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IN BRIEF

NEUROPSYCHIATRIC DISORDERS

Deep brain stimulation shows promise for depression

The first placebo-controlled trial of deep brain stimulation in patients with treatment-resistant major depressive disorder and bipolar II disorder has yielded encouraging findings. In 12 patients who received chronic stimulation of the subcallosal cingulate white matter over 2 years, 92% showed a clinical improvement and 58% were in remission. Spontaneous relapses from remission did not occur. Moreover, the approach seemed to be safe for long-term use and was not associated with manic symptoms, as has been reported for DBS of other brain regions.

Original article Holtzheimer, P. E. *et al.* Subcallosal cingulate deep brain stimulation for treatment-resistant unipolar and bipolar depression. *Arch. Gen. Psych.* doi:10.1001/archgenpsychiatry.2011.1456

INFECTIOUS DISEASE

Association between tapeworm disease and headache

Helminthic infection can lead to neurocysticercosis, involving formation of calcified cysts in the brain parenchyma. A recent observational study spanning 20 years at a single institution found that neurocysticercosis was significantly more common in patients with primary heachace than in patients with other neurological disorders, such as cerebrovascular disease and neurodegenerative disorders. The researchers hypothesized that pain caused by remodeling of cysticercotic calcification and release of antigen into the brain parenchyma could underlie the association with headache.

Original article Del Brutto, O. H. & Del Brutto, V. J. Calcified neurocysticercosis among patients with primary headache. *Cephalagia* doi:10.1177/0333102411433043

PARKINSON DISEASE

The gut as a route of entry for α-synuclein in PD

Neuronal inclusions of α-synuclein, termed Lewy bodies, are a hallmark of Parkinson disease (PD). The presence of these inclusions in the intestinal enteric nerves in PD suggests that the gut could provide an entry route for α-synuclein in this disease. Intestinal biopsies from nine patients with newly diagnosed PD revealed a significantly higher intestinal permeability and α-synuclein levels, as well as increased markers of oxidative stress, than in controls.

Original article Forsyth, C. B. *et al.* Increased intestinal permeability correlates with sigmoid mucosa alpha-synuclein staining and endotoxin exposure markers in early Parkinson's disease. *PLoS ONE* **6**, e28032 (2011)

ALZHEIMER DISEASE

Alzheimer disease risk allele targets hippocampal connectivity

A single nucleotide polymorphism in the clusterin gene (*CLU*) is a recently identified risk variant for Alzheimer disease (AD). Using functional imaging, Erk and colleagues have now shown that, compared with noncarriers, healthy carriers of the variant exhibit dose-dependent reduced coupling between the hippocampus and dorsolateral prefrontal cortex during memory tasks. Such alterations in functional connectivity could underlie cognitive impairments in AD patients harboring the *CLU* risk variant, providing a potential link between genetic susceptibility and functional changes in the brain.

Original article Erk, S. *et al.* Hippocampal function in healthy carriers of the *CLU* Alzheimer's disease risk variant. *J. Neurosci.* **31**, 18180–18184 (2011)