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IN BRIEF

NEUROINFLAMMATION

Thrombin activity—an early biomarker for neuroinflammatory disease?

New research has revealed a close association between activity of the coagulation factor thrombin and inflammatory demyelination in mice with experimental autoimmune encephalomyelitis, a model of multiple sclerosis (MS). Thrombin activity was elevated before the emergence of neurological signs and subsequently correlated with disease severity. The findings raise the possibility that a thrombin-specific MRI probe could be used for preclinical detection and monitoring of MS.

Original article Davalos, D. *et al.* Early detection of thrombin activity in neuroinflammatory disease. *Ann. Neurol.* doi:10.1002/ana.24078

GENETICS

TBC1D24 mutations are implicated in DOORS syndrome

Mutations in the *TBC1D24* gene could be a frequent cause of DOORS (deafness, onychodystrophy, mental retardation, and seizures) syndrome, according to an exome-sequencing study. *TBC1D24* mutations were found in nine of 18 families that contained members with all five main features of DOORS. The authors suggest, however, that screening for *TBC1D24* mutations should be extended to individuals with only a subset of these features, as the genotype–phenotype relationship is likely to be complex.

Original article Campeau, P. M. *et al.* The genetic basis of DOORS syndrome: an exome-sequencing study. *Lancet Neurol.* doi:10.1016/S1474-4422(13)70265-5

NEURAL REPAIR AND REHABILITATION

Body art meets neuroprosthetics

A tongue stud containing a magnetic tracing device, known as the Tongue Drive System (TDS), can be used to control a computer or drive a wheelchair, a recent report demonstrates. Both able-bodied participants and individuals with spinal cord injury performed considerably better on these activities with the TDS than with the sip-and-puff device—an assistive technology commonly used by people with tetraplegia. The researchers are now developing an intraoral version of the TDS with sensors mounted on a dental retainer.

Original article Kim, J. *et al.* The tongue enables computer and wheelchair control for people with spinal cord injury. *Sci. Transl. Med.* 5, 213ra166 (2013)

DEMENTIA

Brain-derived neurotrophic factor might protect against dementia in selected population subgroups

New findings from the Framingham Heart Study show an association between high serum levels of brain-derived neurotrophic factor (BDNF) and a reduced risk of dementia in certain sectors of the population. Among women, people aged ≥80 years and individuals with college degrees, the risk of dementia was reduced by over 50% in those with BDNF levels in the top quartile compared with the bottom quartile. The results suggest a possible role for BDNF in dementia prevention, at least in selected subgroups.

Original article Weinstein, G. *et al.* Serum brain-derived neurotrophic factor and the risk for dementia: the Framingham Heart Study. *JAMA Neurol.* doi:10.1001/jamaneurol.2013.4781