In Focus

Spotlight on the October 18 Issue

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Perinatal cortical growth and childhood neurocognitive abilities

Growth rates for cerebral volume and cortical surface area were estimated in 82 infants born before 30 weeks postmenstrual age. Magnetic resonance images soon after preterm birth showed that cognitive ability at school age was predicted by faster cortical but not whole brain growth.

See p. 1510; Editorial, p. 1504

Arterial spin labeling and altered cerebral blood flow patterns in the minimally conscious state

A pseudo-continuous arterial spin labeling (ASL) sequence was performed in 4 subjects meeting minimally conscious state criteria and 10 controls. The authors identified decreased cerebral blood flow (CBF) and a selective reduction of CBF within the medial prefrontal and midfrontal cortical regions, suggesting ASL may serve as an adjunctive method in patients recovering from severe brain injuries.

See p. 1518

From editorialists Schnakers, Laureys, and Majerus: "If the current results can be replicated, ASL could be used in conjunction with BOLD signals to better characterize residual brain activity in patients recovering from coma and, hence, to identify conscious processing."

See p. 1506

Age-related changes in the default mode network are more advanced in Alzheimer disease

This paper highlights the importance of understanding the effects of normal aging when interpreting disease effects in resting state networks. Resting state functional MRI techniques may be an early biomarker in dementia and could be used with increasing frequency in studies targeting disease prevention and modification.

See p. 1524

Ultrasonographic detection of fasciculations markedly increases diagnostic sensitivity of ALS

The authors performed needle electromyography (EMG) and ultrasound in 6 muscles of 81 consecutive patients with sporadic ALS. Muscle ultrasound is a practical and efficient tool to detect fasciculations particularly in the tongue. Combination of ultrasound and EMG substantially increased diagnostic sensitivity of ALS.

See p. 1532; Editorial, p. 1508

Meralgia paresthetica: Relation to obesity, advanced age, and diabetes mellitus

The authors used a population-based approach to identify 262 patients with meralgia paresthetica. This disorder was relatively common, increasing with the population's advancing body mass index and age. Diabetes mellitus associated with meralgia paresthetica independently of weight and age, suggesting the need for aggressive counseling in prevention of diabetes.

See p. 1538

Hypereosinophilia in patients with multiple sclerosis treated with natalizumab

Marked peripheral blood eosinophilia with more than 2,000 cells/mm³ emerged in 3 patients treated with natalizumab for relapsing-remitting multiple sclerosis; their peripheral blood lymphocytes and eosinophils were characterized. If the patient is asymptomatic, natalizumab may be continued, provided other causes of eosinophilia are excluded and the patient is carefully monitored.

See p. 1561

CLINICAL IMPLICATIONS OF NEUROSCIENCE RESEARCH

Nitric oxide: A pleiotropic signal in the nervous system

Nitric oxide modulates neurotransmission in the CNS and peripheral nervous system and regulates local blood flow and immune responses. Excessive nitric oxide mediates neurotoxicity in cerebral ischemia, inflammation, neoplasia, and neurodegenerative disorders.

neurodegenerative disorders.

See p. 1568

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