presence will result in retention of water in the bowel lumen, as is to be expected from osmotic principles.

In non-osmotic diarrheas, there is a loss of body water and electrolytes because of marked secretion of these in the small intestine, which overwhelms the colonic mechanisms for reabsorption of fluid. These non-osmotic diarrheas often are termed "secretory" (1).

The various reasons for osmotic diarrheas include malabsorption, lactose intolerance, or an infection that results in rapid passage of gastric and small-bowel contents to the colon. Reasons for non-osmotic diarrheas also are varied and may include effects of bacterial toxins (as in some E. coli enteritis), of hormones secreted by ectopic tumors, or of drugs (e.g., some prostaglandins, castor oil).

When a watery diarrhea is present, the measured osmolality of stool water and that calculated from its sodium and potassium concentrations (taken as twice the sum of the two) can be compared. A large deficit in the calculated osmolality indicates osmotic diarrhea; a small deficit, non-osmotic diarrhea (1).

We have found it convenient to use Worthington Diagnostics' "Ultrafree" filters (cat. no. DR006310; nominal cutoff, 45 000 daltons) to obtain the aqueous portion of a watery stool when we wish to compare measured and calculated osmolalities. The necessary few tenths of a milliliter is readily captured in the associated tuberculin syringe, which then may be capped. Other makes of filters should work as well. It is our practice to filter only those stool specimens that plainly are watery, as judged by the clinical pathologist or biochemist; others are held for a day or two under refrigeration to permit inspection by the patient's physician should he wish to do so.

Two cases in point follow:

<table>
<thead>
<tr>
<th>Case</th>
<th>Case</th>
<th>Measured osmolality, mosm/kg H_2O</th>
<th>Sodium concentration, mmol/L</th>
<th>Potassium concentration, mmol/L</th>
<th>Calculated osmolality, mosm/kg H_2O</th>
<th>Deficit, mosm/kg H_2O</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>261</td>
<td>71</td>
<td>53</td>
<td>248</td>
<td>13</td>
</tr>
</tbody>
</table>

Case A was a non-osmotic diarrhea associated with a calcitonin-secreting tumor; Case B was an osmotic diarrhea associated with malabsorption.

Reference

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Ampicillin Interference with Test for Sulfite Oxidase Deficiency

To the Editor:

A recent letter from Summerville and colleagues (1) concerns the usefulness of the iodine–azide spot test in screening for sulfite oxidase (EC 1.8.3.1) deficiency. We have found that urine specimens containing the frequently prescribed antibiotic ampicillin often gave a falsely positive reaction, making interpretation of the positive spot test result difficult. Our laboratory now uses a simple spectrophotometric method for this sulfate (2) as a screening test for sulfite oxidase.