recovery or by school achievement. One-half the patients with severe brain injury in early childhood attended normal school, but only one-fourth could work full-time as adults. The authors stress the importance of providing the brain-injured child with a firm identity.

CEREBRAL BLOOD FLOW STUDIES IN SEVERE HEAD INJURY

The results of 151 serial measurements of cerebral blood flow, arteriojugular venous oxygen difference, and cerebral metabolic rate for oxygen performed in 21 children with severe head injury are reported from the Bristol Hospital for Sick Children, UK. Cerebral hyperemia was uncommon, occurring in only 10 (7%) of the blood flow measurements. Cerebral blood flow was inversely correlated with intracranial pressure. Cerebral metabolic rate was initially normal in 81% of children, but both metabolic rate and AV oxygen difference fell significantly between the first and third days after injury. Children with head injury are most at risk of sustaining ischemic brain damage in the first few hours after injury when cerebral metabolic rate and cerebral oxygen extraction are maximal. (Sharples PM et al. Cerebral blood flow and metabolism in children with severe head injury. Part 1: relation to age, Glasgow coma score, outcome, intracranial pressure, and time after injury. J Neurol Neurosurg Psychiatry Feb 1995;58:145-152). (Respond: Dr PM Sharples, Institute of Child Health, Bristol Hospital for Sick Children, St Michael's Hill, Bristol BS2 8BJ, UK).

COMMENT. In Part 2 of the above study, the authors measured cerebrovascular resistance in 17 children with severe head injuries. Values were normal or raised in most cases. Cerebrovascular resistance was correlated with cerebral perfusion pressure, except in 4 of 5 most severely injured patients who died or survived with major handicap. The pathophysiology of traumatic encephalopathy in children is similar to that in adults. Normal autoregulatory mechanisms are preserved in most children with head injury, but pressure autoregulation may be disturbed in those with very severe injury. The adequacy of cerebral blood flow for cerebral metabolic demands should be closely monitored by continuous jugular oxygen saturation measurement in the severely injured patients. (Sharples PM, Matthews DSF, Eyre JA. Cerebral blood flow and metabolism in children with severe head injuries. Part 2: cerebrovascular resistance and its determinants. J Neurol Neurosurg Psychiatry Feb 1995;58:153-159).

A normal CT scan after mild head injury predicts a good prognosis and lack of subsequent deterioration requiring neurosurgical intervention, according to a study of 400 brain injured children reported from the University of Washington, Seattle. (Davis RL et al. The use of cranial CT scans in the triage of pediatric patients with mild head injury. Pediatrics March 1995;95:345-349).

SEIZURE DISORDERS

EARLY AED WITHDRAWAL IN NEONATES WITH SEIZURES

The risk of seizure recurrence within the first year of life was evaluated in 31 surviving neonates whose antiepileptic treatment was discontinued after one to 65 days (median 4.5 days) in a study at the Neonatal

Intensive Care Unit, University Hospital, Lund, Sweden. Seizures recurred in only 3 cases (8.3%): in 1 infant receiving prophylaxis, 1 treated for 65 days, and in 1 treated for 6 days. Seizure recurrence was not significantly related to structural brain changes, nor to epileptiform activity in the EEG during the 30 days after the first seizure. No infant with a normal neonatal EEG had seizure recurrence. In infants with a few neonatal seizures and a normal EEG, AEDs can be withdrawn soon after seizures are controlled. In infants with >10 seizures, AEDs can be withdrawn when the EEG is normal and before discharge. In infants with frequent seizures and abnormal EEG, longterm prophylactic antiepileptic treatment may still be preferable. The use of prophylactic treatment is not justified in most cases of neonatal seizures. (Hellstrom-Westas L et al. Low risk of seizure recurrence after early withdrawal of antiepileptic treatment in the neonatal period. Arch Dis Child March 1995;72:F97-F101). (Respond: Dr Lena Hellstrom-Westas, Department of Paediatrics, University Hospital, S-221 85 Lund, Sweden).

> COMMENT. The goals of treatment with AEDs in this study were 1) to abolish both clinical and electrographic seizures, and 2) to keep treatment as short as possible. Controversies in the management of neonatal seizures are addressed in Progress in Pediatric Neurology II, 1994, pp14-15; and Vol I, 1991, pp10-11. Most authorities agree that seizures should be determined electrographically before long-term therapy is instituted.

INFANTILE SPASM MORBIDITY vs PERINATAL MORTALITY

During a 15-year period 1968-1982, perinatal mortality in Finland declined from 19.9 to 7.4 per 1000 live births. The incidence of children with infantile spasms remained unchanged during two study periods, 1960-1977 and 1977-1991, rates of 0.41 and 0.43/1000 livebirths, respectively, with admissions to the Children's Hospital of the University of Helsinki. The proportion of low birth weight infants with infantile spasms was not different in the two periods, but the number small for gestational age decreased in the second study period. They all had severe pre-, peri-, or postnatal brain damage or other symptomatic causes for infantile spasms. In the later 77-91 compared to the earlier 60-77 period, brain malformations and tuberous sclerosis were diagnosed more frequently as causes of infantile spasms, neonatal hypoglycemia was a less frequent etiology, while idiopathic cases were of equal frequency (19%). (Riikonen R. Decreasing perinatal mortality: Unchanged infantile spasm morbidity. Dev Med Child Neur 1995;37:232-238).

COMMENT. Improved neuroimaging may account for the higher incidence of brain malformations detected in infants with spasms.

IN MEMORIAM

This issue of Pediatric Neurology Briefs is dedicated to the memory of

NANCY M. MILLICHAP
who died April 1, 1995, aged 52

Mrs Millichap was president-elect of the Auxiliary to the American Academy of Neurology, chairman of the S. Weir Mitchell Award for 1995, and a former president of the Woman's board of the Epilepsy Foundation of America.