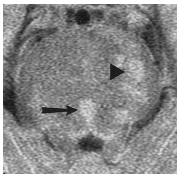
September 11 Highlights

Imaging medial longitudinal fasciculus lesions in MS patients with INO



Lesion in dorsomedial pons (arrows) on proton density imaging

Frohman et al. report that the MRI technique thin section proton density imaging (PDI) best reveals lesions within the medial longitudinal fasciculus of patients with MS and internuclear ophthalmoparesis (INO). All 48 MS patients with oculographically confirmed INO had lesions within the dorsomedial pontine or midbrain tegmentum by PDI vs 88% by T2-weighted and 48% by FLAIR imaging.

see page 762

Perverted vestibular nystagmus in MS

In a Brief Communication, Minagar et al. describe a dorsal medullary plaque in an MS patient with perverted head-shaking nystagmus. (In this case, horizontal head shaking caused transient vertical nystagmus and a tumbling vertigo.)

see page 887

The accompanying editorial by Leigh and Wolinsky reviews the assessment of the patient for an INO and discusses how improvements in MRI and in ocular motility evaluation are both informing our understanding of eye movement control and providing more sensitive and specific tests for MS.

see page 751

CSF filtration for Guillain–Barré syndrome (GBS)?

"Plasma exchange and IVIg speed motor recovery" but "Up to 40% of GBS patients show no clear improvement."

In a 37-patient randomized clinical trial comparing CSF filtration with plasma exchange for treatment of GBS, Wollinsky et al. found that CSF filtration had fewer complications and was as effective as plasma exchange.

see page 774

The Feasby and Hartung editorial discusses this "draining the nerve roots" treatment strategy for GBS, pointing out that the therapeutic challenge is finding a treatment that improves upon the current situation wherein either plasma exchange or IV immunoglobulin speed recovery but neither or even the combination improve the long-term outcome: 40% of patients do not improve and 5% of patients die.

see page 753

Cognitive deficits in essential tremor (ET)

Lombardi et al. found that patients with ET have cognitive deficits on tests of verbal fluency, naming, mental set-shifting, verbal memory, and working memory. ET patients also evidenced depression. Patients with ET had greater impairment in verbal fluency and working memory than did patients with PD.

see page 785

Use of alternative therapies (AT) in PD

"Forty percent used alternative therapies . . . over half . . . without informing physicians."

In a survey of 201 patients with PD, Rajendran et al. found that 40% used AT. Vitamins and herbs were most common, followed by massage therapy and acupuncture. Users of AT were younger and had higher income and education levels. There was no correlation with disease severity. Over half of the patients used AT without informing their physician.

see page 790

continued on page 750

Muscarinic receptor changes in patients with AD psychosis

Using radioligand binding techniques, Lai et al. found a specific increase in M2 receptor densities in the postmortem neocortex of patients with AD who had psychotic symptoms compared to patients without these symptoms. Muscarinic ligands may be of use for treatment of neuropsychiatric symptoms of AD.

see page 805

Cerebral artery findings vs local symptoms in spontaneous carotid dissection

Assessing 200 spontaneous internal carotid artery dissections, Baumgartner et al. found that those causing high-grade stenosis and occlusion were more likely to produce cerebral or retinal ischemia and intracranial obstruction; those without luminal narrowing were more likely to have Horner's syndrome and cranial nerve palsies.

see page 827

APOE ϵ4 and severe MS

In 374 patients with MS, Fazekas et al. found an association of the *APOE* ϵ4 allele with a more severe disease course: faster progression of disability and higher relapse rate. This negative effect was observed even though ϵ4 carriers more frequently received long-term immunotherapy.

see page 853

Vagus nerve stimulation (VNS) and daytime sleepiness

Malow et al. found improvement in daytime sleepiness in 16 patients with epilepsy who underwent multiple sleep latency tests and completed Epworth Sleepiness Scale before and after 3 months of VNS treatment. Their data suggest that VNS activates brain regions that promote alertness.

see page 879

Cooling for treatment of MS: Coincidental effect on nitric oxide

Beenakker et al. studied the effects of cooling garment treatment in 10 patients with MS in a sham-controlled, crossover trial. Active cooling improved fatigue, muscle strength, and balance. Peripheral leukocyte NO production decreased with cooling, suggesting one possibly relevant mechanism for its benefit.

see page 892

Can oral IFN reduce brain lesions in MS?

In a study by Brod et al., "low dose" ingested interferon (IFN)-α2a transiently decreased new gadolinium lesions on brain MRI in relapsing-remitting MS without apparent toxicity. (A higher dose had no benefit.) They suggest that future study of a low dose of oral IFN is warranted.

see page 845

Nitric oxide: A mediator of tissue damage in primary progressive MS?

Peltola et al. found that levels of nitrite and nitrate were fourfold higher in patients with primary progressive MS than controls. The study supports a role for NO in oligodendrocyte damage.

see page 895

Mild phenylketonuria with neurotransmitter deficiency

Bonafé et al. reported a case of mild phenylketonuria with neurologic involvement and low levels of monoamine neurotransmitter metabolites in CSF. The patient improved after tetrahydrobiopterin therapy. The patient was a compound heterozygote for phenylalanine hydroxylase.

see page 908

Frequency of epilepsy in patients with psychogenic nonepileptic seizures (PNES)

Benbadis et al. report EEG-video monitoring in 32 patients with PNES. Only three patients had interictal epileptiform discharges to support coexisting epilepsy. Epilepsy is uncommon in patients with PNES.

see page 915

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