

amino acid metabolism in children with petit mal. Etiologic significance and modification by anticonvulsant drugs and the ketogenic diet. Epilepsia 1964;5:239-255). The urinary excretion of electrolytes was increased and particularly that of calcium, magnesium and sodium, resulting in a negative balance of sodium, potassium, calcium, magnesium, phosphorus and nitrogen. The anticonvulsant action of the ketogenic diet was unrelated to diuresis, independent of acidosis, and was correlated with an increased urinary excretion and a negative balance of sodium and potassium, electrolytes known to affect the seizure threshold. Further reports of the mechanism of the diet are reviewed in Millichap JG, Ed. Progress in Pediatric Neurology, I, II, and III, Chicago, PNB Publishers, 1991, 1994, 1997.

VASCULAR DISORDERS

RISK FACTORS FOR POOR OUTCOME IN STROKE

Risk factors for stroke in children and their relationship to outcome were determined by reviewing charts of 72 patients with ischemic and hemorrhagic strokes at the Universities of Montreal and Toronto, Canada. Of 51 with ischemic strokes, 46 were arterial and 5 sinovenous thromboses. Risk factors were variable and multiple in 24% of the 51 with ischemic stroke. Ischemic stroke recurred in 8% of patients with a single or no risk factor and in 42% with multiple risk factors ($p=0.01$). Of 21 with hemorrhagic stroke, none had multiple risk factors, 67% were caused by vascular abnormalities, and 10% recurred. Outcomes in the total 72 patients were as follows: 36% were asymptomatic, 45% had epilepsy or persistent neurologic deficit, and 20% died. Those with recurrent stroke had a greater risk of dying (40%) than those without (16%).

Hematologic and metabolic screening should be a part of the workup of ischemic stroke, even when a cause is known. This should include aPL antibodies, protein C and S antibodies and deficiencies, antithrombin, factor V Leiden, and hyperhomocysteinemia. Other significant risk factors include cardiac abnormalities occurring in 20% of patients with ischemic stroke, vasculopathies (25%), sickle cell disease, and recent or concurrent systemic or intracranial infection and mild head and neck trauma. (Lamthier S, Carmant L, David M, Larbrisseau A, de Veber G. Stroke in children. The coexistence of multiple risk factors predicts poor outcome. Neurology January (2 of 2) 2000;54:371-378). (Reprints: Dr L Carmant, Department of Pediatrics, Division of Neurology, Hôpital Sainte-Justine, 3175 Chemin de la Cote Sainte-Catherine, Rm 2130, Montreal, Quebec, Canada, H3T 1C5).

COMMENT. Multiple risk factors are common in children with ischemic stroke and may predict stroke recurrence. Mortality increases with stroke recurrence.

Neonatal hemorrhagic stroke. Two variants of temporal lobe infarction are described in 10 neonates treated at Gent University Hospital, Belgium (Govaert P, Smets K, Matthys E, Oostra A. Neonatal focal temporal lobe or atrial wall haemorrhagic infarction. Arch Dis Child Fetal Neonatal Ed Nov 1999;81:F211-F216). All except 2 were VLBW infants with hyaline membrane disease. The injury was venous infarction with temporal or para-atrial matrix hemorrhage. Except for one fatal case, intraventricular bleeding was mild to moderate. The lesions were detected by sonography. Survivors scored in the low normal range on the Bayley Mental Development Index; one developed temporal lobe epilepsy.