including catechin are some pharmacologically active compounds found in relatively large amounts in chocolate. The relevant chemical agent responsible for initiating a migraine attack requires to be elucidated. My own clinical experience in children suggests that chocolate is a common precipitating factor in migraine susceptible patients. The effects of eliminating chocolate and caffeine containing drinks should be investigated before long-term drug treatment is considered.

BLOOD MAGNESIUM LEVELS IN MIGRAINE

Serum and erythrocyte magnesium levels were screened between attacks in patients with migraine without aura (n=38) and with aura (n=6) and for comparison, in a group of patients suffering from chronic tension-type headache (n=25) as well as a group of control patients (n=19) at the Headache Unit, Citadelle University of Liege, Liege, Belgium. Serum magnesium levels were not significantly different between the four groups of patients, whereas magnesium levels in erythrocytes were significantly reduced in the group of migraineurs without aura (1.87) compared with those with aura (2.1), patients with tension-type headache (2.03) and the controls (2.12). Normal values in the laboratory ranged from 2-2.8 mmol/l in erythrocytes (Schoenen J. et al. Blood magnesium levels in migraine. Cephalagia May 1991; 11:97-99).

COMMENT. The correlation between magnesium levels and migraine pathophysiology is speculative. The possible importance of magnesium in migraine is suggested by the finding of reduced magnesium in white blood cells in women with premenstrual syndrome and headaches and the benefits of oral treatment with magnesium in premenstrual headaches. The authors hypothesize that the reduction in erythrocyte magnesium may be due to an abnormal regulation of intracellular magnesium in migraine patients.

ESTROGENS, PROGESTINS, AND HEADACHE

Approaches to the therapy of hormone-related headaches are reviewed from the Department of Neurology, Temple University School of Medicine and the Comprehensive Headache Center at Germantown Hospital, Philadelphia, PA, and the Reproductive Endocrine Unit, National Institute of Child Health and Human Development, NIH, Bethesda, MD. Migraine can occur before, during, or after menstruation, or at the time of ovulation. During menstruation, it is often associated with dysmenorrhea and before or during menstruation, migraine is frequently refractory to treatment. These are the times of greatest fluctuation in estrogen levels. The primary trigger of menstrual migraine appears to be the withdrawal of estrogen rather than progesterone. Changes in the sustained estrogen levels with pregnancy (increased) and menopause (decreased) can result in changes in headache frequency and intensity. Women who have migraine exclusively with their menses can be treated by the perimenstrual use of prophylactic medication (antidepressants, beta-

blockers, calcium channel blockers, or methysergide). The efficacy of pyridoxine and diuretics has not been established in double-blind studies. Ergotamine tartrate at bedtime or twice a day is an effective prophylactic agent. Headache associated with oral contraceptive use or menopausal hormonal replacement therapy may be related in part to periodic discontinuation of estrogens. Oral contraceptives can induce, change, or alleviate headache. They can trigger the first migraine attack, most often in women with a family history of migraine. Stopping the contraceptive may not bring immediate headache relief and there may be a delay of one-half to one year or no improvement (Silverstein S D, Merriam G R Estrogens, progestins, and headache, Neurology June 1991; 41:786-793).

COMMENT. The influence of the menstrual cycle on migraine in older children and adolescents requires further evaluation and attention. The first migraine attack may be triggered by oral contraceptives and this possible cause should be considered in adolescent girls with migraine.

MOVEMENT DISORDERS

FLUOXETINE IN TOURETTE SYNDROME

An open label trial of fluoxetine (20-40 mg/d) was conducted in 32 Tourette syndrome patients with obsessive-compulsive disorder at the Department of Neurology, University of Rochester School of Medicine, NY. A subjective improvement in obsessions and compulsions occurred in 81% of 26 patients (13 children and 13 adults) who were treated for 3-8 months and a significant reduction in scores on the Leyton Obsessional Inventory occurred for both the adult and child groups. No serious adverse reactions were reported in either group. Side-effects included dyspepsia and nausea (4), skin rash (2), drowsiness (1) and mild hypomanic behavior (1) (Como P G, Kurlan R An open-label trial of fluoxetine for obsessive-compulsive disorder in Gilles de la Tourette's syndrome. Neurology June 1991; 41:872-874).

COMMENT. Fluoxetine is a new antidepressant that inhibits serotonin reuptake and is effective for psychiatric patients with obsessive-compulsive disorder. It appears to produce fewer and less toxic side-effects than clomipramine. The improvement in obsessive-compulsive disorder was most dramatic for the child sample of patients and may be a useful addition to the treatment of obsessive-compulsive disorder in Tourette syndrome.