electrocorticographic as well as visual identification of intrinsically epileptogenic dysplastic cortical tissue. Completeness of excision of tissue showing I/CEDs was important for seizure control. The authors found that dysplastic cortex was more epileptogenic than other structural lesions, and patients with cortical dysplasia have a greater tendency to intractable seizures and a higher incidence of status epilepticus than those with other lesions. Previous reports from Montreal have found status epilepticus in 30% of patients with cortical dysplasia compared to 3% with epilepsy caused by supratentorial tumors. Life-threatening focal status epilepticus due to occult cortical dysplasia, not revealed by MRI, was successfully treated by surgical excision in 4 patients (Desbiens R, Andermann F et al, 1993; see <u>Progress</u> in Pediatric Neurology II, 1994, p292).

## CONGENITAL MALFORMATIONS

## PRENATAL CEREBRAL DYSGENESIS AND CEREBRAL PALSY

The MRIs of 70 cerebral palsy patients, aged 2 - 16 years, performed between 1989 and 1993 at Kansai Medical University Otokoyama Hospital, were analysed to evaluate the causative roles of pre-, peri-, and postnatal events. The CP was related to neuronal migration disorders in the embryonal stage in 26 patients. These included pachgyria and polygyria in 8, schizencephaly in 4, heterotopia in 4, agenesis of the corpus callosum in 4, cerebellar hypoplasia 3, and disorders of neuronal proliferation, differentiation and histiogenesis in 3. Vascular disorders were diagnosed in 30, intra-uterine infection in 5, and birth asphyxia in only 9. The authors conclude that CP of term infants is frequently the result of prenatal factors, either migration defects or cerebral infarction, and birth asphyxia is a relatively uncommon cause. (Sugimoto T et al. When do brain abnormalities in cerebral palsy occur? An MRI study. <u>Dev Med Child Neurol</u> April 1995;37:285-292). (Respond: Dr Tateo Sugimoto, Department of Paediatrics, Kansai Medical University Otokoyama Hospital, Izumi 19, Yawatashi, Kyoto 614, Japan).

COMMENT. The MRI may be used to identify causes of brain lesions underlying cerebral palsy, and birth asphyxia resulting from obstetrical factors is frequently excluded. In 31 of the 70 infants in this study the CP-related brain abnormalities were clearly developmental and prenatal in origin. In 10 of 30 with vascular lesions the damage had probably occurred in the prenatal period, and in 13 the time of damage was undetermined. The World Federation of Neurology cautions that the term birth asphyxia should be applied only to cases with definite evidence of an asphyxial origin for the neurological disability. Neonatal seizures are the most reliable evidence of intrapartum asphxia. The Apgar score is not the best indicator and most children with CP do not have low Apgar scores at birth. A possible causal relationship of perinatal asphyxia and CP should require the following: 1) severe newborn acidosis, 2) damage to other organs, and 3) severe neurologic abnormalities in the first 24-72 hours. (see Progress in Pediatric Neurology I, 1991, p333-6).

## HIPPOCAMPAL CHANGES IN DOWN'S SYNDROME

Semiquantitative scales and quantitative computerized image analyses