the relationship between HIA and systemic serum biomarkers in MS.

Categories: Multiple Sclerosis/ALS/Demyelinating Disorders
Keyword 1: neuroimaging: structural
Keyword 2: multiple sclerosis
Keyword 3: hippocampus
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31 Finding the Link Between Inflammatory Biomarkers and Cognitive Functioning in People with Multiple Sclerosis

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Objective: To investigate the relationship between systematic inflammatory biomarkers and cognition in patients with Multiple Sclerosis (MS).
Participants and Methods: We recruited 36 patients diagnosed with MS (31 with relapsing-remitting and 5 with progressive) who presented for treatment at the University of Alabama at Birmingham (UAB). Patients underwent a comprehensive neuropsychological battery, and serum blood samples were collected. Cognitive data was divided into an overall Cognitive Composite score and seven cognitive domains (i.e., Attention, Verbal Memory, Visual Memory, Visuospatial Ability, Language, Processing Speed, and Executive Function) using z-score averages. Pearson's product-moment correlations were conducted to determine the relationship between cognitive performance and 14 inflammatory biomarkers specifically chosen for their potential role in MS.
Results: Granulocyte Colony Stimulating Factor (G-CSF) was significantly correlated with Executive Function (r= -.355; p=.039) and Processing Speed (r= -.528; p= .001) scores. Additionally, Interleukin-10 (IL-10) was significantly correlated with Visual Memory (r= -.346; p= .041) scores. Finally, Tumor Necrosis Factor (TNF-α) was significantly correlated with Visual Memory (r= -.347; p= .041).
Conclusions: Studies investigating associations between inflammation and cognition in MS are lacking. In our sample of persons with Multiple Sclerosis, G-CSF biomarkers were negatively correlated with Executive Function as well as Processing Speed. In addition, IL-10 and TNF-α biomarkers were negatively correlated with Visual Memory scores. These findings in a representative sample of patients with MS highlight the need for further research exploring the relationship between systematic inflammatory biomarkers and cognition in MS.

Categories: Multiple Sclerosis/ALS/Demyelinating Disorders
Keyword 1: cognitive functioning
Keyword 2: multiple sclerosis
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32 Impacts of Multiple Sclerosis on Verbal Learning and Memory in Aging

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Objective: Multiple sclerosis (MS), an inflammatory autoimmune disease of the central nervous system, is characterized by damage to white matter via myelin degeneration with resulting sclerotic plaques and lesions. Upwards of 70% of people with MS show cognitive changes in multiple domains including verbal memory. Advances in disease-modifying therapies have increased the expected lifespan of people with MS, making aging with MS a critical emerging area of study. Memory declines during normal aging, yet the specific impact of MS on verbal memory in aging is inconclusive and understudied. To address this gap in knowledge, we examined whether MS was associated with verbal learning slope, total learning, delayed recall, and recognition performance in older adults. We further explored whether MS disease severity influenced these memory operations.

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