

cortical atrophy with marked neuronal loss. (Andrews JM et al. Chronic encephalitis, epilepsy and cerebrovascular immune complex deposits. Ann Neurol July 1990; 28:88-90).

COMMENT: Immunofluorescence microscopy revealed granular accumulation of IgG, IgM, IgA within the cerebral vessels of this patient suggesting an immune complex disease as the basis for Rasmussen's syndrome.

SERUM HORMONES AND ANTICONVULSANTS

Circulating sex and thyroid hormones were assessed in 63 male young adults with epilepsy in the Departments of Neurology and Clinical Chemistry, University of Oulu, Finland. All therapeutic regimens that included carbamazepine and/or phenytoin were associated with low levels of circulating thyroxine (T4), free thyroxine (FT4), and dehydroepiandrosterone sulfate, and low values for the free androgen index. Phenytoin, alone or combined with carbamazepine, was associated with high serum concentrations of sex hormone - binding globulin. Hormone values were unaffected by valproate monotherapy, but the combination of carbamazepine plus valproate had the most marked effect on serum thyroid hormone levels and the free androgen index. Serum T3 concentrations were unaffected by any of the medications or combinations. Serum thyrotropin concentrations were not elevated despite low serum thyroid hormone levels. (Isojarvi JIT et al. Serum hormones in male epileptic patients receiving anticonvulsant medication. Arch Neurol June 1990, 47:670-676).

COMMENT This study supports the hypothesis that an increased metabolism of thyroid hormones in the liver is the main reason for decreased T4 and FT4 serum levels in epileptic patients receiving carbamazepine and/or phenytoin treatment. The combination of valproate and carbamazepine has the most marked effect on thyroid hormone balance and both drugs are highly bound to serum proteins. Valproate displaces T4 from its binding sites on plasma proteins thereby leading to a larger amount of T4 subject to the liver enzyme inducing properties of carbamazepine. Thyroid supplements are usually not required in patients with a low serum T4 associated with anticonvulsant drug therapy. If the free T3 and T4 are normal thyroid supplements should be withheld.

To avoid criticism of a gender bias, a reference is included to "Serum steroid hormones and pituitary function in female epileptic patients during carbamazepine therapy" (Isojarvi JIT. Epilepsia Aug 1990; 31:438-445). In 13 female epilepsy patients receiving long-term carbamazepine (CBC) monotherapy, serum sex hormone binding globulin levels increased and dehydroepiandrosterone sulfate levels decreased during CBC treatment. Increased metabolism of steroid hormones caused by liver enzyme inducing properties of CBC and a direct inhibitory

effect of CBC on hormone synthesis and hypothalamic function are possible explanations. Despite the many changes in the serum sex hormone balance, the patients appeared to maintain ovulatory cycles during the first year of CBC treatment,

PSEUDOSEIZURES

A protocol for the presentation of a diagnosis of pseudoseizure to the patient is outlined from the Indiana University Medical Center, Indianapolis, IN. After the diagnosis of pseudoseizure arrived at by simultaneous video EEG recording, the authors had frequently noted a disintegration of the patient's medical care in their center, attributed in part to the presentation of the diagnosis. To address this problem, they developed a protocol which stressed the nonepileptic nature of the spells, defused tension resulting from the nature of the diagnosis, promoted compliance with medical and psychiatric follow-up, and provided hints to the patient for the voluntary control of attacks. The results of the video EEG monitoring were presented only if the patient agreed to long-term follow-up in the clinic. Of 8 patients followed by one of the authors, a history of sexual abuse was eventually discovered in six. A majority experienced an immediate reduction in the pseudoseizures after the diagnosis was conveyed and abortive maneuvers were encouraged. Psychosocial issues continue to handicap many patients on long-term follow-up. (Shen W et al. Presenting the diagnosis of pseudoseizure. Neurology May 1990; 40:756-759).

COMMENT The term pseudoseizure may be pejorative and psychogenic seizure is preferred by some. "Non-epileptic attack disorder" (NEAD) is suggested as a better and nonaccusatory term by Betts T (Lancet July 21, 1990; 336:163-164). Reporting from the Department of Psychiatry, University of Birmingham, UK, Betts classifies nonepileptic attack disorders into three groups: 1) organic attack disorders (neurological, cardiovascular), 2) psychiatric disorders mistaken for epilepsy (hyperventilation, panic, anxiety), and 3) emotionally based attacks (swoon, tantrum, abreaction or symbolic attack). The symbolic attack, described as "macabre pastiche of intercourse", is seen in patients who have been sexually abused. The author avoids blunt confrontation of the patient with the truth regarding the nature of the attack, a policy with which I personally concur particularly in adolescents and young adults. "The patient should be led gently into recognizing the nonepileptic nature of the attack and the diagnosis put in positive terms". "Above all do not reject the patient, but allow her to save face". Intensive anxiety management and counseling may be necessary, and the family or close relatives should be involved. Patients may learn to voluntarily control their "seizures", but relapses at times of stress are not uncommon.