Differences Exist in the Cognitive Profile of Mild Alzheimer’s Disease and Subcortical Ischemic Vascular Dementia

N. Kandiah\textsuperscript{a} K. Narasimhalu\textsuperscript{b} J. Lee\textsuperscript{d} C.L.P.H. Chen\textsuperscript{c}

\textsuperscript{a}Department of Neurology, National Neuroscience Institute, \textsuperscript{b}Center for Molecular Epidemiology and \textsuperscript{c}Department of Pharmacology, National University of Singapore, and \textsuperscript{d}Department of Neurology, Singapore General Hospital, Singapore, Singapore

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Abstract

\textbf{Background/Aims:} Our objective was to characterize the cognitive profile of patients with mild Alzheimer’s disease (AD) and subcortical ischemic vascular dementia (SIVD) matched using a functional scale. \textbf{Methods:} AD and SIVD were diagnosed using the NINCDS-ADRDA and the criteria proposed by Erkinjuntti et al., respectively. The Clinical Dementia Rating (CDR) scale was used to guide the identification of patients with mild dementia from a prospective clinical database. Regression analysis was applied to compare the 2 groups on global and individual cognitive domains. \textbf{Results:} The greatest cognitive differences between the 2 groups were observed in the domains of visuospatial function (p = 0.001), working memory (p = 0.013) and visuomotor speed (p = 0.028). No significant variation was demonstrated in the executive function domain (p = 0.646). Statistically significant differences between AD and SIVD patients were found in episodic memory delayed recall tasks but not in the immediate recall tasks. A trend towards severer depressive symptoms (p = 0.052) was observed among the SIVD patients. \textbf{Conclusions:} SIVD patients with mild dementia have greater deficits in visuospatial function, working memory and visuomotor speed and may also be more depressed compared to AD patients. Executive function tests in general do not distinguish the 2 groups, although timed executive tasks can separate them.

Introduction

Alzheimer’s disease (AD) and subcortical ischemic vascular dementia (SIVD) are leading causes of dementia with significant clinical overlap. The hallmark of AD is an amnestic deficit, related to plaque and tangle pathology, which predominantly affects the medial temporal lobe [1]. By contrast, the cognitive profile of vascular dementia (VaD) would depend on the anatomical distribution of the vascular insults. The Honolulu Asia Ageing study showed that half of all subjects with VaD have small-vessel disease [2]. The small-vessel pathology is often localizable to the frontal subcortical white matter [3]. On cognitive testing this is deemed likely to translate to deficits in working memory, executive function and mental processing speed with less disruption to memory processes [4, 5].