phenobarbital responsiveness. Subjects less than 32 weeks gestational age responded better than those 32 weeks or greater in gestation. (Gilman J T et al. Rapid sequential phenobarbital treatment of neonatal seizures. Pediatrics May 1989; 83:674-678).

COMMENT. The therapeutic effect of phenobarbital monotherapy in the treatment of neonatal seizures is dose dependent but the effect plateaus at 40 mg/mL and further increases only induce sedation and compromise neurologic assessment. A second anticonvulsant should be given promptly if seizures persist when phenobarbital serum concentrations are 40 mg/mL or above. The availability of rapid serum determinations of drug levels is important because delays in additional drug therapy were thought to predispose to further seizures and risks of serious neurologic sequelae. The authors emphasize that adequate patient monitoring and slow infusion rates of phenobarbital should always be used to avoid possible cardiovascular toxicity.

In our own experience of 63 newborns with seizures admitted January 1985 to December 1987 in the high risk nursery at SIU School of Medicine, monotherapy with phenobarbital was used in 70% and polytherapy in 30%. The mean serum phenobarbital levels after loading doses of 10 and 20 mg/kg were 20 and 40 mg/mL, respectively. Factors predictive of a poor prognosis included 1) polytherapy, 2) Apgar score less than 5 at five minutes, 3) abnormal EEG, and 4) abnormal brain ultrasound. Normal EEG and ultrasound were predictive of a normal follow-up examination. The addition of phenytoin or other polytherapy did not appreciably increase the degree of seizure control or improve prognosis (unpublished observations).

LORAZEPAM-INDUCED MEMORY DEFICITS

The effects of low doses of lorazepam (Ativan), 0.03 mg/kg IV, on episodic versus long-term memory, attention, and somatic and affective symptoms were investigated in a group of 16 children aged 2.8 to 14.2 years at St. Jude Children's Research Hospital, Memphis, and the Center for Pediatric Pharmacokinetics and Therapeutics, Departments of Clinical Pharmacy and Pediatrics, University of Tennessee, Memphis. Psychological assessments were performed twice before drug administration and 1½ hours and 24 hours after intravenous lorazepam. A selective anterograde amnestic effect was observed in 5 of 16 children as measured by a picture recognition test. There were no significant changes in long term memory, attention or somatic symptoms but affective symptoms were significantly decreased at 1½ hours and a trend toward decreased anxiety was seen at 1½ and 24 hours after lorazepam injection. The half life of lorazepam was 10.5 ± 2.9 hours. (Relling M V et al. Lorazepam pharmacodynamics and pharmacokinetics in children. J Pediatr April 1989; 114:641-646).

COMMENT. Lorazepam is a short acting benzodiazepine that is used in children most commonly as a preoperative sedative and as an anticonvulsant. In adults it is used as an antiemetic agent during chemotherapy for cancer, an effect largely due to its amnestic properties. This study shows that it is possible to produce a

selective amnestic effect on episodic memory in children without significantly impairing long-term memory or attention.

Lorazepam has become increasingly popular for the treatment of status epilepticus in children; the usual median dose is 0.1 mg/kg. Midazolam, a benzodiazepine used primarily for induction of anesthesia, in contrast to lorazepam and diazepam, is water soluble and its injection is neither painful nor irritating by the intramuscular route. Midazolam 15 mg IM was as effective in abolishing spikes as 20 mg of diazepam IV five minutes after administration in a study in adults with epilepsy. (Jawad S et al. J Neurol Neurosurg Psychiat 1986; 49:1050). The half life of lorazepam is longer than that of diazepam or midazolam, however, and its duration of action is more prolonged.

CARBAMAZEPINE THERAPY AND LONG-TERM PROGNOSIS OF EPILEPTIC CHILDREN

The long term prognosis in 90 children with partial or generalized tonic-clonic seizures treated with CBZ has been evaluated in the Department of Pediatrics, Kyoto University, Kyoto, Japan. Sixty-seven (74%) treated with CBZ monotherapy were seizure free for more than three years. Fifty (56%) had no epileptiform discharge on the follow-up EEG. Patients with mental retardation and a genetic predisposition were more likely to have an abnormal EEG. The incidence of mental retardation was significantly higher in those treated with polytherapy. The prognosis of patients with partial seizures secondarily generalized was less favorable than that of the other patients. Patients without mental retardation more often received CBZ monotherapy and patients with seizures of undetermined etiology more often received polytherapy. The lowest blood level of CBZ for maintenance was 4 meg/ml and maximum blood levels ranged from 6-12 meg/ml. Side effects were observed in 20 patients who had drowsiness, 4 ataxia, 2 a rash and 1 had anorexia. The SGOT, SGPT, or both were elevated in 16 patients. Leukopenia between 2,000 and 4,000 occurred in 32 patients. (Okuno T et al. Carbamazepine therapy and long-term prognosis in epilepsy of childhood. Epilepsia Jan/Feb 1989; 30:57-61).

COMMENT. There was no correlation between the type of seizure and the prognosis of the patients in this study. All patients with simple partial seizures and benign epilepsy of children with centrotemporal foci were seizure free for more than one year and the majority were seizure free for more than three years. There was no correlation between a history of febrile convulsions and the prognosis of children with partial or generalized tonic-clonic seizures. Patients with partial seizures secondarily generalized had a less favorable prognosis than that of other patients.

SEIZURES IN OFFSPRING OF EPILEPTIC PARENTS

The risks of unprovoked seizures in the offspring of parents with generalized versus partial epilepsies among 687 patients born in Rochester, MN between 1922 and 1985 and followed for the occurrence of seizures through 1986 are reported from the Division of Epidemiology and Department of Neurology, Columbia University, New York, the University of Texas Health