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IN BRIEF

SPINAL CORD INJURY

Modulation of the PTP σ receptor promotes recovery after spinal cord injury in rats

Spinal cord injury induces an upregulation of glial-derived chondroitin sulphate proteoglycans (CSPGs), which suppress axonal regrowth. Now, a new study has shown that systemic delivery of a peptide mimetic of the protein tyrosinase phosphatase σ (PTP σ) receptor domain can restore serotonergic innervation and facilitate motor recovery in a rat model of spinal cord injury. The effect of PTP σ receptor modulation is thought to be mediated by reduced CSPG-mediated inhibition.

Original article Lang, B. T. *et al.* Modulation of the proteoglycan receptor PTP σ promotes recovery after spinal cord injury. *Nature* doi:10.1038/nature13974

EPILEPSY

Vagus nerve stimulation could increase cardiac stability and reduce risk of SUDEP

An ECG study of individuals receiving vagus nerve stimulation (VNS) for drug-resistant focal epilepsy has demonstrated that VNS induces favourable changes in T-wave alternans, possibly reflecting improved balance between sympathetic and parasympathetic activity. T-wave alternans is an established noninvasive marker for risk of sudden cardiac death; the study finding, therefore, suggests that VNS reduces the risk of sudden unexpected death in epilepsy (SUDEP).

Original article Schomer, A. C. *et al.* Vagus nerve stimulation reduces cardiac electrical instability assessed by quantitative T-wave alternans analysis in patients with drug-resistant focal epilepsy. *Epilepsia* doi:10.1111/epi.12855

STROKE

Molecular markers could help predict stroke risk after TIA

Stroke is preceded by transient ischaemic attack (TIA) in almost 20% of patients. Mariona Jové and colleagues have now shown that low concentrations of a specific lysophosphatidylcholine in plasma might indicate an increased risk of stroke recurrence after TIA. Assessment of metabolomic markers in combination with conventional predictors of stroke could improve accuracy of risk predictions, and might also provide an opportunity for stroke prevention.

Original article Jové, M. *et al.* Metabolomics predicts stroke recurrence after transient ischemic attack. *Neurology* doi:10.1212/WNL.0000000000001093

TRAUMATIC BRAIN INJURY

Glymphatic pathway dysfunction after traumatic brain injury might promote tau aggregation

Traumatic brain injury (TBI) is known to predispose individuals to dementia, but the mechanisms by which TBI promotes long-term neurodegeneration are poorly understood. A new study has shown that TBI impairs the function of the glymphatic system in the brain, thereby promoting aggregation of tau protein, a hallmark of Alzheimer disease. This finding complements previous work showing that the glymphatic pathway facilitates clearance of interstitial amyloid- β in the mouse CNS.

Original article Iliff, J. J. *et al.* Impairment of glymphatic pathway function promotes tau pathology after traumatic brain injury. *J. Neurosci.* doi:10.1523/JNEUROSCI.3020-14.2014