Minimum Drug Dose to Obtain Adequate Amnesia for Cardioversion

To The Editor:—Elective cardioversion is usually performed using sedation with short-acting barbiturates or benzodiazepine derivatives to alleviate patients’ anxiety and discomfort accompanied by an electric shock. Patients undergoing cardioversion often present with coexisting cardiac dysfunction. A minimum amount of sedatives providing adequate amnesia is, therefore, most desirable. Administration of IV sedatives according to conventional clinical signs (closing of eyes and/or absence of eye lid reflex) results in a deeper level of anesthesia than necessary, which may cause cardiorespiratory depression and delay in an emergence from anesthesia. Shane et al.* described an association of amnesia with a physical sign, exotropic eyes which are usually divergent, although one eye may drift inward and another outward.

This is to report our recent practice with another clinical sign, failure to focus the eyes upon a moving object. Patients are instructed to keep their eyes open and are asked to follow the finger of the anesthesiologist moving over the patient’s face from side to side. While the patient breathes oxygen from a face mask, methohexitol in increments of 10 mg is injected until the patient’s eyes fail to follow movement of the finger. At this time, cardioversion is performed, although the patient may still appear to be awake and is responsive to verbal commands.

We have used this method in 20 patients aged 45 to 78 yr. All had excellent amnesia and quick recovery without excessive cardiorespiratory depression. Actual doses of methohexitol used varied from 0.4 mg to 0.8 mg/kg. We believe that this is a useful method to insure adequate amnesia for cardioversion using a minimum amount of medication.

GREGAR H. LIND, M.D.
Anesthesia Resident
HIROSHI KAMAYA, M.D., PH.D.
Associate Professor
Chief, Anesthesia Service
Department of Anesthesiology
University of Utah College of Medicine
Salt Lake City, Utah 84132
Anesthesia Service
Veterans Administration Medical Center
Salt Lake City, Utah 84148

(Accepted for publication November 20, 1981)

Unintentional Lethal/toxic Injections: Elimination of Drugs Versus Vigilance

To the Editor:—“Life is easier when our problems, especially the serious ones, can be blamed on the tools of our trade, our patients, the gods—or anything else that has an aura of unavoidability.”

Many different drugs come in similar cartridges, ampules, and vials, and unintentional administration of the wrong drug is a known hazard.* In 1977, to relieve physicians, nurses, and so forth of their responsibilities by placing the “onus” of misadministration of drugs on the pharmaceutical companies (“product liability”) is not uncommon.* The most recent such publication involved the recommendation that the 5- and 10-ml syringes of 20% lidocaine (1 and 2 g) be eliminated.†

Abbott and Astra† are the principal pharmaceutical providers of lidocaine for ventricular arrhythmias. Their prepackaged syringes of lidocaine 100 mg/5 ml (2%) for direct intravenous injection are familiar to anesthesiologists because they are readily available in the operating suite. However, many are unfamiliar with the packaging of lidocaine for ventricular arrhythmias for dilution in intravenous fluids, namely: 1) 1 g/5 ml (20%) in prepackaged syringes; 2) 2 g/10 ml (20%) and 1 g/10 ml (10%) similarly packaged; and 3) 1 g/25 ml or 2 g/50 ml (4%) in vials.

* Sternburg S: The wrong vial, human error led to death. Chicago Tribune Section 5 (Tempo), Friday, March 8, 1985. N.B. Glutaraldehyde was injected into the subarachnoid space.

† Physicians’ Desk Reference, Medical Economics Company, Inc., Oradell, NJ 07649; 1987, pp 551−552, 521−529