Methods: We searched five bibliographic databases (Medline, Biological Abstracts, EMBASE, PsychINFO, PsychLIT) for research articles in which VaD and AD had been compared using neuropsychological tests and that met criteria for scientific merit.

A new, short, neuropsychologically oriented test for dementia assessment--the Milan Overall Dementia Assessment (MODA)--is described. Age and education adjusted norms based on 217 healthy controls are given. A validation study on 312 outpatients suspected of dementia (121 with probable Alzheimer’s disease) showed that the MODA differentiated patients with cognitive impairment from normal subjects more effectively than did the DSM III-R. The correlation between the MODA and the mini mental state examination was 0.63 in controls and 0.84 in patients with Alzheimer’s dementia. The MODA test-retest reliability was 0.83. The test proved to be well suited to longitudinal studies.

Conclusions: The neuropsychological differentiation of VaD from AD was consistent with the different neuroimaging findings in the two disorders, and argues for differential criteria for the definition of the syndromes. The simple application of Alzheimer’s dementia criteria to VaD, with the inclusion of cerebrovascular disease etiology, may not be sufficient to capture the uniqueness of VaD.
Subcortical dementia refers to a clinical syndrome characterized by slowing of cognition, memory disturbances, difficulty with complex intellectual tasks such as strategy generation and problem solving, visuospatial abnormalities, and disturbances of mood and affect. The syndrome was first described by Kinnier Wilson, but further progress in development of the concept has occurred only within the past ten years. Subcortical dementia occurs in degenerative extrapyramidal disorders and has also been identified in inflammatory, infectious, and vascular conditions. Histologic, metabolic, and neurochemical investigations implicate dysfunction primarily of subcortical neurotransmitter systems and subcortical structures or subcortical-frontal connections in the genesis of the syndrome. Subcortical dementia contrasts neuropsychologically and anatomically with disorders such as dementia of the Alzheimer type that affect primarily the cerebral cortex. The clinical characteristics of subcortical dementia reflect the interruption of fundamental functions (motivation, mood, timing, arousal) mediated by phylogenetically and ontogenetically early maturing structures.

Background: The concept of vascular dementia (VaD) is currently in a state of evolution. Memory impairment is emphasized as a primary criterion, reflecting the influence of AD on the concept of dementia. We have systematically reviewed whether the nature of neuropsychological dysfunction is distinct in AD and VaD, and whether similar defining criteria for the concept of dementia in both disorders can be supported.

Results: Of the 45 studies, 18 were excluded because of inadequacies, and the remaining 27 were analyzed. There were a number of similarities of dysfunction between VaD and AD. However, when matched for age, education, and severity of dementia, VaD patients had relatively superior function in verbal long-term memory and more impairment in frontal executive functioning compared with AD patients. Interpretation of the results is limited by uncertainty in diagnostic criteria for VaD, possible inclusion bias due to use of clinical diagnosis alone, possible overlap of AD and VaD, and the methodologic shortcomings of some studies.