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IN BRIEF

MOTOR NEURON DISEASE

Familial amyotrophic lateral sclerosis is associated with a distinct serum microRNA profile

A signature comprising 24 microRNAs has been linked to familial amyotrophic lateral sclerosis (ALS). Expression of these microRNAs was consistently reduced regardless of which ALS-linked gene patients carried. The downregulation was also observed in asymptomatic carriers of ALS-associated mutations up to 20 years before estimated disease onset. These microRNAs represent targets for novel ALS therapies, and might enable early intervention.

Original article Freischmidt, A. *et al.* Serum microRNAs in patients with genetic amyotrophic lateral sclerosis and pre-manifest mutation carriers. *Brain* doi:10.1093/brain/awu249

PERIPHERAL NEUROPATHIES

Spinal cord stimulation alleviates symptoms of painful diabetic neuropathy

Diabetes can cause peripheral neuropathic pain, and new data suggest this can be treated with electric stimulation of the spinal cord. Investigators randomly assigned 60 patients with painful diabetic neuropathy to receive conventional treatment alone or in combination with spinal cord stimulation via electrodes implanted in the epidural space. The groups did not differ in pain intensity at baseline, but after 6 months of treatment, the patients receiving spinal cord stimulation reported amelioration of pain and improved quality of life compared with patients receiving standard care.

Original article de Vos, C. *et al.* Spinal cord stimulation in patients with painful diabetic neuropathy: a multicentre randomized clinical trial. *Pain* doi:10.1016/j.pain.2014.08.031

MULTIPLE SCLEROSIS

High dietary salt might exacerbate MS

A 2-year observational study has revealed that patients with relapsing–remitting multiple sclerosis (MS) who consume high levels of sodium have increased risk of disease exacerbation. Farez and colleagues estimated dietary sodium intake via urine samples from 70 patients with MS, and found a positive correlation between salt consumption and disease activity. A high-salt diet also increased the risk of developing new MRI-visible lesions. These effects remained robust after controlling for factors such as age and vitamin D levels, and were replicated in a separate group of 52 patients.

Original article Farez, M. F. *et al.* Sodium intake is associated with increased disease activity in multiple sclerosis. *J. Neurol. Neurosurg. Psychiatry* doi:10.1136/jnnp-2014-307928

MOVEMENT DISORDERS

Proof-of-concept for epigenetic therapy in Friedreich ataxia

A new histone deacetylase inhibitor has shown promise for the treatment of Friedreich ataxia (FA). In cultured neurons derived from patients with FA, the drug was found to epigenetically modify transcription of *FXN* gene, thereby enhancing expression of frataxin protein. In a phase I trial comprising 20 patients, the drug upregulated acetylation of histone H3 lysine 9 and expression of *FXN* mRNA. No serious drug-related adverse events were observed.

Original article Soragni, E. *et al.* Epigenetic therapy for Friedreich's ataxia. *Ann. Neurol.* doi:10.1002/ana.24260

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