Plasma Exchange in Neuroimmunological Disorders

Plasma exchange is a well-established therapeutic procedure commonly used in many neurological disorders of autoimmune etiology. Lehmann and colleagues (page 930) outline, comprehensively and elegantly, the rationale and technical aspects of plasma exchange and define its current role in the treatment of inflammatory disorders of the central nervous system.

Age and Apolipoprotein E*4 Effects on β-Amyloid 42 in Adults With Normal Cognition

Peskind et al (page 936) show that cerebrospinal fluid β-amyloid 42 (Aβ42) but not Aβ40 decreased significantly with age (Figure). The age-associated decrease in cerebrospinal fluid Aβ42 was significantly and substantially greater in subjects with the apolipoprotein E*4 allele. These findings do have implications for the preclinical diagnosis of Alzheimer disease as well as for treatment. These observations are put into perspective in an editorial by Roger N. Rosenberg, MD, Editor.

Effective Therapy for Postherpetic Neuralgia

Postherpetic neuralgia is a complication of shingles (zoster), a painful rash due to varicella-zoster virus reactivation. Quan and colleagues (page 940) show that intravenous acyclovir followed by oral valacyclovir is effective in reducing postherpetic neuralgia pain.

Low-Dose Transdermal Estradiol and Cognition

Yaffe and colleagues (page 945) report that postmenopausal treatment with ultra–low-dose, unopposed transdermal estradiol for 2 years had no effect on change in cognitive function or in health-related quality of life over 2 years of treatment. It had been reported previously that higher doses of estrogen are harmful to cognitive function, and this study provides data that will be helpful in assessing the relative safety of ultra–low-dose transdermal estradiol vs standard hormone replacement regimens.

Long-Duration Response to Levodopa in Patients With Advanced Parkinson Disease Treated With Subthalamic Deep Brain Stimulation

Long-duration response to levodopa is supposed to decrease with Parkinson disease progression, but direct observation of this response in advanced Parkinson disease has not been delineated. Wider et al (page 951) studied 30 patients who underwent subthalamic deep brain stimulation. One group had no anti-parkinsonian treatment since surgery (no-levodopa) while the other group received levodopa. An evaluation 6 months postoperatively with stimulation turned off for 3 hours found a worsening of the motor part of the Unified Parkinson’s Disease Rating Scale in the no-
levodopa group. These findings suggest that the long-duration response to levodopa remains significant even in advanced Parkinson disease and that subthalamic deep brain stimulation compensates for both short- and long-duration responses to levodopa.

**Mitoxantrone for Recurrent Neuromyelitis Optica**

Weinstock-Guttman et al (page 937) found that the neuromyelitis optica relapse rate in a cohort of patients treated with mitoxantrone was reduced. Clinical and magnetic resonance imaging improvement was seen in 4 of 5 patients studied. Thus, mitoxantrone may be an effective form of therapy for recurrent neuromyelitis optica and deserves a more comprehensive evaluation.

**Neuromyelitis Optica and Aquaporin 4 Expression**

Pittock and colleagues (page 964) investigated the location of brain lesions that are distinctive for neuromyelitis optica with respect to the presence of aquaporin 4 (AQP4), an insensitive water-channel protein that is concentrated in astrocytic foot processes at the blood-brain barrier. They report that the distribution of neuromyelitis optica–characteristic brain lesions corresponds to sites of high AQP4 expression. It is possible that focal accumulations of water may account for the magnetic resonance imaging abnormalities seen in this study, which is consistent with the critical role of AQP4 in sustaining brain water homeostasis.

**Dopamine Agonist Use and Impulse Control Disorder in Parkinson Disease**

The frequency and correlates of impulse control disorders (ICDs) in patients with Parkinson disease was studied by Weintraub et al (page 969). Of 272 patients with Parkinson disease, 18 patients (6.6%) met criteria for an ICD at some point during the course of the disease, including 11 (4.0%) with an active ICD. Compulsive gambling and compulsive sexual behavior were equally common. The daily doses of dopamine agonists were higher in patients with an ICD than in dopamine agonist–treated patients without an ICD (P<.001).

**Respiratory Insufficiency in Multiple System Atrophy**

Glass et al (page 978) report that multiple system atrophy may present as primary respiratory failure or dysfunction. Central respiratory failure, bilateral vocal cord paralysis, stridor, or refractory central sleep apnea should be considered as part of the clinical presentation of multiple system atrophy.

**Prion Codon 129 and Delayed Onset of Wilson Disease**

Merle et al (page 982) show for the first time that the human prion protein polymorphism M129V influences the onset of symptoms in patients with Wilson disease. The onset of symptoms was significantly delayed in patients who were homozygous for the 129M allele as compared with patients with at least 1 V allele. The disease-modifying influence of the M129V polymorphism of the prion gene on age at onset of Wilson disease is most intriguing and raises a more broadly based possibility of its effect on other neurological functions and diseases.

**At Risk for Huntington Disease**

The Huntington Study Group PHAROS (Prospective Huntington At Risk Observational Study) Investigators (page 991) studied 1001 adults at risk for Huntington disease. Investigators who were unaware of individual gene status characterized the baseline cohort to be highly functional with minimal motor or cognitive impairment. Of the baseline cohort, 6.7% were scored to have no or nonspecific motor abnormalities. The baseline characteristics of the PHAROS cohort make it well suited to generate objective and prospective data about gene-specific clinical precursors that can be used as outcomes in controlled trials aimed at postponing the onset of Huntington disease.

**Type 1 Diabetes Mellitus and Multiple Sclerosis**

The co-occurrence of multiple sclerosis (MS) and type 1 diabetes mellitus (T1D) was assessed by Nielsen and colleagues (page 1001) by estimating the risk of MS among patients with T1D and the risk of T1D among first-degree relatives of patients with MS. Patients with T1D had a more than 3-fold increased risk of developing MS and first-degree relatives of patients with MS had 63% increased risk of developing T1D. Thus, their study supports an intraindividual and, to a lesser degree, an intrafamilial co-occurrence of MS and T1D.