September 25 Highlights

Modeling Alzheimer's disease progression and costs of treatment

"Better models make possible accurate prediction of the course of AD and a greater understanding of the impact of AD on the health care system."

Neumann et al. used data from the Consortium to Establish a Registry for Alzheimer's Disease to estimate annual *transition probabilities*—the likelihood that a patient will move from one stage to another in a given time period—in AD. Transitioning into an advanced state of AD or nursing home placement is associated with age, male sex, and behavioral disorders.

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Caro et al. used a Markov modeling strategy to develop a pharmacoeconomic model *that uses relatively brief periods of observation of patients with AD to develop predictors of long-term outcomes—in this study, the need for full-time care. Applying this model, Getsios et al. estimate that the use of the agent galantamine will reduce the duration of full-time care by 10% as well as treatment costs.*

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In their editorial, Mendiondo et al. note that AD models such as these are of potential importance in health resource allocation and health care planning. They also note that the cost savings calculated by Caro et al. do not take into account the cost of caregiver burden.

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A treatable ALS-like disorder in HIV infection

Two articles report patients with clinical features of ALS complicating HIV infection. Moulignier et al. describe six patients with immunodepression and rapidly progressive motor neuron disease starting in one limb. Antiretroviral treatment arrested or improved the disease. MacGowan et al. report a patient with signs suggesting ALS in the setting of the recent AIDS onset. The patient's motor neuron disease improved with antiretroviral treatment.

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In their editorial, Jubelt and Berger note the importance of these articles and others indicating that the HIV retrovirus causes a treatable form of ALS, and they note the accumulating evidence that viral infections can be a cause of ALS.

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Unstable repeats causing myoclonus epilepsy

Mazarib et al. identified a five-generation Arab family with Unverricht–Lundborg disease, a recessive, progressive myoclonus epilepsy caused by expansion of a dodecamer repeat in the *cystatin B* gene. Inbreeding caused a pseudodominant pattern of inheritance and allowed demonstration of instability, both small expansions and contractions, of the repeat unit.

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Increased risk of AD in mothers with Down syndrome

Studying the familial aggregation of Down syndrome and AD, Schupf et al. found that the fivefold increased risk of AD among mothers who were <35 years old when their child with Down syndrome was born was not seen for other dementias or other age-related degenerative disorders. There is likely a specific vulnerability for AD in the apparently healthy mothers of patients with Down syndrome.

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Incidence of AD in rural northern India

Chandra et al. followed a community sample of 2698 older Indian individuals for 2 years and found their incidence of AD to be 3.24 per 1000 person-years in those aged ≥65 and 1.74 per 1000 person-years in those aged ≥55. These rates are among the lowest reported in the world.

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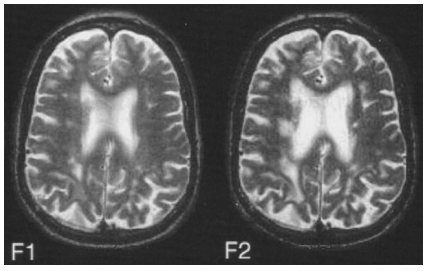
White matter hyperintensities and balance disorders



Baseline (F1) and follow-up (F2) MRI show increase in white matter hyperintensity.

Whitman et al. followed 70 healthy, ambulatory older persons and found a significant relationship between deteriorating balance and increasing white matter hyperintensity volume on MRI. This is the first longitudinal study to show that changes in hyperintensity volume correlate with changes in gait and balance in older people.

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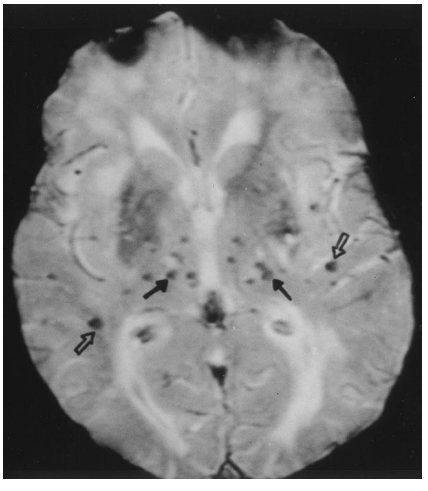
Cerebral microbleeds in CADASIL



MRI shows microbleeds in a patient with CADASIL.

Lesnik Oberstein et al. obtained T2-weighted gradient echo MRI of members of 15 Dutch CADASIL families to determine whether cerebral microbleeds occur in this ischemic vasculopathy. Microbleeds were present in 31% of symptomatic CADASIL mutation carriers, implying a possible increased risk for intracranial hemorrhage.

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