Acidotoxicity Trumps Excitotoxicity in Ischemic Brain

Simon (page 1368) provides a clear and well-focused discussion on the question, “What causes infarction in ischemic brain?” Recently, attention has turned to a central feature of ischemic brain injury, acidosis. Targeting this effector of injury as a therapy for brain injury, he cites, may now be closer at hand and may result in robust neuroprotection.

ω-3 Fatty Acid Treatment With Mild to Moderate Alzheimer Disease

ω-3 fatty acids given to patients with Alzheimer disease (AD) with moderate disease did not delay the rate of cognitive decline according to neuropsychology tests. However, positive effects were seen in a group of a patients with very mild AD (having Mini-Mental State Examination scores greater than 27) as reported by Freund-Levi and colleagues (page 1402). ω-3 fatty acids might be of benefit to slow the initial progression of the disease.

Figure. The CD4+/CD8+ T-lymphocyte ratios in cerebrospinal fluid (CSF). A, Natalizumab reverses CD4+/CD8+ T-lymphocyte ratios in CSF. Ratios in patients with other neurologic diseases and patients with multiple sclerosis who had not received natalizumab therapy (MS) were not statistically different from one another. In contrast, patients with MS who had received natalizumab therapy (MS [Nat]) displayed very low CD4+/CD8+ ratios comparable with that of a human immunodeficiency virus 1–infected patient cohort (HIV). Six months after the cessation of therapy, CSF CD4+/CD8+ T-cell ratios returned to normal in patients with MS treated with natalizumab (MS [Nat] 6 mo). The normalization of CD4+/CD8+ T-cell ratios 6 months after cessation of natalizumab therapy (MS [Nat] 6 mo) was driven by a further decline in the absolute number of CD8+ T cells and not by the normalization of CD4+ T-lymphocyte numbers in CSF. Values are given as mean (range). Horizontal bars indicate means. OND indicates other noninflammatory neurologic disorders.

Neuromyelitis Optica-IgG and Acute Partial Transverse Myelitis

This study reported by Scott and colleagues (page 1398) indicates that neuromyelitis optica-IgG antibody positivity is likely to be a rare event in patients with mild acute partial transverse myelitis in sharp contrast with the very high frequency in patients with recurrent longitudinally extensive myelitis.

High-Dose Cyclophosphamide for Refractory Multiple Sclerosis

Gladstone et al (page 1388) show that high-dose cyclophosphamide in patients with severe refractory multiple sclerosis can result in disease stabilization, improved functionality, and improved quality of life.

ω-3 Fatty Acid Treatment With Mild to Moderate Alzheimer Disease

ω-3 fatty acids given to patients with Alzheimer disease (AD) with moderate disease did not delay the rate of cognitive decline according to neuropsychology tests. However, positive effects were seen in a group of a patients with very mild AD (having Mini-Mental State Examination scores greater than 27) as reported by Freund-Levi and colleagues (page 1402). ω-3 fatty acids might be of benefit to slow the initial progression of the disease.

Figure. The CD4+/CD8+ T-lymphocyte ratios in cerebrospinal fluid (CSF). A, Natalizumab reverses CD4+/CD8+ T-lymphocyte ratios in CSF. Ratios in patients with other neurologic diseases and patients with multiple sclerosis who had not received natalizumab therapy (MS) were not statistically different from one another. In contrast, patients with MS who had received natalizumab therapy (MS [Nat]) displayed very low CD4+/CD8+ ratios comparable with that of a human immunodeficiency virus 1–infected patient cohort (HIV). Six months after the cessation of therapy, CSF CD4+/CD8+ T-cell ratios returned to normal in patients with MS treated with natalizumab (MS [Nat] 6 mo). The normalization of CD4+/CD8+ T-cell ratios 6 months after cessation of natalizumab therapy (MS [Nat] 6 mo) was driven by a further decline in the absolute number of CD8+ T cells and not by the normalization of CD4+ T-lymphocyte numbers in CSF. Values are given as mean (range). Horizontal bars indicate means. OND indicates other noninflammatory neurologic disorders.

Neuromyelitis Optica-IgG and Acute Partial Transverse Myelitis

This study reported by Scott and colleagues (page 1398) indicates that neuromyelitis optica-IgG antibody positivity is likely to be a rare event in patients with mild acute partial transverse myelitis in sharp contrast with the very high frequency in patients with recurrent longitudinally extensive myelitis.

