IN BRIEF

PARKINSON DISEASE

Mutations in *DJ-1* have been associated with recessive familial forms of Parkinson disease (PD). Irrcher *et al*. have now demonstrated that cell lines, neurons and lymphoblast cells that lack functional DJ-1 protein have mitochondria with aberrant morphology. These dysfunctional mitochondria are associated with oxidative stress-induced cell death and altered autophagy. Treatments that attenuate DJ-1-dependent mitochondrial defects might inhibit neuronal degeneration associated with PD.

Original article Irrcher, I. *et al*. Loss of the Parkinson disease-linked gene *DJ-1* perturbs mitochondrial dynamics. *Hum. Mol. Genet*. doi:10.1093/hmg/ddq288

ALZHEIMER DISEASE

Cotelli and colleagues have shown that repetitive transcranial magnetic stimulation (rTMS), applied to the left dorsolateral prefrontal cortex, improves sentence comprehension in patients with Alzheimer disease (AD). Patients with AD still showed substantial improvements in cognitive performance 8 weeks after rTMS, when compared with baseline. The researchers conclude that rTMS, in conjunction with other therapeutic strategies, could be a novel effective therapy for language deficits in patients with this condition.

Original article Cotelli, M. *et al*. Improved language performance in Alzheimer disease following brain stimulation. *J. Neurol. Neurosurg. Psychiatry* doi:10.1136/jnnp.2009.197848

STROKE

The ABCD system, which is based on five parameters —age, blood pressure, clinical features, duration of transient ischemic attack (TIA) and presence of diabetes—is used to predict an individual's risk of stroke after TIA. In a collaborative study conducted by Giles *et al*., acute infarction, assessed by brain imaging, was present in 884 of 3,206 patients with TIA. By incorporating imaging findings into the ABCD^2 system the researchers found that the prediction of stroke after TIA improves.

Original article Giles, M. F. *et al*. Addition of brain infarction to the ABCD^2 score (ABCD^{2}I). A collaborative analysis of unpublished data on 4574 patients. *Stroke* doi:10.1161/STROKEAHA.110.578971

ALZHEIMER DISEASE

In a cross-sectional study involving 270 patients with Alzheimer disease, Perneczky and colleagues have shown that individuals who have large head circumferences have higher cognitive functioning than patients with small head circumferences, even when the extent of atrophy is equivalent. The researchers suggest that the protective effect associated with a large head circumference probably reflects enhanced brain reserve, which is thought to reflect brain size.

Original article Perneczky, R. *et al*. Head circumference, atrophy, and cognition: implications for brain reserve in Alzheimer disease. *Neurology* **75**, 137–142 (2010)