

Chronic Cognitive Impacts of Mild Traumatic Brain Injury during Aging

Authors : Camille Charlebois-Plante, Marie-Ève Bourassa, Gaele Dumel, Meriem Sabir, Louis De Beaumont

Abstract : To the extent of our knowledge, there has been little interest in the chronic effects of mild traumatic brain injury (mTBI) on cognition during normal aging. This is rather surprising considering the impacts on daily and social functioning. In addition, sustaining a mTBI during late adulthood may increase the effect of normal biological aging in individuals who consider themselves normal and healthy. The objective of this study was to characterize the persistent neuropsychological repercussions of mTBI sustained during late adulthood, on average 12 months prior to testing. To this end, 35 mTBI patients and 42 controls between the ages of 50 and 69 completed an exhaustive neuropsychological assessment lasting three hours. All mTBI patients were asymptomatic and all participants had a score ≥ 27 at the MoCA. The evaluation consisted of 20 standardized neuropsychological tests measuring memory, attention, executive and language functions, as well as information processing speed. Performance on tests of visual (Brief Visuospatial Memory Test Revised) and verbal memory (Rey Auditory Verbal Learning Test and WMS-IV Logical Memory subtest), lexical access (Boston Naming Test) and response inhibition (Stroop) revealed to be significantly lower in the mTBI group. These findings suggest that a mTBI sustained during late adulthood induces lasting effects on cognitive function. Episodic memory and executive functions seem to be particularly vulnerable to enduring mTBI effects.

Keywords : cognitive function, late adulthood, mild traumatic brain injury, neuropsychology

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