

Correspondence

Anesthesiology
49:438, 1978

Ester-type Local Anesthetics and Plasma Cholinesterase

To the Editor:—In their article, Drs. Brodsky and Campos included dibucaine with the ester-linked local anesthetics and suggested, therefore, that dibucaine is hydrolyzed by plasma cholinesterase.¹ Of course dibucaine is an amide and not hydrolyzed by plasma cholinesterase.^{2,3} I'm sure this was an editing oversight.* However, this points out a confusing concept for many of us. Namely, dibucaine, an amide, is useful in the demonstration of atypical forms of plasma cholinesterase by virtue of its inhibition of hydrolysis of an ester benzoylcholine or butyrylthiocholine by plasma cholinesterase.⁴ Many local anesthetics besides dibucaine inhibit cholinesterase.³ The inhibition by dibucaine represents the percentage decrease in cholinesterase activity due to the added dibucaine inhibitor. A greater decrease occurs with normal levels of cholinesterase. In no sense is this digression meant to detract from the authors' valid

* [It was. An erratum covering this was published in the June issue (48:398, 1978).—*Editors.*]

Anesthesiology
49:438, 1978

To the Editor:—Brodsky and Campos describe a case of successful administration of 2-chloroprocaine to a patient with depressed levels of plasma cholinesterase secondary to echothiophate iodide eye drops.¹ The article contains one error in fact and, I believe, an error in judgment. The authors incorrectly included dibucaine in a list of ester-linked local anesthetics. This local anesthetic belongs to the amide-linked family.² Their error in judgment, I feel, was in the statement that "chloroprocaine is probably safe to use in patients with low levels of active plasma cholinesterase. . . ." Since their patient had a plasma cholinesterase level of almost 65 per cent of the lower limits of normal, I feel that this conclusion is unwarranted. Patients with genetically low levels of active cholinesterase may have lower levels than that reported for their patient, and could possibly manifest

observations on chloroprocaine in the presence of decreased plasma cholinesterase activity, presumably secondary to echothiophate eye drops.

DENNIS W. COOMBS, M.D.
*Department of Anesthesia
Dartmouth-Hitchcock Medical Center
Hanover, New Hampshire 03755*

REFERENCES

1. Brodsky JW, Campos FA: Chloroprocaine analgesia in a patient receiving echothiophate iodide eye drops. *ANESTHESIOLOGY* 48:288–289, 1978
2. Goodman LS, Gilman A: *The Pharmacological Basis of Therapeutics*. Fifth edition. New York, Macmillan, 1975
3. Kalow W: Hydrolysis of local anesthetics by human serum cholinesterase. *J Pharmacol Exp Ther* 104:122–134, 1952
4. Kalow W, Genest K: A method for the detection of atypical forms of human serum cholinesterase: Determination of dibucaine numbers. *Can J Biochem Physiol* 35:339–346, 1957

(Accepted for publication July 21, 1978.)

toxic reactions to accumulated dosages of ester-linked local anesthetics. I feel that a more prudent course would be to choose an amide-linked anesthetic in this situation.

WENDELL J. HYINK, M.D., LCDR, MC, USNR
*Department of Anesthesia
Naval Regional Medical Center
Great Lakes, Illinois 60088*

REFERENCES

1. Brodsky JB, Campos FA: Chloroprocaine analgesia in a patient receiving echothiophate iodide eye drops. *ANESTHESIOLOGY* 48:288–289, 1978
2. Wylie WD, Churchill-Davidson HC: *A Practice of Anaesthesia*. Third edition. Chicago, Year Book Medical Publishers, 1972

(Accepted for publication July 21, 1978.)