distribution of MMC lesions in this compared to earlier studies may reflect prenatal diagnosis and termination or the effects of maternal folic acid supplementation. Their findings, emphasizing the relation of rate of shunting and functional level of lesion, are considered important in counseling and also in the design of fetal intervention studies. Fetal MMC closure may be associated with a delayed development of symptomatic hydrocephalus and lower rate of shunting than postnatal closure. Reversal of the hindbrain hernia in fetal Chiari II malformation might open the cerebrospinal fluid drainage and prevent the obstructive hydrocephalus (McLone DG, Knepper PA. 1989).

Risk of major birth defects is more than doubled in infants conceived after intracytoplasmic sperm injection or in vitro fertilization, according to data obtained from birth registries in Western Australia, between 1993 and 1997 (Hansen M, Kubinczuk JJ, Bower C, Webb S. N Engl J Med March 7, 2002;346:725-730). The principal defects were musculoskeletal and chromosomal.

SEIZURE DISORDERS

PREVALENCE OF HYPOPIGMENTED AND CAFE-AU-LAIT SPOTS IN IDIOPATHIC EPILEPSY

The prevalences of hypopigmented maculae and cafe-au-lait spots were investigated in 210 children with idiopathic epilepsy, between 2 and 17 years of age, and 2754 health controls children, at the Departments of Pediatrics and Dermatology, Hacettepe University and Inonu University Medical Schools, Turkey. In epileptic children, hypopigmented maculae and cafe-au-lait spots occurred in 14.3% and 30%, respectively, compared to 1.6% and 2.8%, in healthy children (P<.0001). Hypopigmented maculae were polygonal, ash leaf, and fingerprint in shape. Cafe-au-lait spots were discrete, round or oval, and uniformly hyperpigmented. These skin lesions should be considered a concomitant risk factor for epilepsy. (Karabiber H, Sasmaz S, Turanh G, Yakinci C. Prevalence of hypopigmented maculae and cafe-au-lait spots in idiopathic epileptic and healthy children. J Child Neurol Jan 2002;17:57-59). (Respond: Dr Hamza Karabiber, Kahramanmaras Sutcu Imam Universitesi Tip Facultesi Cocuk Hastaliklari ABD, 46050 Kahramanmaras, Turkey).

COMMENT. The diagnostic criteria for type 1 neurofibromatosis include 6 or more cafe-au-lait spots greater than 5 mm in prepubertal and 15 mm in postpubertal children. They may be localized in any region except the palms and soles. Hypopigmented maculae are found in tuberous sclerosis and also in albinism, Waardenburg's syndrome, and vitiligo. The incidence is higher when examined with a Wood lamp. The figure 3 is sometimes regarded as a significant number of cafe-au-lait spots in patients failing to meet criteria for the diagnosis but sufficient to indicate a partial penetrance of NF-1 (Whitehouse D. Arch Dis Child 1966;41:316). In the above study, 3 spots were counted in 10% of 78 healthy children with spots and in 17% of 63 with epilepsy and cafe-au-lait spots. This number may indicate a trend toward increased risk of idiopathic epilepsy.

CLINICAL, EEG, AND MRI DIFFERENCES IN FRONTAL AND TEMPORAL LOBE EPILEPSY

Children who underwent video-EEG monitoring between 1995 and 2000, and were classified as frontal lobe epilepsy (FLE) (n=39) or mesial temporal lobe epilepsy (MTLE) (n=17), were examined for clinical, EEG, and quantitative MRI

differences, in a study at Sydney Children's Hospital, Australia. Compared to MTLE, seizures in FLE were significantly shorter, more frequent, and occurred predominantly in sleep; EEG abnormalities were often bilateral and of significantly higher frequency; MRI mean frontal cortical volume in FLE was significantly lower than MTLE and controls; and the outcome following surgery was poor. Few were considered optimal surgical candidates because of signs of bilateral disease. Frontal lesions occurred in only 29% compared to a 94% temporal lobe lesion rate in patients with MTLE. Etiology was undetermined in the majority of FLE cases. (Lawson JA, Cook MJ, Vogrin S, et al. Clinical, EEG, and quantitative MRI differences in pediatric frontal and temporal lobe epilepsy. Neurology March (1 of 2) 2002;58:723-729). (Reprints: Dr AME Bye, Department of Neurology, Sydney Children's Hospital, High Street, Randwick 2031, Australia).

COMMENT. Frontal lobe epilepsy accounts for more than 20% of pediatric partial epilepsies in this center. The seizures are of briefer duration, more frequent, and usually nocturnal, compared to temporal lobe epilepsy. Rates of epigastric aura, oral and gestural automatisms, and contralateral limb dystonia are higher, and motor manifestations such as asymmetric tonic, focal clonic, and motor agitation are more prominent. Interictal and ictal EEG abnormalities are not clearly lateralized, and more often synchronous bilateral or independent right or left. MRI detection of a localized lesion is uncommon, and etiology is usually undetermined, although unilateral frontal hypometabolism may be demonstrated by PET and SPECT. Compared to TLE cases, results of surgery for FLE are disappointing.

INCIDENCE OF ABNORMAL FDG-PET IN PARTIAL EPILEPSY

Forty children were studied with EEG, MRI, and F-fluorodeoxyglucose (FDG)-PET, within one year of their third unprovoked partial seizure, at the Children's National Medical Center, George Washington University School of Medicine, Washington, DC. The mean age at seizure onset was 5.8 years, mean epilepsy duration 1.1 years, and mean number of seizures 30 (range 3 to 200). An absolute asymmetry index (AI) greater than 0.15 was considered abnormal. Seizure foci were temporal lobe in 33, frontotemporal in 5, and frontal in 2. Mean AI for all regions was not different from that obtained in 10 normal young adults. Focal hypometabolism occurred in 8 (20%), all restricted to the temporal lobe, and ipsilateral to the presumed ictal focus. Cerebral metabolic dysfunction may be more related to persistent epilepsy and is uncommon at onset of a partial seizure disorder. (Gaillard WD, Kopylev L, Weinstein S, et al. Low incidence of abnormal FDG-PET in children with new-onset partial epilepsy. A prospective study. Neurology March (1 of 2) 2002;58:717-722). (Reprints: Dr William Davis Gaillard, Department of Neurology, Children's National Medical Center, 111 Michigan Avenue NW, Washington DC, 20010).

COMMENT. Only 20% of children with recent-onset partial epilepsy have PET evidence of temporal hypometabolism. In adults with refractory TLE, the frequency of temporal lobe hypometabolism is 80 to 85%. A follow-up of the patient population is planned by the authors to determine long-term outcome and possible development of metabolic dysfunction with recurrence of seizures.

In a previous study, the authors had examined the effect of valproate on cerebral metabolism by use of PET. (Gaillard WD et al. Epilepsia 1996;37:515-521). VPA reduced regional cerebral blood flow but not cerebral metabolic rate for glucose in the thalamus. The effect was associated with control of generalized seizures. (see Progress in Pediatric Neurology III, PNB Publishers 1997;pp40-41).