studies. The author lists other diseases with MR lesions in the globus pallidus including Leigh syndrome, Hallervorden-Spatz disease, hemolytic uremic syndrome (associated with E coli 0157:H7 and *Shigella dysenteriae* food poisoning), carbon monoxide intoxication, hepatic encephalopathy, and neurofibromatosis. See Progress in Pediatric Neurology II (PNB Publishers, 1994, pp242-3) for a previous article by the same author and commentary on MRI in 22 athetotic cerebral palsied children. The value of the MRI in the timing of basal ganglia pathology has been alluded to in other reports of dyskinetic and dystonic cerebral palsy (*ibidem.* pp243-4). Of 219 dyskinetic CP cases seen between 1955 and 1986 in the Cheyne CP Centre, Chelsea, London, 25% had been diagnosed with kernicterus.

VITAMIN A SUPPLEMENTS AND BULGING FONTANELLE

Safety of vitamin A supplements in early infancy was investigated by double-blind, randomized, placebo-controlled trial in 167 infants in the Urban Surveillance System area of the International Centre for Diarrhoeal Research, Bangladesh. Three doses of 25000 IU of vitamin A or placebo were given at 6, 12 and 17 weeks of age, and infants were examined by physicians on days 1, 2, 3 and 8 after supplementation. Bulging fontanelle occurred in 9 (10.5%) infants receiving vitamin A compared to 2 (2.5%) in the placebo group ($p<0.05$). The side effect was not observed after the first dose, 3 infants were affected after the second supplement, and 9 after the third. A cumulative effect of vitamin A was likely. (Baqui AH et al. Bulging fontanelle after supplementation with 25000 IU of vitamin A in infancy using immunization contacts. Acta Paediatr August 1995;84:863-6). (Respond: Dr AH Baqui, Urban MCH-FP Extension Project, ICDDR,B, GPO Box 128, Dhaka 1000, Bangladesh).

COMMENT. The infants in this study received vitamin A supplements together with the routine DPT/OPV immunization. Bulging of the fontanelle has been reported in the US as a side effect of immunization with DTP vaccine and DT vaccine. (Gross TP et al. J Pediatr 1989;114:423-5 [cited in above study]). An additive or synergistic effect of the immunization cannot be excluded. The reliability of the clinical assessment of the fontanelle by observation and palpation is also debated, and a probable underestimation of vitamin A toxicity is suggested by the authors.

With present day enthusiasm for supplemental vitamins and a common attitude of nonchalance toward possible vitamin overdosage, the recognition of early symptoms and signs of vitamin toxicity is important. (Millichap JG. Environmental Poisons in Our Food, Chicago, PNB Publishers, 1993).

HEADACHE DISORDERS

BRAIN IMAGING INDICATIONS FOR HEADACHES

Charts of all children referred to the pediatric neurology clinic, Schneider Children's Hospital, New Hyde Park, NY, for evaluation of headaches over a 2-year period were reviewed retrospectively for headache characteristics, indications for performing CT and MRI studies, and imaging results. Of 133 patients ages 3 to 18 years, 52% had migrainous headaches, 21% chronic tension headaches, and 19% were unclassified. The indications for

brain imaging in 78 patients examined (MRI 45, CT 27, both 6) were not specified in 17, atypical headache pattern in 12, parental concern 12, physician concern about cerebral tumor 11, systemic symptoms of fatigue and weight loss in 11, focal symptoms or signs during headaches in 7, neurologic or ocular abnormalities 6, and increasing severity or frequency of headaches in 5. None of the scans showed brain tumor, vascular abnormality, or hydrocephalus that required neurosurgical intervention. Abnormal scans in 11 patients included evidence of chronic sinusitis in 7, a neuroepithelial cyst adjacent to the foramen of Monroe treated conservatively in 1, right temporal arachnoid cyst in 1, left cerebral hemiatrophy in 1, and Dandy-Walker malformation in 1. (Maytal J et al. The value of brain imaging in children with headaches. Pediatrics September 1995;96:413-416). (Reprints: Joseph Maytal MD, Division of Pediatric Neurology, Schneider Children's Hospital, Long Island Jewish Medical Center, New Hyde Park, NY 11040).

COMMENT. The authors conclude that brain imaging has very limited value in the management of childhood headaches in the absence of clinical signs of structural brain lesion. Although none of 11 (14%) positive scans was considered indicative of a treatable disease at the time, the abnormalities uncovered might potentially have proved significant. I would agree that brain imaging is not warranted in patients with well-defined migraine and that routine use of neuroimaging is to be discouraged. However, patients referred to a pediatric neurologist for chronic headache have usually been screened by their pediatrician or family physician and the pressures for neuroimaging may be more demanding.

An MRI should be considered especially in those with atypical recurrent headaches, a recent change in the character of the headache, persistent vomiting, a history of seizures, abnormal neurologic findings, and in younger age groups. However, the heavy sedation required for the MRI in a young child and risks of an adverse reaction to contrast medium with CT must be weighed against the benefits of the study. Headache as the sole manifestation of brain tumor is a rare occurrence. As a further consideration, the luxury of follow-up evaluation and observation over time may not be available to the neurologist who examines a patient in consultation, and the deferral of imaging may not be practical or judicious. For further commentary on the indications for imaging in headache and the value of an EEG as a preliminary test in diagnosis, see Progress in Pediatric Neurology II, PNB Publishers, 1994, pp164-6).

TRANSIENT HEADACHE AND CSF LYMPHOCYTOSIS

A transient syndrome of migrainous headache with neurologic deficits and CSF lymphocytic pleocytosis is described in 7 young adult patients examined at the Strong Memorial Hospital, University of Rochester Medical Center, Rochester, NY. The clinical characteristics of 33 similar cases, 13 in children and adolescents, previously reported in the literature are also analysed. The diagnostic criteria for this syndrome include severe headache, temporary (<4 days) neurologic deficit, CSF lymphocytosis (16-350 WBC/mm3), and self-limited course (range 1-84 days, mean 21 days). The neurologic signs and symptoms were usually transient hemiparesis or sensory changes, confusional episodes, and aphasia. CSF protein was increased in 91% of cases, CSF pressure increased in 73%, focal, nonepileptiform EEG irregularities were