Cognitive dysfunction in multiple sclerosis.

I. Frequency, patterns, and prediction

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Article abstract—Previous frequency estimates of cognitive dysfunction in multiple sclerosis have ranged from 54 to 65 percent. These studies may overestimate the frequency in the general MS population, since the patients in these studies were recruited from clinic populations. In the present study, we administered a comprehensive neuropsychological test battery to 100 community-based MS patients and 100 demographically matched healthy controls. Of 31 cognitive test indices examined, 48 MS patients and five controls were impaired on four or more test indices, yielding an overall frequency rate of 43% for the MS group. The pattern of cognitive decline was not uniform: MS patients were more frequently impaired on measures of recent memory, sustained attention, verbal fluency, conceptual reasoning, and visuospatial perception, and less frequently impaired on measures of language and immediate and remote memory. We developed a brief (20-minute) screening battery empirically by selecting the four most sensitive test indices from the comprehensive battery. The brief battery yielded a sensitivity value of 71% and a specificity value of 94% in discriminating cognitively intact from impaired MS patients, as defined by the comprehensive battery. Cognitive impairment was not significantly associated with illness duration, depression, disease course, or medication usage, but was significantly (albeit weakly) correlated with physical disability.
Age-related cognitive differences can be summarized into 4 “reference abilities”: Perceptual Speed, Fluid Reasoning, Episodic Memory and Vocabulary.

Salthouse 2006
Disease-modifying treatments and cognition in relapsing-remitting multiple sclerosis

A meta-analysis

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