The presence of neurologic gait abnormalities strongly predicts non-Alzheimer’s dementia, especially vascular dementia, according to a prospective study of 422 community-living elderly.

It has been well established that the early appearance of gait abnormalities makes a diagnosis of Alzheimer disease unlikely and, in contrast, gait disorders are presenting features of non-Alzheimer’s dementias, such as vascular and parkinsonian dementias. However, the value of gait abnormalities in predicting the development of non-Alzheimer’s dementia is uncertain, prompting the researchers to investigate the relationship between gait status at baseline and the development of dementia for an average follow-up of 6.6 years.

Upon entering the study, participants, between 75 and 85 years old, did not present with dementia and were evaluated for gait abnormalities classified as: unsteady, ataxic, frontal, parkinsonian, neuropathic, hemiparetic or spastic. Every 12 to 18 months, a battery of neuropsychological tests was administered to assess functions affected by dementia (cognition, memory, attention); if dementia was suspected, a complete diagnostic work-up was performed. At baseline, just over 20% of subjects had neurologic gait abnormalities. During follow-up, 125 new cases of dementia were diagnosed; 70 of these were cases of Alzheimer disease and 55 were cases of non-Alzheimer’s dementia (most of which involved vascular dementia).

Investigators found no significant differences in the incidence of Alzheimer disease according to baseline gait status. However, they did discover that subjects with abnormal gaits were more likely to develop non-Alzheimer’s dementia, an effect that can be attributed largely to the association between abnormal gait and vascular dementia in particular. The high-risk group identified at baseline accounted for nearly one-third of subjects in whom vascular dementia eventually developed, and identified such subjects with a specificity of 84%. This association remained strong even after adjustment for demographic, medical and baseline cognitive variables. Furthermore, the cumulative risk of dementia and vascular dementia, but not of Alzheimer’s dementia, were influenced by the baseline gait status.

When the association between abnormal gait and non-Alzheimer’s dementia was teased apart according to specific type of gait disorder, subjects with hemiparetic and frontal gait had the highest risk of vascular dementia—both rather unsurprising results. However, unsteady gait also was associated with a higher risk of vascular dementia, and this more intriguing finding may suggest that unsteady gait acts as a marker of cerebrovascular lesions. The other unexpected finding was that the presence of abnormal gaits predicted the risk of non-Alzheimer’s dementia well into the future. Whereas a sudden onset of dementia is expected following stroke, this study suggests a long prodrome in which incremental lesions between vascular risk factors may set in motion processes that lead to dementia. These brain processes may result in abnormal gait early in their course and only much later manifest as dementia.

Although replication of these findings is necessary, they begin to characterize a clinical profile for elderly people at high risk of non-Alzheimer’s dementia, especially vascular dementia. 

**Source**