



Table 2A: Diagnostic Criteria for Vascular Cognitive Impairment and Dementia (Gorelick et al, 2011)

1. The term *VCI* characterizes all forms of cognitive deficits from Vascular Dementia (VaD) to Mild Cognitive Impairment (MCI) of vascular origin
2. These criteria cannot be used for subjects who have an active diagnosis of drug or alcohol abuse/dependence. Subjects must be free of any type of substance for at least 3 months.
3. These criteria cannot be used for subjects with delirium.

Dementia

1. The diagnosis of dementia should be based on a decline in cognitive function from a prior baseline and a deficit in performance in 2 cognitive domains that are of sufficient severity to affect the subject's activities of daily living.
2. The diagnosis of dementia must be based on cognitive testing, and a minimum of 4 cognitive domains should be assessed: executive/attention, memory, language, and visuospatial functions.
3. The deficits in activities of daily living are independent of the motor/sensory sequelae of the vascular event.

Probable Vascular Dementia (VaD)

1. There is cognitive impairment and imaging evidence of cerebrovascular disease and
 - a. There is a clear temporal relationship between a vascular event (e.g., clinical stroke) and onset of cognitive deficits, or
 - b. There is a clear relationship in the severity and pattern of cognitive impairment and the presence of diffuse, subcortical cerebrovascular disease pathology (e.g., as in CADASIL).
2. There is no history of gradually progressive cognitive deficits before or after the stroke that suggests the presence of a nonvascular neurodegenerative disorder.

Possible Vascular Dementia (VaD)

There is cognitive impairment and imaging evidence of cerebrovascular disease but

1. There is no clear relationship (temporal, severity, or cognitive pattern) between the vascular disease (e.g., silent infarcts, subcortical small-vessel disease) and the cognitive impairment.
2. There is insufficient information for the diagnosis of VaD (e.g., clinical symptoms suggest the presence of vascular disease, but no CT/MRI studies are available).
3. Severity of aphasia precludes proper cognitive assessment. However, patients with documented evidence of normal cognitive function (e.g., annual cognitive evaluations) before the clinical event that caused aphasia *could* be classified as having probable VaD.
4. There is evidence of other neurodegenerative diseases or conditions in addition to cerebrovascular disease that may affect cognition, such as

- a. A history of other neurodegenerative disorders (e.g., Parkinson disease, progressive supranuclear palsy, dementia with Lewy bodies);
- b. The presence of Alzheimer disease biology is confirmed by biomarkers (e.g., PET, CSF, amyloid ligands) or genetic studies (e.g., *PS1* mutation); or
- c. A history of active cancer or psychiatric or metabolic disorders that may affect cognitive function.

Vascular Mild Cognitive Impairment (VaMCI)

1. VaMCI includes the 4 subtypes proposed for the classification of MCI: amnestic, amnestic plus other domains, nonamnestic single domain, and nonamnestic multiple domain.
2. The classification of VaMCI must be based on cognitive testing, and a minimum of 4 cognitive domains should be assessed: executive/attention, memory, language, and visuospatial functions. The classification should be based on an assumption of decline in cognitive function from a prior baseline and impairment in at least 1 cognitive domain.
3. Instrumental activities of daily living could be normal or mildly impaired, independent of the presence of motor/sensory symptoms.

Probable Vascular Mild Cognitive Impairment (VaMCI)

1. There is cognitive impairment and imaging evidence of cerebrovascular disease and
 - a. There is a clear temporal relationship between a vascular event (e.g., clinical stroke) and onset of cognitive deficits, or
 - b. There is a clear relationship in the severity and pattern of cognitive impairment and the presence of diffuse, subcortical cerebrovascular disease pathology (e.g., as in CADASIL).
2. There is no history of gradually progressive cognitive deficits before or after the stroke that suggests the presence of a nonvascular neurodegenerative disorder.

Possible Vascular Mild Cognitive Impairment (VaMCI)

There is cognitive impairment and imaging evidence of cerebrovascular disease but

1. There is no clear relationship (temporal, severity, or cognitive pattern) between the vascular disease (e.g., silent infarcts, subcortical small-vessel disease) and onset of cognitive deficits.
2. There is insufficient information for the diagnosis of VaMCI (e.g., clinical symptoms suggest the presence of vascular disease, but no CT/MRI studies are available).
3. Severity of aphasia precludes proper cognitive assessment. However, patients with documented evidence of normal cognitive function (e.g., annual cognitive evaluations) before the clinical event that caused aphasia *could* be classified as having probable VaMCI.
4. There is evidence of other neurodegenerative diseases or conditions in addition to

cerebrovascular disease that may affect cognition, such as

- a. A history of other neurodegenerative disorders (e.g., Parkinson disease, progressive supranuclear palsy, dementia with Lewy bodies);
- b. The presence of Alzheimer disease biology is confirmed by biomarkers (e.g., PET, CSF, amyloid ligands) or genetic studies (e.g., *PS1* mutation); or
- c. A history of active cancer or psychiatric or metabolic disorders that may affect cognitive function.

Unstable Vascular Mild Cognitive Impairment (VaMCI)

1. Subjects with the diagnosis of probable or possible VaMCI whose symptoms revert to normal should be classified as having “unstable VaMCI.”

Notes: VCI indicates vascular cognitive impairment; VaD, vascular dementia; MCI, mild cognitive impairment; CADASIL, cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy; CT/MRI, computed tomography/magnetic resonance imaging; PET, positron emission tomography; CSF, cerebrospinal fluid; and VaMCI, vascular mild cognitive impairment.

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Additional Diagnostic Criteria:

- American Psychological Association *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) for Updated Criteria for Classification of Vascular Dementia (available at <http://www.dsm5.org/Pages/Default.aspx>).
- Perminder S. Sachdev, Deborah Blacker, Dan G. Blazer, Mary Ganguli, Dilip V. Jeste, Jane S. Paulsen, Ronald C. Petersen. Classifying neurocognitive disorders: the DSM-5 approach. *Nature Reviews Neurology*, 2014; 10:634–642. Available at [http://www.pubfacts.com/fulltext_frame.php?PMID=25266297&title=Classifying neurocognitive disorders: the DSM-5 approach](http://www.pubfacts.com/fulltext_frame.php?PMID=25266297&title=Classifying%20neurocognitive%20disorders:%20the%20DSM-5%20approach)