

to the attention of the ASA Committee on Mechanical Equipment. This problem was reported by Sears and Bocar¹ and additional comments were made by Cooper² and Parker.³

Since selector shunt valves of this type are currently available in the market place, users must be cautioned to be extremely careful to ascertain that the valves are properly connected and are used only in accord with manufacturers' instructions.

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Methohexital is Not Contraindicated in Epileptics

To the Editor:—We must contend several statements in the discussion of two case reports by Drs. Rockoff and Goudsouzian of seizures induced by methohexital.¹

Failure to recognize different effects of barbiturates on the brain at different ages has misled the authors to extrapolate observations on one infant and another young child to recommending the "avoidance of methohexital in patients with psychomotor, temporal or complex seizure disorder" of all ages. The excitatory effects of barbiturates in children are exemplified by restlessness following use for premedication. The selection of methohexital for anaesthesia in their first case after another barbiturate, phenobarbitone, has increased the frequency of the seizures seems questionable.

Methohexital sodium has been administered intravenously to many millions of patients without documented seizures. The few reported have occurred in known or crypto-epileptics with abnormal EEG recordings.²⁻⁷ In our study⁸ of 48 epileptics deprived of anticonvulsant medication prior to activated EEG recording, two patients developed grand mal seizures after 30 mg and 20 mg, methohexital 1 per cent respectively. Both patients had a history of grand mal seizures for 9 years and 9 months respectively. The seizure resolved spontaneously in the 25 year old female patient, but airway obstruction necessitated i.v. suxamethonium, laryngoscopy and intubation in the 12-year-old boy. Further iv injections of methohexitone 1 per cent were administered uneventfully in both cases. Goldie *et al.*⁹ reported the use of i.v. bolus injection then infusion of methohexital for activated EEG recording in subnormal and mentally ill children. The only reported seizure developed in a normal intelligent boy with idiopathic epilepsy after discontinuation of the

0.1% methohexital infusion. These reports contradict the statement that "the epileptogenic effects of methohexital appear to be limited to individuals with psychomotor seizures".¹

The significance of the route of administration has not been related to the incidence of seizures. The variable absorption following rectal administration of methohexital is illustrated by the failure of their second patient to go to sleep after two doses of 20-25 mg/kg body weight. We have observed that even incremental intravenous injections of 1.0% methohexital are more likely to precipitate grand mal seizures in starved epileptics from whom anticonvulsant medication has been withdrawn than an i.v. infusion of methohexital 0.09%. However, the later technique did precipitate status petit mal on two occasions and myoclonic jerks on one occasion during 43 administrations. During activated EEG recording, the attending anaesthetist can ensure a patent airway. The same cannot be said for computerised axial tomography of the head. It is difficult to justify the choice of the unreliable route of rectal administration when overdosage and airway obstruction in the supine position is just as likely as underdosage. The intramuscular route allows more reliable absorption of methohexital than given rectally, but the injection of such a large volume as 3 ml into the buttock of a 3½ year old child is hardly the height of compassion!

We would agree with Drs. Rockoff and Goudsouzian that methohexital should be used with care in known or suspected epileptics of all types, particularly in those from whom anticonvulsant medication has been withheld or in whom control is poor. However we agree with Whitwam¹⁰ and Moreland, *et al.*¹¹ that methohexital is

not contraindicated in epileptic patients. Thiopentone remains the intravenous induction agent of choice for epileptics.

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In reply:—We are grateful to Drs. Allen and Male for describing additional cases of seizures occurring after the administration of methohexital to patients with epilepsy. The necessity for intubation of one child emphasizes the serious consequences which may potentially arise. It is true that these complications can usually be managed by a competent anesthetist. Nevertheless, Drs. Allen and Male agree with our original report¹ that methohexital may induce seizures in certain patients with seizure disorders and that thiopental is a preferred induction agent for epileptic patients.

Although excitatory effects of barbiturates are seen occasionally in children, the precipitation of seizures is not limited to young patients. The references in our report as well as those by Drs. Allen and Male include cases of convulsions and EEG activation in patients of all ages. Furthermore, their deprivation of anticonvulsant medication in known epileptics prior to methohexital anesthesia (which resulted in grand mal seizures in two of 48 patients) seems unwise and dangerous. The occurrence of a seizure after methohexital administration to one of the patients we described led the attending neurologist to discontinue phenobarbital, resulting in the elimination of clinical seizures in this patient.

Finally, Drs. Allen and Male question the safety of the rectal administration of ultrashort-acting barbiturates for the induction of anesthesia when the supine position is to be used. At the Massachusetts General

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Hospital over the last few years, more than 2,000 children have had anesthesia induced safely by this method. Airway obstruction is rare and has always been responsive to head repositioning. In no cases have manual ventilation or intubation been necessary. Others have described similar anesthetic inductions for a variety of procedures,^{2,3} including computerized tomography (CT) of the head.* In fact, nearly all our elective CT scans requiring anesthesia are performed in this manner. Clearly, this as well as all anesthetic techniques require the presence of a competent anesthetist.

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