

expected with normal aging and occurs in a state of clear consciousness. Classifications of the dementias have been based on etiology (degenerative, vascular, toxic metabolic, and infectious), pathology, and clinicopathological correlations. Cortical versus subcortical forms have been described and have been correlated with brain behavior relationships. In Alzheimer's disease corticopathology is prominent whereas in Parkinson's disease and Wilson's disease subcortical areas are the major sites of pathology. This dichotomy is probably an oversimplification. (See Chui HC. Arch Neurol July 1989; 46:806).

NUTRITION AND CNS DISORDERS

VITAMINS AND NEURAL TUBE DEFECTS

The use of vitamin supplements by women around the time of conception was examined and compared in those having babies with neural tube defects, those with still births or some other type of malformation, and in women who had normal babies. The study was performed at the National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, Maryland; Northwestern University, Chicago; and the California Public Health Foundation, Berkeley. The rate of periconceptual multivitamin use among mothers of infants with neural tube defects (15.8%) was not significantly different from the rate among mothers in either the abnormal or the normal control group (14.1% and 15.9%, respectively). There were no differences among the groups in the use of folate vitamin supplements. The authors conclude that the periconceptual use of multivitamins or folate-containing supplements did not decrease the risk of having an infant with a neural tube defect. (Mills JL et al. The absence of a relation between the periconceptual use of vitamins and neural-tube defects. N Engl J Med, August 17, 1989; 321:430-5).

COMMENT. Several studies have suggested that women who take multivitamins or supplements of folic acid around the time of conception may have a reduced risk of delivering an infant with a neural tube defect such as myelomeningocele or spina bifida. British studies have reported that folic acid in a dose of 4 mg/day or multivitamins can reduce the risk of recurrence in women who have already delivered an infant with such a defect. In a report published from the Atlanta Birth Defects Case Control Study, mothers of children with neural tube defects were significantly less likely to report vitamin use around the time of conception than were the mothers of infants with other malformations or normal control children. The results of the present study were strikingly different from those of the Atlanta Birth Defects Case Control Study in which 7% of mothers with affected babies and 50% of controls reported using multivitamin supplements at least three times a week in the periconceptual period. It is possible that the use of vitamins was not itself protective but was a marker for other health conscious behavior that prevented the malformations. Other explanations for the difference in the results might include the variation in the years studied and geographic differences. It should be noted that

the Vitamin A analog Isotretinoin is teratogenic and should be avoided during pregnancy. Further studies are obviously needed to confirm these results. In the meantime mothers might be advised to take vitamins in the recommended daily allowances but not to resort to megavitamin therapy with possible adverse effects.

SEIZURE DISORDERS

HIGH DOSE ACTH FOR INFANTILE SPASMS

The efficacy and plasma levels of ACTH and Cortisol were studied in 15 children with infantile spasms and hypsarrhythmia using a high dose (150 IU/M²/D ACTH) and are reported from the Department of Pediatrics, University of Alabama at Birmingham School of Medicine, and the Comprehensive Epilepsy Center, the Alabama Children's Hospital, Birmingham, AL. An endocrinologic evaluation before and after initiation of the ACTH showed that all patients had normal prolactin, insulin, cortisol and ACTH levels in plasma and normal thyroid function before treatment and plasma cortisol rose rapidly within one hour after ACTH administration and continued a slower rise from 12-24 hours after the ACTH dose. Spasms were controlled and the EEG became normal in 14 of the 15 children. The initial dose was 75 IU/M² intramuscularly twice daily for one week, 75 IU/M²/D for one week, followed by 75 IU/M² every other day for one week and followed by a nine week taper. All patients developed cushingoid features and hyperirritability and one became hypertensive. One child with tuberous sclerosis developed a cardiac arrhythmia and was found to have an atrial myxoma. (Snead OC, Benton JW et al. Treatment of infantile spasms with high dose ACTH: Efficacy and plasma levels of ACTH and cortisol. Neurology August 1989; 39:1027-31).

COMMENT. The use of high dose ACTH regimen for infantile spasms and hypsarrhythmia is contrary to the recommendations of many pediatric neurologists in the U.S. but favored also by my colleagues at the Hospital for Sick Children, Great Ormond Street, London. The clinical response to the high dose ACTH in the present study and the relative paucity of serious adverse effects were remarkable. The authors suggest that a sustained high level of plasma cortisol may be more effective in controlling infantile spasms than the pulse effect expected with oral steroids or low doses of ACTH. However, it is admitted that the ACTH may exert its anticonvulsant effect independently of cortisol and by a direct effect on the brain. Personally, I would be concerned about the potential risks of the high dose ACTH therapy (e.g. cortical atrophy, gastrointestinal bleeding) and the reevaluation of CT scans following treatment would have been of interest in this study. The group of children reported was unusual in that one-half had other kinds of seizures that preceded the onset of infantile spasms. This might account for the need for high dose ACTH treatment to effect control. Smaller doses of 10-20 IU daily for a period of three or four weeks are usually advised and are generally effective in 50-80% of patients under one year of age. With the smaller dose schedules a lower incidence of serious side effects would be expected.