



In Focus

Spotlight on the April 9 Issue

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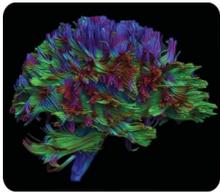


Estimating cerebral microinfarct burden from autopsy samples

Microinfarcts are commonly observed in neuropathology specimens. The authors present a statistical analysis indicating that 1 or 2 microinfarcts seen on routine neuropathologic examination, like the aphorism about finding one cockroach in your kitchen, imply hundreds throughout the brain. These findings suggest that brain microinfarcts could be numerous enough to impair neurologic function.

See p. 1365; Editorial, p. 1358

Disruption of cerebral networks and cognitive impairment in Alzheimer disease



Fifty patients with early Alzheimer disease (AD) and 15 controls underwent a 3-T MRI scan and cognitive assessment. Diffusion tensor imaging-based tractography was used to reconstruct each individual's neuronal networks. Network-based analysis

of brain white matter connections provides a novel way to reveal the structural basis of cognitive dysfunction in AD.

See p. 1370

From editorialists Petrella & Doraiswamy: "On a more optimistic note, recent connectivity data show that within-subject stability is much higher than that between subjects, suggesting that each human may have a unique connectome signature."

See p. 1360

Cognitive trajectories associated with β -amyloid deposition in the oldest-old without dementia

The authors examined neuropsychological test performance over 8 years with respect to Pittsburgh compound B-PET imaging, observing that faster cognitive decline in memory and executive functions occurred in $A\beta$ -positive than $A\beta$ -negative individuals. In advanced aging, cognitive trajectories may diverge for many years according to brain $A\beta$ status.

See p. 1378

Idiopathic normal-pressure hydrocephalus: Pathophysiology and diagnosis by CSF biomarkers

Lumbar CSF of patients with idiopathic normal pressure hydrocephalus (iNPH) and healthy controls and ventricular CSF from the patients with iNPH pre and 6 months postsurgery were analyzed by ELISA. iNPH presenting with a characteristic CSF biochemical profile, mirroring the pathophysiology, might prove helpful in the diagnosis of iNPH.

See p. 1385

Improved diagnosis of spinal cord disorders with contact heat evoked potentials

Contact heat evoked potentials (CHEPs) are clinically applicable recordings of spinothalamic pathways, which are frequently affected in spinal cord disorders. CHEPs provide better quality than somatosensory evoked potentials and clinical sensory testing in focal myelopathies, with the highest diagnostic value in central and anterior spinal cord lesions.

See p. 1393

Supplementary motor area stimulation for Parkinson disease: A randomized controlled study ▲

The authors performed weekly intervention in 36 patients treated with 1-Hz repetitive transcranial magnetic stimulation (rTMS), 34 with 10-Hz rTMS, and 36 with realistic sham stimulation. The effects were monitored for 20 weeks. 1-Hz rTMS over the supplementary motor area was effective for motor, but not nonmotor, symptoms in Parkinson disease.

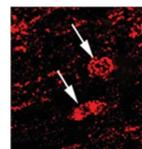
See p. 1400

In vivo identification of morphologic retinal abnormalities in neuromyelitis optica

Microcystic macular edema (MME) was identified in the eyes of 10 of 39 patients with neuromyelitis optica spectrum disorders. MME was found exclusively in eyes with optic neuritis (ON) history and was associated with severe retinal axonal and neuronal loss and visual disability, suggesting it may contribute to poor visual outcomes following ON.

See p. 1406

Molecular and pathologic insights from latent HIV-1 infection in the human brain



HIV-1 seropositive patients were compared based on the brain levels of HIV-1 DNA, RNA and p24.

Persistence of latent HIV-1 infection in the CNS was associated with an increased level of chromatin modifiers. Alteration of these epigenetic factors might result in abnormal transcriptomes, leading to inflammation, neurodegeneration, and neurocognitive impairment.

See p. 1415; Editorial, p. 1363

NB: "PML diagnostic criteria: Consensus statement from the AAN Neuroinfectious Disease Section," see p. 1430. To check out other Views & Reviews, point your browser to www.neurology.org.

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