T-Cell Ratios in Cerebrospinal Fluid of Patients With Multiple Sclerosis Treated With Natalizumab

Süve and colleagues (page 1383) report that natalizumab treatment results in alteration of the CD4+/CD8+ ratios in cerebrospinal fluid (Figure). Lower expression of unbound α4 integrin on CD4+ T-cells is 1 possible mechanism to explain these findings. These results may have implications for the observation that some natalizumab-treated patients with multiple sclerosis develop progressive multifocal leukoencephalopathy. Henry F. McFarland, MD, and Stephen Jacobson, PhD, provide a perspective on these findings in an accompanying editorial.

ω-3 Fatty Acid Treatment With Mild to Moderate Alzheimer Disease

ω-3 fatty acids given to patients with Alzheimer disease (AD) with moderate disease did not delay the rate of cognitive decline according to neuropsychology tests. However, positive effects were seen in a group of a patients with very mild AD (having Mini-Mental State Examination scores greater than 27) as reported by Freund-Levi and colleagues (page 1402). ω-3 fatty acids might be of benefit to slow the initial progression of the disease.

Figure. The CD4+/CD8+ T-lymphocyte ratios in cerebrospinal fluid (CSF). A, Natalizumab reverses CD4+/CD8+ T-lymphocyte ratios in CSF. Ratios in patients with other neurologic diseases and patients with multiple sclerosis who had not received natalizumab therapy (MS) were not statistically different from one another. In contrast, patients with MS who had received natalizumab therapy (MS [Nat]) displayed very low CD4+/CD8+ ratios comparable with that of a human immunodeficiency virus 1–infected patient cohort (HIV). Six months after the cessation of therapy, CSF CD4+/CD8+ T-cell ratios returned to normal in patients with MS treated with natalizumab (MS [Nat] 6 mo). The normalization of CD4+/CD8+ T-cell ratios 6 months after cessation of natalizumab therapy (MS [Nat] 6 mo) was driven by a further decline in the absolute number of CD8+ T cells and not by the normalization of CD4+ T-lymphocyte numbers in CSF. Values are given as mean (range). Horizontal bars indicate means. OND indicates other noninflammatory neurologic disorders.

ω-3 Fatty Acid Treatment With Mild to Moderate Alzheimer Disease

ω-3 fatty acids given to patients with Alzheimer disease (AD) with moderate disease did not delay the rate of cognitive decline according to neuropsychology tests. However, positive effects were seen in a group of a patients with very mild AD (having Mini-Mental State Examination scores greater than 27) as reported by Freund-Levi and colleagues (page 1402). ω-3 fatty acids might be of benefit to slow the initial progression of the disease.

Figure. The CD4+/CD8+ T-lymphocyte ratios in cerebrospinal fluid (CSF). A, Natalizumab reverses CD4+/CD8+ T-lymphocyte ratios in CSF. Ratios in patients with other neurologic diseases and patients with multiple sclerosis who had not received natalizumab therapy (MS) were not statistically different from one another. In contrast, patients with MS who had received natalizumab therapy (MS [Nat]) displayed very low CD4+/CD8+ ratios comparable with that of a human immunodeficiency virus 1–infected patient cohort (HIV). Six months after the cessation of therapy, CSF CD4+/CD8+ T-cell ratios returned to normal in patients with MS treated with natalizumab (MS [Nat] 6 mo). The normalization of CD4+/CD8+ T-cell ratios 6 months after cessation of natalizumab therapy (MS [Nat] 6 mo) was driven by a further decline in the absolute number of CD8+ T cells and not by the normalization of CD4+ T-lymphocyte numbers in CSF. Values are given as mean (range). Horizontal bars indicate means. OND indicates other noninflammatory neurologic disorders.

ω-3 Fatty Acid Treatment With Mild to Moderate Alzheimer Disease

ω-3 fatty acids given to patients with Alzheimer disease (AD) with moderate disease did not delay the rate of cognitive decline according to neuropsychology tests. However, positive effects were seen in a group of a patients with very mild AD (having Mini-Mental State Examination scores greater than 27) as reported by Freund-Levi and colleagues (page 1402). ω-3 fatty acids might be of benefit to slow the initial progression of the disease.

