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IN BRIEF

MOTOR NEURON DISEASE

Suppression of microglial activation ameliorates symptoms in a mouse model of amyotrophic lateral sclerosis

Glial cells have been implicated in amyotrophic lateral sclerosis (ALS) pathogenesis, but the mechanisms through which they act have remained elusive. Now, researchers have found that the microglial prostanoid receptor DP1 mediates microglial toxicity to motor neurons. Genetic ablation of DP1 suppressed microglial activation, reduced motor neuron loss and extended lifespan in a mouse model of ALS. Inhibition of DP1 could, thus, be a novel therapeutic approach for ALS.

Original article de Boer, A. S. *et al.* A genetic validation of a therapeutic target in a mouse model of ALS. *Sci. Transl. Med.* doi:10.1126/scitranslmed.3009351

MULTIPLE SCLEROSIS

Reduced risk of MS in individuals with HIV

In a large cohort comprising 21,707 HIV-positive and over 5 million HIV-negative individuals, the incidence of multiple sclerosis (MS) was found to be reduced by about 60% in the patients with HIV. Gold and co-authors state that, if confirmed, the protective effect of HIV would be the largest observed in relation to the development of MS, but the mechanism underlying the association is unclear. The authors hypothesize that HIV-related immunosuppression might halt MS pathogenesis, or antiretroviral therapy might coincidentally suppress viral pathogens implicated in MS.

Original article Gold, J. *et al.* HIV and lower risk of multiple sclerosis: beginning to unravel a mystery using a record-linked database study. *J. Neurol. Neurosurg. Psychiatry* doi:10.1136/jnnp-2014307932

PARKINSON DISEASE

Detection of α-synuclein inclusions in the gastric mucosa of patients with PD could hasten diagnosis

Diagnosis of Parkinson disease (PD) currently relies on clinical symptoms, and is often made late into the disease. Immunostaining for α-synuclein in gastric mucosa samples might aid earlier diagnosis of PD, a new study shows. Mucosa biopsies were positive for α-synuclein in 17 of 28 patients with PD, one of six individuals with mild presymptomatic parkinsonism, and only one of 23 healthy controls.

Original article Sánchez-Ferro, Á. *et al. In vivo* gastric detection of α-synuclein inclusions in Parkinson's disease. *Mov. Disord.* doi:110.1002/mds.25988

ALZHEIMER DISEASE

Microvesicles shed by reactive microglia are associated with AD pathology and cognitive impairment

Budding of extracellular membrane microvesicles from the cell surface has previously been suggested as a mechanism through which reactive microglia can propagate inflammatory signals and convert extracellular amyloid-β_{1-42} deposits to neurotoxic soluble forms. In a recent study, Agosta *et al.* found that the levels of these microvesicles in the cerebrospinal fluid correlated with white matter tract damage and hippocampal atrophy in patients with Alzheimer disease (AD), and was associated with AD severity and cognitive impairment, possibly predicting conversion from mild cognitive impairment to AD.

Original article Agosta, F. *et al.* Myeloid microvesicles in CSF are associated with myelin damage and neuronal loss in mild cognitive impairment and Alzheimer disease. *Ann. Neurol.* doi:10.1001/ana.24235