DEVELOPMENTAL DELAY AND IN UTERO PHENYTOIN EXPOSURE

Psychomotor development was assessed in preschool children exposed to antiepileptic drugs (AED) in utero as part of a population-based longitudinal follow-up study of children born to women with meticulously treated epilepsy during pregnancy at the Karolinska Institute, Stockholm, Sweden. Exposed (n=67) and unexposed (n=66) children were tested with the Griffiths' test at 4.5-5 yrs of age in 6 subsets: locomotor function, personal and social behavior, hearing and speech, eye and hand coordination, performance, and practical reasoning. The Griffiths' test evaluates the child's behavior and is widely used in Sweden as the standardized measure of psychomotor development in preschool children. Global scores showed no significant differences in the two groups, but exposed children obtained slightly lower scores in 4 of the 6 subtests. Children exposed to phenytoin in utero (n=16) showed a significant but subtle reduction in locomotor function. Carbamazepine in utero (n=35) had no measurable adverse effect. The majority (85%) received monotherapy in low doses. Exposed children had significantly fewer siblings ($p < 0.01$), and AED-treated mothers were more likely to have lower levels of education ($p < 0.001$) than the unexposed group. Socioeconomic status was otherwise similar in the two groups. The first evaluation of this cohort of children had shown a significant increase in minor anomalies in the exposed group, but psychomotor development at 9 mos of age had revealed no differences in the scores of the 2 groups. (Wide K, Henning E, Tomson T, Winbladh B. Psychomotor development in preschool children exposed to antiepileptic drugs in utero. Acta Pediatr 2002;91:409-414). (Respond: Dr K Wide, Department of Clinical Sciences, Division of Pediatrics, Karolinska Institutet, B57, Huddinge University Hospital, SE-141 46 Stockholm, Sweden).

COMMENT. Psychomotor development, especially locomotor function, shows significant but subtle delays in preschool children exposed in utero to phenytoin but not carbamazepine. Previous reports, cited by the authors, have found evidence of developmental delay in children exposed to carbamazepine. The differences between AED-exposed and unexposed children are not observed when tested at 9 months of age, but could be more obvious at school age. Further follow-up of the cohort is planned.

TEST FOR VIGABATRIN-INDUCED FIELD DEFECTS IN CHILDREN

A visual-evoked potential (VEP) technique for identifying visual field defects in children with epilepsy treated with vigabatrin has been developed at Aston University, Birmingham, and Cardiff University, UK. The VEP was field specific with a central (0-5 degree radius) and peripheral stimulus (30-60 degree radius). Black and white checks used as stimuli increased in size with eccentricity and reversed at different rates, allowing a record of separate central and peripheral responses. Initially, five vigabatrin-treated young adults with field defects were identified using this technique and were examined with electroretinograms (ERG). Of 39 children aged 3 to 15 years treated with vigabatrin, 35 complied with the field-specific stimulus, 26 complied with ERG, and 12 with perimetry. The field-specific stimulus identified 3 of 4 abnormal and 7 of 8 normal perimetry results, with good sensitivity (75%) and specificity (87.5%). A typical vigabatrin visual field loss occurred in 25.7% of children treated, similar to the prevalence in adults. Combined with the ERG 30-Hz flicker amplitude, the field specific stimulus is a satifactory method for identifying VGB-induced visual field loss in children older than 2 and under 10 years of age. (Harding GFA, Spencer EL, Wild JM et al. Field-specific visual-evoked potentials. Identifying field defects in vigabatrin-treated children. Neurology April (2 of 2) 2002;58:1261-

1265). (Reprints: Prof Graham Harding, Neurosciences Research Institute, Aston University, Aston Triangle, Birmingham B4, UK).

COMMENT. The specific vigabatrin-induced visual field loss is a bilateral concentric constriction with binasal annular defect and relative temporal sparing. Central vision is usually unaffected by vigabatrin. Vigabatrin is sometimes advocated in the treatment of West syndrome, a condition with onset in infancy. Since the test described for detecting visual field defects was applied to children between 3 and 15 years, presumably it would not be appropriate for the majority of infants treated. The 25% risk of visual field loss is of serious concern in the continued use of vigabatrin for infantile spasms, despite the ability to identify the defect in younger children.

SEIZURES AND MUNCHAUSEN SYNDROME BY PROXY

The prevalence, morbidity and mortality, diagnosis and management of cases of fabricated seizures and child abuse (Munchausen syndrome by proxy (MSbP)) are assessed by pediatricians at the University of Wales College of Medicine, Cardiff, UK. A survey of pediatric neurologists in the USA found that 107 of 190 respondees (21.8% return rate) reported contact with at least one case of Munchausen by proxy (Schreier HA, Libow JA. 1993), and seizures are a presenting feature in 42% of MSbP cases (Rosenberg DA. 1987). Meadow R (1984) cites seizures as the most common example of MSbP in children. Death rates are generally quoted at 10% (Rosenberg, 1987). Surviving children adopt a self image as disabled persons. The most vulnerable are children under 5 years of age, some deaths being ascribed to sudden unexpected death in epilepsy (SUDEP). Perpetrators, usually mothers, are frequently hostile and aggressive toward the physician and nurses, a reaction that may be a deterrent to making the diagnosis of MSbP. The pediatrician needs to communicate with and recruit the family doctor for opinions regarding the prior history of the child and family. Practical guidelines to avoid a false diagnosis of epilepsy include prolonged EEG or video-EEG. An early diagnosis of MSbP is supported by a temporal relation between symptoms and mother's presence, a father's opposing opinion regarding symptoms, covert video surveillance of hospitalized patient, and meticulous records for possible court involvement. Avoid unnecessary escalation of medical treatment by maintaining a healthy suspicion of MSbP in cases that are unexpectedly unresponsive to adequate therapy, frequent unexplained low antiepileptic drug levels and obvious non-compliance, lack of seizure recurrence during carefully monitored drug withdrawal, and mother's insistence on further tests and consultations. Appropriate management may include a psychiatric opinion regarding the parent-child dynamic, a shift of emphasis in management from child to mother or carer, involvement of social service professionals, a period of observation in foster care, and commitment to follow-up by expert in child protection. Fabricated seizures require particular attention from epileptologists, pediatric neurologists, and pediatricians. (Barber MA, Davis PM. Fits, faints, or fatal fantasy? Fabricated seizures and child abuse. Arch Dis Child April 2002;86:230-233). (Respond: Dr PM Davis, Department of Child Health, Cardiff and Vale NHS Trust, Lansdowne Hospital, Cardiff CF1 8UL, UK).

COMMENT. Seizures are a frequent presenting symptom in Munchausen syndrome by proxy. A closer communication between family physician or pediatrician and epileptologist can help to avoid delay in diagnosis and appropriate management.