

Periventricular leukomalacia (PVL): Pathogenesis

Kadhim et al. (p. 1278) pursued the hypothesis that CNS infection or inflammation causes PVL. Studying 19 brains of neonates with PVL, they found that in situ expression of tumor necrosis factor α (TNF- α) was markedly increased, in concert with inflammatory markers. TNF- α expression was highest when there was evidence of infection and was much lower in controls with anoxic brain injury. ♦ The accompanying editorial by Noetzel and Brunstrom (p. 1254) reviews the role that infection and inflammation may play in injuring oligodendroglia, initiating the process that culminates in PVL. They raise questions that still need to be answered before embarking on therapeutic trials for PVL prevention.

Treatment of low-grade gliomas

Surma-aho et al. (p. 1285) assessed 160 patients with low-grade gliomas of cerebral hemispheres (all operated on). They compared patients who received radiation with those who had not. Radiated patients had more severe leukoencephalopathy and poorer cognitive performance than those without radiation. ♦ The accompanying editorial by Peterson and DeAngelis (p. 1255) summarizes the usual approaches for optimum treatment of low-grade gliomas: initially treating seizures but withholding surgery, then deferring radiotherapy after surgery becomes necessary. They note that PET may have a role in diagnosis and chemotherapy in treatment.

Botox for back pain

The parallel group, placebo-controlled trial by Foster et al. (p. 1290) of Botox in 31 patients with chronic low back pain found significant improvement in back pain and in function. Improvement in pain at 3 weeks persisted at

the conclusion of the 8-week study. Whether repeated treatment would provide longer-term benefit was not studied.

Fever in subarachnoid hemorrhage (SAH)

Oliviera-Filho et al. (p. 1299) prospectively studied 92 SAH patients; 10% of 32 febrile patients had no evidence of inflection. Patients were more likely to be febrile if vasospasm was present. Older patients and those with ventriculostomy were also at greater risk for fever. Fever was predictive of poor outcome.

Particles of endothelium in plasma in MS

Minagar et al. (p. 1319) found elevated endothelial microparticles in plasma of MS patients, both during exacerbation and remission, with higher values in patients during exacerbation. MS plasma added to cultured brain microvascular endothelial cells also released endothelial microparticles. Thus, endothelial dysfunction (with potential alteration of the blood-brain barrier) is present in MS and more abnormal during attacks.

Acute disseminated encephalomyelitis (ADEM)

Two articles and an editorial focus on the clinical, radiologic, and prognostic aspects of ADEM. Hynson et al. (p. 1308) reviewed records on 31 children. Signs favoring ADEM included prodromal illness (77%) and ataxia (65%) evolving over days with bilateral, asymmetric frontal and parietal lesions on MRI. Gray matter involvement was also frequent. Full recovery occurred in 81%, often coincident with IV methylprednisolone. ♦ Schwarz et al. (p. 1313) reviewed 40 adults diagnosed with ADEM but found that over one third went on to develop clinically definite MS. Moreover, less than one third recovered fully and it was not possible to predict which patients would have a full recovery from their initial

presentation. ♦ The accompanying editorial by Hartung and Grossman (p. 1257) compares clinical and MRI data in these two large series (and another recent article) and notes the challenge of predicting the subsequent development of MS. Treatment decisions are based on uncontrolled data: high-dose steroids, plasma exchange, and IV immunoglobulin.

Sustained benefit of pergolide in restless legs syndrome (RLS)

The open trial by Stiasny et al. (p. 1399) reports sustained benefit for over a year of pergolide in patients with RLS: fewer leg movements and better sleep time and efficiency. Side effects (notably nausea) required domperidone for control.

Carnitine for valproate hepatotoxicity

The Brief Communication by Bohan et al. (p. 1405) reports an uncontrolled study but very dramatic benefit of L-carnitine supplementation in patients with liver failure induced by valproate. In carnitine-treated patients, 20/42 survived; with no carnitine treatment only 5/50 survived. With early IV carnitine treatment, 10/10 survived.

Laryngeal neuropathy

Two articles describe neuropathies with involvement of the nerves to the larynx. Barbieri et al. (p. 1412) describe brothers with laryngeal abductor paralysis in whom cerebellar ataxia and motor neuropathy were prominent. Ohkoshi et al. (p. 1415) describe right abductor paralysis in a patient with compressive peripheral neuropathies who had the 17p deletion, which causes hereditary neuropathy with liability to pressure palsies. They postulate that sleeping in the prone position caused paralysis.

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