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IN BRIEF

NEURODEVELOPMENTAL DISORDERS

Neonatal infection linked to risk of cerebral palsy

A new study has revealed a potential association between neonatal infection and risk of cerebral palsy. The researchers examined 2,665 preterm live births—2,277 of whom had follow-up evaluation—in nine regions in France. The frequency of cerebral palsy at 5 years of age was higher in those with neonatal early-onset sepsis (EOS) or late-onset sepsis (LOS) than in uninfected infants, but the risk was highest in infants who experienced both EOS and LOS. No association was found between neonatal sepsis and cognitive impairment.

Original article Mitha, A. *et al.* Neonatal infection and 5-year neurodevelopmental outcome of very preterm infants. *Pediatrics* doi:10.1542/peds.2012-3979

INFECTIOUS DISEASE

One step closer to a single-dose vaccine for tick-borne encephalitis

Tick-borne encephalitis (TBE), which is common in Eurasia, can cause severe neurological complications that are sometimes fatal. To maintain immunity against TBE, currently available vaccines require multiple doses and boosters. Now, through the use of RepliVax—a ‘single-cycle’ flavivirus platform—researchers have created a single-dose TBE vaccine, which was found to be highly immunogenic and efficacious in mice and in rhesus macaques. The team hopes that the new vaccine will lead to improved vaccine coverage and better disease control.

Original article Rumyantsev, A. A. *et al.* Single-dose vaccine against tick-borne encephalitis. *Proc. Natl Acad. Sci. USA* doi:10.1073/pnas.1306245110

PARKINSON DISEASE

Metabonomics study reveals novel biomarkers for PD

LeWitt and colleagues have used a metabonomics approach to examine cerebrospinal fluid (CSF) obtained <4 h postmortem from 48 patients with Parkinson disease (PD) and 57 age-matched controls. They found that patients with PD had a 33% increase in 3-hydroxykynurenine and a 40% decrease in oxidized glutathione compared with controls. As well as identifying potential CSF biomarkers for PD, the findings suggest alterations in *N*-acetylation activity, and support roles for excitotoxicity and oxidative stress in PD pathogenesis.

Original article LeWitt, P. A. *et al.* 3-hydroxykynurenine and other Parkinson's disease biomarkers discovered by metabolomic analysis. *Mov. Disord.* doi:10.1002/mds.25555

EPILEPSY

Serum brain-derived neurotrophic factor—a marker of seizure severity in patients with epilepsy?

Researchers have identified serum brain-derived neurotrophic factor (BDNF) as a potential marker of severity in patients with epilepsy. Hong *et al.* examined 135 patients with epilepsy and 34 control individuals. Whereas serum BDNF levels in patients were not significantly different from control values, further analysis revealed a negative association between serum BDNF levels and seizure frequency and duration. Using a BDNF cut-off value of 6,260 pg/ml, the sensitivity and specificity for detection of patients with daily or more frequent seizures was 80% and 90%, respectively.

Original article Hong, Z. *et al.* Serum brain-derived neurotrophic factor levels in epilepsy. *Eur. J. Neurol.* doi:10.1111/ene.12232