

*Nature Reviews Neurology* 8, 534 (2012); published online 21 August 2012;  
 doi:10.1038/nrneurol.2012.174;  
 doi:10.1038/nrneurol.2012.175;  
 doi:10.1038/nrneurol.2012.176;  
 doi:10.1038/nrneurol.2012.177

## IN BRIEF

### STROKE

#### NMDA receptor peptide as a diagnostic biomarker for stroke

Diagnostic differentiation between patients with acute ischaemic stroke versus those with stroke mimics remains challenging. In a study involving 192 patients exhibiting stroke symptoms, researchers in the USA have shown that plasma levels of the NR2 subunit of the *N*-methyl-D-aspartate (NMDA) receptor can be used to identify patients with ischaemic stroke, with a sensitivity of 92% and specificity of 96%. Larger studies are required to validate the findings.

**Original article** Dambinova, S. A. *et al.* Diagnostic potential of the NMDA receptor peptide assay for acute ischemic stroke. *PLoS ONE* 7, e42362 (2012)

### GENETICS

#### Mutations in *ATP1A3* are linked to alternating hemiplegia of childhood

Alternating hemiplegia of childhood (AHC) is a rare neurological disorder that involves early-onset bouts of hemiplegia and dystonia. Most cases are sporadic, but some studies have suggested a genetic component. Using whole-genome sequencing in three parent–proband trios, Rosewich *et al.* identified *ATP1A3*, which encodes a cation transport ATPase, as a disease-associated gene. The researchers tested their finding in a larger group of 21 individuals with AHC, and found that all patients harboured mutations in *ATP1A3*, including seven heterozygous *de novo* mutations.

**Original article** Rosewich, H. *et al.* Heterozygous *de-novo* mutations in *ATP1A3* in patients with alternating hemiplegia of childhood: a whole-exome sequencing gene-identification study. *Lancet Neurol.* doi:10.1016/S1474-4422(12)70182-5

### AGEING

#### Telomere length is inversely correlated with risk of dementia and mortality

Telomeres—the end segments of chromosomes—undergo shortening with successive cycles of cell division, contributing to cellular ageing. Honig *et al.* studied telomere length in blood samples from 1,983 individuals aged 65 years and over, who were followed up for a median of 9.3 years. After correcting for baseline age and other confounding factors, shorter telomere length was associated with younger age at death and, in women, with increased risk of dementia. Leukocyte telomere length could, therefore, represent a marker of biological ageing.

**Original article** Honig, L. S. *et al.* Association of shorter leukocyte telomere repeat length with dementia and mortality. *Arch. Neurol.* doi:10.1001/archneurol.2012.1541

### EPILEPSY

#### Adjunctive perampanel is beneficial in refractory epilepsy

A phase III study has shown that the AMPA receptor antagonist perampanel, when added to standard antiepileptic drugs, improves seizure control in patients with drug-resistant partial-onset seizures. 388 patients were randomly assigned to receive placebo, 8 mg perampanel or 12 mg perampanel for 19 weeks. Seizure frequency was significantly reduced in patients receiving adjunctive perampanel versus placebo. Tolerability of the drug was reasonable, with adverse events such as dizziness leading to treatment discontinuation in 40 patients.

**Original article** French, J. A. *et al.* Adjunctive perampanel for refractory partial-onset seizures: randomized phase III study 304. *Neurology* 79, 589–596 (2012)