Figure. The CD4+/CD8+ T-lymphocyte ratios in cerebrospinal fluid (CSF). A, Natalizumab reverses CD4+/CD8+ T-lymphocyte ratios in CSF. Ratios in patients with other neurologic diseases and patients with multiple sclerosis who had not received natalizumab therapy (MS) were not statistically different from one another. In contrast, patients with MS who had received natalizumab therapy (MS [Nat]) displayed very low CD4+/CD8+ ratios comparable with that of a human immunodeficiency virus 1–infected patient cohort (HIV). Six months after the cessation of therapy, CSF CD4+/CD8+ T-cell ratios returned to normal in patients with MS treated with natalizumab (MS [Nat] 6 mo). The normalization of CD4+/CD8+ T-cell ratios 6 months after cessation of natalizumab therapy (MS [Nat] 6 mo) was driven by a further decline in the absolute number of CD8+ T cells and not by the normalization of CD4+ T-lymphocyte numbers in CSF. Values are given as mean (range). Horizontal bars indicate means. OND indicates other noninflammatory neurologic disorders.
**Intraepidermal Nerve Fiber Densities in Chronic Inflammatory Autoimmune Diseases**

Göransson et al (page 1410) report that the loss of small-diameter nerve fibers differs between chronic inflammatory autoimmune diseases, likely reflecting differences in the pathogenesis and organ affinity of the individual disease entities.

**Calf Heads on a Trophy Sign in Miyoshi Myopathy**

Pradhan (page 1414) describes a very characteristic appearance on the upper back and shoulders that could be described as “calf heads on a trophy.” This sign may be useful in identifying most of the patients with Miyoshi-type dysferlinopathy.

**Perfusion Patterns in Temporal Lobe Seizures**

Ogan et al (page 1419) compared composite subtraction ictal single-photon emission computed tomography coregistered to magnetic resonance imaging (SISCOM) patterns between right and left temporal onset seizures to document neuroanatomical involvement in perfusion patterns. They found brainstem and hemispheric perfusion pattern differences in right and left temporal lobe seizures, which may explain the differences in clinical features.

**Visual Hallucinations in Posterior Cortical Atrophy**

Clinical and imaging features of patients with posterior cortical atrophy with and without well-formed visual hallucinations were compared. Josephs et al (page 1427) report that hallucinations in patients with posterior cortical atrophy are associated with parkinsonism, rapid eye movement sleep behavior disorder, and myoclonic jerks. Thalamocortical connections may be involved in the expression of hallucinations with posterior cortical atrophy.

**Amygdala and Hippocampus in Alzheimer Disease and Frontotemporal Lobar Degeneration**

Hippocampal atrophy is not specific to Alzheimer disease or frontotemporal lobar degeneration. However, severe or asymmetrical amygdala atrophy should suggest frontotemporal lobar degeneration. Barnes et al (page 1434) point out that atrophy patterns follow clinical syndromes rather than pathology.

**Cognitive Impairment and Celiac Disease**

Hu et al (page 1440) report that a possible association exists between progressive cognitive impairment and biopsy-proven celiac disease given the temporal relationship. Amnesia, acalculia, confusion, and personality changes were the most common presenting features. Three of 13 patients improved or stabilized cognitively with gluten withdrawal.

**Cognition, Psychiatric Features, and Functional Abilities in Dementia With Lewy Bodies and Alzheimer Disease**

Tavitsky et al (page 1450) found both baseline and longitudinal differences between patients with dementia with Lewy bodies and patients with Alzheimer disease. These have implications for clinical diagnosis and treatment.

**Immunizing Mice With Neuronal Tau Proteins**

Rosenmann and colleagues (page 1459) show that vaccination with tau protein induced histopathological features of Alzheimer disease and tauopathies, indicated by the presence of neurofibrillary-tangles–like structures, axonal damage, and gliosis. Anti-tau antibodies were detected in sera of tau-immunized mice. These findings will add new insights to tau-related pathology in patients with Alzheimer disease and other tau-related dementias.

**Magnetic Resonance Neurography in Extraspinal Sciatica**

Lewis and colleagues (page 1469) show that magnetic resonance neurography often identifies an abnormal increased signal in the proximal sciatic nerve in cases of extraspinal sciatica and allows more accurate diagnosis of sciatic nerve entrapment in suspected cases.