patient's urine containing a total of 0.6 g of Bence Jones protein and 0.2 g of albumin per liter: only 0.18 g of protein per liter was demonstrable with Marius' "Proti-Analyzer," and only 0.20 g/L with the CBB method.

The protocol is as follows: Dissolve 100 mg of CBB in 50 mL of 96% ethanol. Add 100 mL of 85% phosphoric acid and dilute with distilled water to 600 mL. Filter, add 100 mL of glycerol, and dilute with distilled water to 1 L. Allow the solution to stand for 24 h before use. For the reaction, take 5 mL of CBB reagent with a 10-μL sample.

References

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Experience with a New Method for Cholinesterase

To the Editor:

I read with interest the paper by Abernethy et al. (1) describing the use of succinylcholine as a substrate for the assay of plasma cholinesterase (EC 3.1.1.8). I have used a similar assay system, in a CentrifilChem 400 analyzer, to study the problem of "scoline apnea." The working reagent contained, per liter, choline oxidase 100 U, peroxidase 2000 U, 4-aminophenazone 0.8 mmol, phenol 8.0 mmol, and succinylcholine 1.0 mmol in 45 mmol/L sodium 4-morpholinepropanesulfonic acid (MOPS) buffer, pH 7.45, with measurement at 500 nm and 37 °C (2).

My results agree in the main with theirs, but I find this assay to be no better than dibucaine and fluoride numbers in distinguishing cholinesterase variants.

The overlap of results between UU and UA variants is a problem, as pointed out by Abernethy et al. Furthermore, this assay cannot distinguish normal variants with a low plasma cholinesterase from abnormal variants. Because of this, the assay would seem to be of limited use in the detection and separation of cholinesterase variants by itself.

Discrimination between UU and UA variants is better when the activity towards succinylcholine is normalized by dividing its activity towards butryrythiocholine and graphing this against dibucaine number obtained by using the latter substrate.

I have investigated this procedure in only one abnormal family (Figure 1) and thus the transferability of this procedure to other families of the same and different variants remains open to question.

References

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Fig. 1. Separation of UU, UA, and AA cholinesterase variants in a family of nine
[Graph showing data for UU, UA, and AA variants]