Which is the Better, Arakawa’s Reaction or Thiamin Test of Human Milk?

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Arakawa’s reaction1) (of human milk) is a clinical prompt test which shows that human milk negative to the reaction is generally a milk from a thiamin-deficient body. Of course this reaction is not a thiamin test. But we published it in 1930 under the thought that it would continue to be useful until a prompt thiamin test of human milk—which would require only a few minutes—be devised; then the latter test would replace Arakawa’s reaction. However, this thought has been found to be erroneous due to the following fact.

Clinical thiamin test2) would tell only the amount of thiamin, however exact. Arakawa’s reaction shows us a rough amount of the poison3) ("pseudo vitamin C" named by myself) produced as the result of thiamin deficiency, besides it enables us to make a rough estimate of thiamin itself. It is not so much a want of thiamin in human milk, as the amount of the poison that is dangerous to the breast-fed infant. Take, for instance, two men of equal property; if one of them is in a great debt, this one is danger, while the other with no debt is free from danger. Arakawa’s reaction will remain to be a convenient clinical test even after a device of prompt thiamin test.

References.

1) From our Laboratory many reports concerning Arakawa’s reaction have been published in this Journal.
2) Such a test has not been devised yet.
4) Arakawa, Ts., ibid., 1942, 4, 122; Naito T., 226th and 227th Reports of the Peroxidase Reaction to be published in a coming issue of the Journal.