(6) According to the criticism of the Young and Hicks's method, Babson thinks that the acid solution of Zak (the same as ours) tends to precipitate proteins. We cannot deny this risk, but in several thousands of determinations, we have only seen a precipitate ten times, that is to say once every thousand assays. Each time, the serum came from cases of paraproteinemia.

In conclusion, we believe we can maintain that Babson and Kleinman's conclusions cannot be applied to other methods than that of Young and Hicks's. As for the explanation given by Babson, it does not seem very convincing to us. Indeed, we met great difficulties while attempting to use tripyridyl-s-triazine by the manual procedure of Fischer and Price (6) and this fact would lead us to connect this material with the bad results reported by Babson.

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References


To the Editor:

Our conclusion that a Donnan effect was responsible for erroneously high iron assays was based on several lines of evidence, only one of which was the agreement with manual assays after the addition of salt. The failure of Dorche and Nyssen to arrive at the same conclusion (in spite of the fact that they found that, "The rate of dialysis of ferrous ions is higher when there are proteins.") can be traced, we believe, to differences in methodology. In the first place these authors used only 0.8 ml. of serum per minute while Young and Hicks used 1.6 ml./min. and Zak and Epstein used 2.0 ml./min. This alone would reduce the Donnan effect and, incidentally, the sensitivity of their procedure. Secondly, Dorche and Nyssen dialyze into an alkaline recipient stream of 7.5% sodium acetate instead of an acid stream. This, of course, also dialyzes back into the acid sample stream. The reason they found lower assays with 0.1 N HCl is presumably a result of neutralization of the dilute acid with the dialyzed sodium acetate. Most certainly our findings were not related to the use of tripyridyl-s-triazine, since we in fact used sulfonated bathophenanthroline.

We did not mention this one modification we had made in the Young and Hicks procedure because our purpose was not to introduce a new method for serum iron. Our objective was to call attention to a potential source of error in dialysis procedures and to suggest a simple solution.

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