The Montreal Cognitive Assessment (MoCA) is superior to the Mini-Mental State Examination (MMSE) for the detection of vascular cognitive impairment after acute stroke

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1. Introduction

Vascular Cognitive Impairment (VCI), comprising of Vascular Cognitive Impairment No Dementia (VCIND), Vascular Dementia (VaD) and mixed dementia, is a common consequence of ischemic stroke [1]. Most cases of post-stroke VCI are due to VCIND [2] with 46% of VCIND patients developing incident dementia over a 5-year period [3]. As VCIND patients with more severe impairment were found to be at higher risk of conversion to dementia compared to patients with less severe or no cognitive impairment (NCI) [4], early detection of cognitive deficits may facilitate intervention to prevent cognitive deterioration. The feasibility of cognitive screening in the subacute phase of stroke needs to be investigated as screening at the conventional 3 to 6 month period after stroke may be less practical.

The widely used Mini-Mental State Examination (MMSE) [5] was found to be inaccurate in screening post-stroke cognitive impairment as it was especially insensitive to complex cognitive deficits [6]. By comparison, the Montreal Cognitive Assessment (MoCA) has been designed to be sensitive to mild deficits [7], and may detect more cognitive abnormalities after the ischemic stroke or Transient Ischemic Attack (TIA), particularly in executive function, attention and delayed recall [8]. However, a comparison study of both screening tools for patients in the subacute phase of stroke is required.

Hence, the primary aim of the present study was to test the hypothesis that MoCA is more sensitive than MMSE for detecting cognitive impairment after acute stroke. Longitudinal studies are required to establish the prognostic value of MoCA and MMSE evaluation in the acute post-stroke period for cognitive impairment as defined by the standard method of formal neuropsychological evaluation 3–6 months after stroke.