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IN BRIEF

MOTOR NEURON DISEASE

Neurofilaments mark motor neuron disease

Levels of neurofilaments in cerebrospinal fluid could be important markers for the diagnosis of motor neuron disease, according to new research. Among 455 participants, levels of neurofilaments were higher in those with sporadic or familial motor neuron diseases than in people with mimics of the diseases or in healthy controls. Cut-off levels of 2,200 pg/ml for neurofilament light chain and 560 pg/ml for neurofilament phosphorylated heavy chain provided sensitivities and specificities of >75%, and positive predictive values of 87% and 82%, respectively.

Original article Steinacker, P. *et al.* Neurofilaments in the diagnosis of motoneuron diseases: a prospective study on 455 patients. *J. Neurol. Neurosurg. Psychiatry* doi:10.1136/jnnp-2015-311387

EPILEPSY

Perampanel success in primary generalized seizures

Adjunctive therapy with perampanel reduces seizures in patients with drug-resistant primary generalized tonic-clonic seizures, a recent trial shows. 162 patients on antiepileptic drugs were randomly allocated to also receive either perampanel or a placebo during a 4-week titration period, followed by a 13-week maintenance period. Seizure frequency per 28 days was reduced by 76.5% in patients who received perampanel, but only by 38.4% in patients who received the placebo. 30.9% of patients who received perampanel and 12.3% of patients who received the placebo became free of seizures during maintenance.

Original article French, J. A. *et al.* Perampanel for tonic-clonic seizures in idiopathic epilepsy: a randomized trial. *Neurology* doi:10.1212/WNL.0000000000001930

ALZHEIMER DISEASE

Chemokine modifies Alzheimer disease age of onset

Whole-genome sequencing has revealed a chemokine gene cluster that influences age of onset in early-onset familial Alzheimer disease (AD). Lalli *et al.* sequenced the genomes of 72 individuals with this condition, and identified a haplotype that delayed disease onset by ~10 years. Plasma levels of eotaxin-1, a chemokine encoded by a gene at the AD-associated locus, correlated with age of onset, and this molecule could be a therapeutic target.

Original article Lalli, M. A. *et al.* Whole-genome sequencing suggests a chemokine gene cluster that modifies age at onset in familial Alzheimer's disease. *Mol. Psychiatry* doi:10.1038/mp.2015.131

TRAUMATIC BRAIN INJURY

Metabolites link concussion and mood

Sports-related concussion alters the balance of neuroactive kynurenine pathway metabolites and consequently affects mood, a recent study shows. Athletes with concussion exhibited abnormally high levels of quinolinic acid and low kynurenine acid-quinolinic acid ratios. A 1-month follow-up indicated no normalization, and the low ratio was associated with depressive symptoms and a tendency for anxiety.

Original article Singh, R. *et al.* Mood symptoms correlate with kynurenine pathway metabolites following sports-related concussion. *Neuropsychiatry* doi:10.1136/jnnp-2015-311369