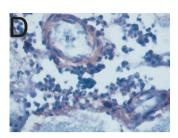
January 22 Highlights

Oxidative stress in bacterial meningitis



4-HNE staining in the leptomeninges, and inflammatory cells of a bacterial meningitis patient.

Kastenbauer et al. observed increased tyrosine nitration (a marker for peroxynitrite) in the brain and CSF of patients with acute bacterial meningitis. Increased CSF nitrotyrosine concentrations were associated with a depletion of ascorbate, an increased oxidation of the natural peroxynitrite scavenger uric acid, and an adverse outcome of meningitis.

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The accompanying editorial by Simon and Beckman points out that the cause of the encephalopathy of meningitis remains unclear. CSF and brain pathology does not reflect the severity of the clinical picture. A diffusable toxin is likely and the Kastenbauer et al. study points to a mechanism of oxidative stress in meningitis. Importantly, ascorbate (or dehydroascorbate—more efficiently taken up by the brain) might be of benefit in the treatment of bacterial meningitis. Current treatment of patients with corticosteroids and antibodies does not prevent death or major morbidity in patients with severe encephalopathy.

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Hepatic encephalopathy: The motor cortex is involved in mini-asterixis

Timmerman et al. found that patients with hepatic encephalopathy and miniasterixis have pathologically strong low-frequency coupling between motor cortex and EMG activity emphasizing a role of the motor cortex in mini-asterixis.

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The accompanying editorial by Young points out that while the Timmerman study does not fully explain asterixis, it provides firm magnetoencephalographic evidence that asterixis involves motor cortex mechanisms.

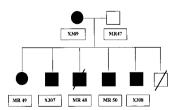
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Does estrogen replacement effect cognition in Turner syndrome (TS)?

Ross et al. evaluated cognitive function in adult women with TS who had estrogen-replaced ovarian failure or had normal ovarian function. Both groups had the characteristic visual-spatial, and visual-perceptual deficits seen in TS children and adolescents. Estrogen replacement does not have a major impact on cognitive deficits of TS adults.

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A Rett syndrome MECP2 mutation in men with mental retardation



MECP2 mutations causing Rett syndrome are generally considered lethal in men. Dotti et al. report a family with progressive neurologic impairment and X-linked mental retardation (MRX) in adult men with MECPS mutation. Genetic defects related to MECP2 should be considered in men with MRX.

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Why is the risk of MS high in Sardinia?



The Pugliatti et al. spatial cluster study of MS prevalence in Northern Sardinia disclosed, at a microgeographic level, an uneven distribution of the disease with rates sometimes significantly differing from the referral mean prevalence value. They suggest that in Sardinia, a widely and evenly spread environmental agent produces MS in subgroups of genetically more susceptible individuals from highly inbred areas.

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Founder effect in MS predisposition in Sardinia

Marrosu et al. observed a high risk in siblings of MS patients having other MS affected relatives (2.90-fold higher than in siblings without MS familial aggregation) and an even higher prevalence of MS in a village where all patients descended from three pairs of ancestors. The data suggest that a founder effect and the isolation of Sardinia enriched the population for "etiologic" MS genes.

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Temporal lobe spikes: A treatable cause of cognitive impairment

Høgh et al. document three patients with progressive memory loss considered to have AD who were found to have antiepileptic drug-responsive temporal lobe spike activity. Their memory recovered with treatment.

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Voa-DBS: A new target for secondary dystonia?

Ghika et al. report a patient with postanoxic dystonia, with bilateral pallidal lesions, who showed major improvement after 4 months of ventro-oralis nucleus (Voa) deep brain stimulation. Eventual autopsy confirmed the location of the electrodes.

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