Tests for Occult Blood: A Clarification

To the Editor:

As an answer to comments (1) on our article (2), we present the following comments.

The main purpose of our article was to introduce a new immunological test, "Hemolex," and to describe its characteristics. We compared Hemolex and guaiac tests (Hemoccult, Hemofec, and Fecatwin Sensitive), which are most widely used for the detection of occult fecal blood.

Adlercreutz and Liewendahl, who were the developers of Fecatwin and FECA-EIA, wonder (1) why we have not used FECA-EIA together with Fecatwin Sensitive as they have suggested (3). However, nowhere in the instruction leaflets or package inserts of Fecatwin Sensitive received by us so far has this been mentioned. To our knowledge, Fecatwin Sensitive is generally used without the confirmatory test FECA-EIA in the hospital routine of occult blood testing in the whole of Scandinavia. Their claim (1) that Hemolex should have been compared with Fecatwin instead of Fecatwin Sensitive is surprising, because Fecatwin is no longer available. Therefore, we saw no confusion either in using the shortened name Fecatwin instead of Fecatwin Sensitive, because manufacture and sales of Fecatwin were discontinued at the time of our studies.

As for the effects of diet, we think that we discussed the matter on the basis of what we knew about the diet the patients had followed. As we all know, the reality is that people coming to their first visit to the physician have not followed any prior diet. Hemolex will provide diagnostic information about occult bleeding also in these cases, as shown by samples from normal-population controls, without any disturbing effect on the results by food consumed.

The sensitivity of Fecatwin Sensitive being 1–4 mL of blood per 100 g of stool (equal to 2.5–7 mL of blood per day corresponding to 200 g of stool) was taken from the original package insert.

We regret the unfortunate error on page 1765, last line of the first column, where we should read, "The seven specimens positive with Hemolex and Fecatwin . . .".

We think that our article described well the usefulness of the immunological Hemolex test, even as a screening test, aside from the economical but nonspecific guaiac tests. Obviously the simple and specific latex-agglutination test Hemolex will replace (e.g.) the more laborious FECA-EIA in practice.

References


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More on Stability of Lithium in Clotted Blood

To the Editor:

Mulryan et al. (1) presented data indicating that lithium concentrations measured in clotted blood samples stored at 4°C decreased by as much as 25% during 24 h. However, previous documentation for the collection and storage of specimens for lithium analysis recommends that the serum be separated and refrigerated at 4°C (2). Kaplan and Pesce (3) note that lithium in separated serum is stable for 24 h at room temperature, or for seven days at 4°C.

In our laboratory, blood specimens for lithium analysis are drawn into Becton Dickinson sterile Vacutainer Tubes with serum separator ("SST tubes") and centrifuged, then assayed the next day with a Corning 405 flame photometer, after overnight storage at 4°C. We decided to further investigate this collection protocol, because the data from Mulryan et al. would suggest that lithium results so obtained are low, and we might be missing some values above the therapeutic range (>1.5 mmol/L) and in the toxic range (>2.0 mmol/L).

Paired specimens collected from patients being treated with lithium were handled in various ways, so we could re-assess the effects of temperature and type of specimen on lithium stability during storage. Each specimen was centrifuged and analyzed for lithium on the day of collection, then re-analyzed on each subsequent day for at least seven days.

Specimens were also collected from a person not receiving lithium and supplemented with a solution of lithium nitrate. These were again paired and treated similarly to the patients’ specimens.

We found no significant difference in results for lithium concentration between specimens stored at 4°C and those stored at room temperature (Table 1). Similarly, there was no significant difference between the concentrations in serum specimens stored in the SST tubes and those in the separated samples, or between serum in direct contact with the cells and that in SST tubes. Although there was no significant decrease in the supplemented lithium concentrations over the period of the investigation, a decline of 4.5% was noted at the higher concentration of 2.20 mmol/L between days 1 and 2, but not at 1.02 mmol/L. Between days 2 and 5, lithium concentration increased by 22% in one sample stored in a plain tube, but there was no significant increase in the aliquot stored in the SST tube. Therefore, we could not confirm the findings of Mulryan et al. for samples stored in SST tubes, samples stored in direct contact with the erythrocytes, or samples stored as separated serum.

We remain confident that our current