The term "ictus infratentorialis" was coined by Penfield and Jasper for attacks of opisthotonus, syncope, vertigo, and focal clonic movements occurring in patients with infratentorial tumors. In a study at the Mayo Clinic of 291 children with intracranial tumors, seizures occurred in 17% of the total group, in 25% of those with supratentorial and in 12% of infratentorial tumors. None had gangliogliomas. (Backus RE, Millichap JG. The seizure as a manifestation of intracranial tumor in childhood. Pediatrics June 1962;29:978-984).

ANTIEPILEPTIC DRUGS

VALUE OF EEG IN ANTIEPILEPTIC DRUG WITHDRAWAL

The prognostic value of the EEG in 120 seizure-free epileptic patients, during and after antiepileptic drug withdrawal, was analyzed at the Department of Neurology, University of Bologna, Italy. Of 128 patients studied with mean age of 28 years, 49 had complex partial seizures (CPS), and 20 had simple partial seizures. Patients included had a history of partial epilepsies treated with AEDs for at least 2 years, and were seizure-free for at least 2 but not more than 6 years. Overall, 75 (63%) relapsed within 3 years from complete drug withdrawal, 29 during drug reduction. Of 36 (30%) showing EEG epileptiform abnormalities at the start of the study, 16 showed an increase in EEG abnormality during and after drug withdrawal. Of 84 with normal EEGs initially, 20 showed epileptiform abnormalities with drug withdrawal. The lowest relapse rate occurred in CPS patients (45%) and the highest in those with SPS (100%). The EEG at the start of the study was not predictive of relapse, but EEG worsening during the withdrawal of AEDs was associated with a significantly higher relapse rate. (Tinuper P, Avoni P, Riva R et al. The prognostic value of the electroencephalogram in antiepileptic drug withdrawal in partial epilepsies. Neurology July 1996;47:76-78). (Reprints: Dr Paolo Tinuper, Department of Neurology, via Foscolo 7, I-40123 Bologna, Italy).

COMMENT. In this study of young adults with partial epilepsies, the EEG was predictive of relapse during but not before starting the withdrawal of antiepileptic drugs, especially if abnormalities appeared when previously absent.

Similar studies in children have not included large numbers of partial epilepsies, but some have indicated a higher relapse rate in female, mentally retarded children with focal neurologic signs and partial seizures. For further reports of the EEG and AED withdrawal see Progress in Pediatric Neurology I, PNB Publ, 1991, pp100-104; and Ped Neur Briefs Dec 1995;9:90. In this 1995 Japanese study, Murakami M et al found a relapse rate of 20% in symptomatic partial epilepsies and 8% in idiopathic partial epilepsies in children. Age dependent factors were important in predicting relapse, peaking at 17 to 19 years for symptomatic partial seizures. Background activity in the EEG was also a predictive factor, the risk of relapse being greater with persistence of slow waves and decreased alpha activity.

AED THERAPY IN PREGNANCY AND FETAL THYROID LEVELS

The neonatal screening results of TSH and 17-hydroxyprogesterone (17-OHP) in 34 study neonates born to mothers exposed to AEDs during pregnancy and their matched controls were evaluated at the Department of Paediatrics, Karolinska Institute, Stockholm, Sweden. The AEDs were carbamazepine 17, phenytoin 10, and polytherapy in 7 patients. In the group as a whole, there

were no significant differences in the TSH and 17-OHP values in patients and controls. In a separate analysis of 6 infants exposed to polytherapy of 2 or more AEDs, there was a non-significant tendency to lower TSH and 17-OHP. Thyroid and steroid screening values were not correlated with AED plasma concentrations measured 1 month before delivery. (Wide K et al. Antiepileptic drug treatment during pregnancy and neonatal screening results. Acta Paediatr July 1996;85:870-1). (Respond: Dr K Wide, Department of Paediatrics, Karolinska Hospital, S-171 76 Stockholm, Sweden).

COMMENT. Carbamazepine and phenytoin induce metabolic enzymes and enhance metabolism of steroid and thyroid hormones. Low levels of thyroxine T4 and steroid hormones are reported in young adults treated with CBZ and PHT but not with valproate monotherapy. Serum T3 is unaffected by AEDs. (Prog Ped Neur I, 1991, pp126-7). The above study suggests that CBZ and PHT monotherapy during pregnancy may not alter fetal thyroid and steroid metabolism.

VALPROIC ACID AND THROMBOCYTOPENIA

The association of thrombocytopenia (TCP) with valproic acid (VPA) therapy was evaluated retrospectively in 167 children treated with VPA between 1989 and 1993 at the Department of Pediatrics, Henry Ford Medical Center, Detroit, MI. VPA monotherapy in 91 and VPA polytherapy in 76 children were compared with 92 age- and sex-matched controls taking AEDs other than VPA. Thrombocytopenia ($<200x10^3/mm^3$) occurred in 22% of VPA treated children (in 26% on monotherapy and 16% on polytherapy), and in 5% of controls. Patients with TCP were older, had higher serum VPA levels, and received higher doses of VPA than those without TCP. The degree of TCP was mild, no patient developed bleeding or excess bruising, and VPA was not discontinued because of TCP. (Allarakhia IN, Garofalo EA, Komarynski MA, Robertson PL. Valproic acid and thrombocytopenia in children: a case-controlled retrospective study. Pediatr Neurol May 1996;14:303-7). (Respond: Dr I Allarakhia, Department of Pediatrics, Henry Ford Medical Center, 2799 West Grand Boulevard, Detroit, MI 48202).

COMMENT. Despite this documentation of a 22% incidence of thrombocytopenia in children treated with VPA, severe TPA with bleeding complications did not occur, and the withdrawal of VPA was not required. The authors recommend close monitoring of the platelet count in patients receiving VPA in larger doses and with higher serum levels, and particularly in older children. VPA induced bleeding may sometimes be explained by an underlying familial disease, eg. von Willebrand pseudohemophilia or a dysfibrinogenemia. (see Progress in Pediatric Neurology II, 1994, pp102-103).

Pseudo valproate-induced hypofibrinogenemia is reported in a 6-year-old boy with a ventriculoperitoneal shunt for hydrocephalus and a stone in the ureter requiring surgery at the Departments of Pediatrics and Neurology, Park Nicollet Clinic, Minneapolis, MN. Pre-surgical coagulation studies revealed a prothrombin time of 14.9s (N 9.8-13.2), thrombin time of 73.3s (N 13-20), and fibrinogen levels of < 50 mg/dl (N 145-375). The patient's mother also had a prolonged thrombin time, and a diagnosis of inherited dysfibrinogenemia was presumed in this case. (Breningstall GN, Cich JA. Pediatr Neurol May 1996;14:345). Two previous reports are cited of a valproate dose-related decrease in fibrinogen, and one neonate whose mother was receiving VPA had a symptomatic fibrinogen deficiency.