PEDIATRIC NEUROLOGY BRIEFS

A MONTHLY JOURNAL REVIEW SERVICE

J. GORDON MILLICHAP, M.D.,F.R.C.P., EDITOR

Vol 1, No 1 June 1987

PRENATAL, PERINATAL, OR POSTNATAL DISORDERS

PRENATAL ASPHYXIA IN GROWTH RETARDED FETUSES

Members of the Department of Obstetrics at King's College Hospital, London SE5 have measured the umbilical venous oxygen and carbon dioxide tensions, pH, lactate and glucose concentrations, nucleated red cell (erythroblast) content, and haemoglobin concentration in 38 fetuses with intra-uterine growth retardation in which blood sampling was performed by cordocentesis. The oxygen tension was below the normal mean for gestational age in 33 cases (87%). The severity of fetal hypoxia correlated significantly with fetal hypercapnia , acidosis, hyperlacticaemia, hypoglycaemia, and erythroblastosis. The authors conclude that signs of asphyxia at birth are not necessarily due to the process of birth but may originate before birth. (Soothill PW, Nicolaides KH, Campbell S. Prenatal asphyxia, hyperlacticaemia, hypoglycaemia, and erythroblastosis in growth retarded fetuses. Br Med J, 1987; 294:1051).

COMMENT: Law courts often assume that any infant who develops cerebral palsy must have been damaged by obstetric mismanagement. This study demonstrates that what happens before delivery is sometimes more important than what happens during and after the birth process. Cordocentesis is attended by technical risks and cannot be used routinely. There is need for a non-invasive and repetitive test for the prenatal diagnosis of fetal hypoxia. (Symonds EM. Br Med J. 1987; 294:1046).

PAROXYSMAL DISORDERS

VALPROATE HEPATOTOXICITY IN CHILDREN WITH EPILEPSY

Authors from the University Children's Hospital in Heidelberg estimate the incidence of fatal valproate (VPA) hepatotoxicity in West Germany at around 1 in 5000 and find it hard to justify the use of VPA as a drug of first choice for children with generalised epilepsies. Analyses of data on 16 cases (15 between 1980 and 1986) and 75 additional published cases (a total of 91 cases) showed that no single high-risk age group could be defined; only 2 of the 16 German cases (12%) and 26% of the 91 cases reviewed were under 3 years of age. Fatalities were more frequent in young children on polytherapy, but 14 (15%) followed monotherapy with VPA and 10 (71%) of these were in patients older than 3 years. (Scheffner D. Lancet 1986; ii:511. Scheffner D, Konig St. Lancet 1987; i:389-390)

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The Editor is Professor of Neurology and Pediatrics at Northwestern University Medical School, Chicago, USA. He is presently Visiting Professor at the Hospital for Sick Children, Great Ormond Street, London WC1, England.

COMMENT: I agree with the authors that valproate, a drug with known hepatotoxicity and potentially fatal side-effects, should not be used as a first-line therapy in children with epilepsy. Also, its use in the treatment of febrile convulsions seems unacceptable. Despite the less worrisome estimates of fatalities from the US (1 in 10,000; 1 in 7,000 for polytherapy and 1 in 37,000 for monotherapy)[1] and from England (1 in 20,000)[2], careful monitoring of valproate therapy should be mandatory. Fatalities for VPA polytherapy in children < 3 yr was 1/500. ([1]Dreifuss FE, Santilli N. Neurology 1986;36 (Suppl 1) :175. Dreifuss FE et al. Neurology 1987;37:379. [2]Jeavons PM. Epilepsia 1984; 35 (Suppl 1):50-55)

CARBAMAZEPINE - EXACERBATED EPILEPSY

Reporting from Denver, Colorado, the authors studied 49 children and adolescents whose seizures reportedly worsened during carbamazepine (CBZ) therapy. In 26 well documented cases, the drug at therapeutic dose levels induced exacerbation of absence, atonic myoclonic and generalized tonic-clonic seizure patterns. The effect was dose-related in 10 patients. Three of 11 patients who had their first absence seizure when CBZ was introduced developed absence status. In addition to childhood absence, the epileptic syndromes worsened by CBZ included focal symptomatic (frontal lobe), Lennox-Gastaut, and severe myoclonic epilepsy of childhood. (Horn CS, Ater SB, Hurst DL. Pediatric Neurology 1986;2:340-345)

COMMENT: This is the sixth report concerning seizures induced or exacerbated by carbamazepine. Partial complex seizures are frequently responsive but absence, generalised tonic-clonic, focal, or myoclonic epilepsies may be worsened by CBZ. A slow withdrawal of the CBZ results in improved seizure control.

BIOTINIDASE DEFICIENCY AND SEIZURES

Authors from La Jolla, USA and Florence, Italy report the case of a boy who was first admitted to hospital at 5 years of age because of acute somnolence, alopecia, keratoconjunctivitis and perioral stomatitis associated with lactic acidaemia. At 6 years of age he had grand mal seizures and ataxia and at 7 years he was admitted in coma. The diagnosis of multiple carboxylase deficiency due to biotinidase deficiency was then suspected and treatment with biotin 10 mg p.o.q.d. was started after urine for organic acid analysis was collected. The clinical response was dramatic. Coma and acidosis resolved within a few days. No further seizures occurred. The skin gradually returned to normal and hair, eyebrows and eyelashes regenerated. Ataxia responded after a few weeks but optic atrophy and nerve deafness persisted.

This patient's history began at 6 months of age with seizures. He had multiple generalized tonic-clonic seizures without fever, apparently unresponsive to medication. His subsequent motor development was slow; he sat at 1 year and walked at 2 years. The EEG showed a diffuse abnormality with poorly localized spike foci. Alopecia, a characteristic sign of biotinidase deficiency, did not develop until after 2 years of age. (Thuy LP et al. J. Neurogenet. 1986;3:357-363)

COMMENT: Biotin-related genetically determined disorders are of two types: 1. young infantile or neonatal disease caused by