ApoE-ε4 and memory in intractable temporal lobe epilepsy

Busch et al. examined the relationship between ApoE-ε4 and memory in patients with medically intractable temporal lobe epilepsy. Results suggest that the ε4 allele interacts with duration of epilepsy to affect both verbal and nonverbal memory performance with no change in this relationship following temporal lobectomy.

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Acute ischemic lesions of varying ages predict higher risk

Sylaja et al. found that the presence of multiple lesions of varying ages detected by diffusion-weighted imaging (DWI) on the baseline MRI in patients with stroke and TIA predicts a high risk of future ischemic events. Thus, not only the number of DWI lesions but also the lesion age is helpful in assessing future risk.

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The editorial by Tong and Caplan notes that a major clinical issue in TIA and stroke is identifying who is at high risk for early recurrent symptoms. Patients imaged within 24 hours of symptom onset who had DWI lesions with differing ADC values (implying varying lesion ages) were more likely to develop a recurrent DWI lesion at 30-day follow-up vs those who did not. Patients with a cardioembolic source also had a significantly higher probability of developing new DWI lesions on follow-up, consistent with the increased recurrent stroke risk associated with a cardioembolic stroke mechanism. The presence of an active process that has caused more than one aged infarct should prompt an aggressive search for an embolic, arterial, or hematologic cause of the patient's symptoms. Tong and Caplan also consider the specific treatment that could be implemented if an individual is identified as high risk.

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Out of sight, not out of mind

Subjects with left representational neglect were asked to imagine the map of France with eyes open or blindfolded. Rode et al. showed no effect of blindfolding on reporting details from either side of the map, suggesting that deficit represents a failure to generate the left side of mental images.

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The editorial by Adair and Barrett notes that the Rode et al. article reminds us that, while development of effective neglect rehabilitation programs remains a work in progress, there are practical means to modify neglect behavior. For individuals, such techniques may be useful in rehabilitation. Conceivably, further advances may inform rehabilitation strategies using sensory deprivation in a manner analogous to constraint-induced treatment of hemiparesis. Second, there are profound implications of mental representation: our instantaneous experience of the world is at least once removed from its physical attributes. Representations comprise the content of thinking—the means by which we carry the external world within. As such, disordered mental representations in neglect may exert influences beyond spatial cognition, including numeric operations, syntactic processing, and inference. Rather than an isolated deficit of sensory topology, spatial neglect may distort our internal world and its verbal, logical, and symbolic relation to the world around us.

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Ischemic stroke subtypes among siblings

Wiklund et al. assessed familial patterns of ischemic stroke subtypes among siblings in the North American Siblings with Ischemic Stroke Study (SWISS) and siblings from a Swedish population-based study. Lack of familial aggregation of stroke subtypes suggests that many genetic risk factors are not subtype-specific.

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Cervical dystonia: Long-term benefit from pallidal stimulation

Hung et al. examined the long-term clinical benefit of pallidal stimulation in 10 patients with medically refractory cervical dystonia. A significant benefit in severity, disability, and pain scores (>50%) was maintained for 31.9 ± 20.9 months of follow-up.

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Microcephaly associated with infantile spasms

Chandra et al. found that cerebral volumes and cortical neuronal densities were different between children with tuberous sclerosis complex (TSC) and cortical dysplasia (CD), supporting the concept that TSC and CD have different pathogenetic mechanisms. In addition, the authors discovered that a history of infantile spasms was associated with microcephaly independent of etiology.

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Exonic deletions of the *DCX* gene in band heterotopia

Subcortical band heterotopia, a neuronal migration disorder, is caused by mutations of the *DCX* gene in all familial and in 53% to 84% of sporadic cases. Mei et al. used multiplex ligation-dependent probe amplification, a recently introduced molecular technique, to investigate whether large deletions of the *DCX* gene were present in 11 patients in whom no mutations had been found after sequencing. They detected large exonic deletions in three patients.

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Quantification of SMN mRNA in spinal muscular atrophy

Simard et al. have validated a real-time RT-PCR assay of SMN transcripts using preclinical blood samples from 42 patients with SMA. While *SMN2* cannot completely compensate for *SMN1* deficiency, disease severity does correlate with *SMN2* gene copy number. Quantification of SMN mRNA expression may be a useful biomarker for multicenter clinical trials.

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