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© 2010 [American Academy of Neurology](#)**Vascular comorbidity is associated with more rapid disability progression in multiple sclerosis**

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Background: Vascular comorbidity adversely influences health outcomes in several chronic conditions. Vascular comorbidities are common in multiple sclerosis (MS), but their impact on disease severity is unknown. Vascular comorbidities may contribute to the poorly understood heterogeneity in MS disease severity. Treatment of vascular comorbidities may represent an avenue for treating MS.

Methods: A total of 8,983 patients with MS enrolled in the North American Research Committee on Multiple Sclerosis Registry participated in this cohort study. Time from symptom onset or diagnosis until ambulatory disability was compared for patients with or without vascular comorbidities to determine their impact on MS severity. Multivariable proportional hazards models were adjusted for sex, race, age at symptom onset, year of symptom onset, socioeconomic status, and region of residence.

Results: Participants reporting one or more vascular comorbidities at diagnosis had an increased risk of ambulatory disability, and risk increased with the number of vascular conditions reported (hazard ratio [HR]/condition for early gait disability 1.51; 95% confidence interval [CI] 1.41–1.61). Vascular comorbidity at any time during the disease course also increased the risk of ambulatory disability (adjusted HR for unilateral walking assistance 1.54; 95% CI 1.44–1.65). The median time between diagnosis and need for ambulatory assistance was 18.8 years in patients without and 12.8 years in patients with vascular comorbidities.

Conclusions: Vascular comorbidity, whether present at symptom onset, diagnosis, or later in the disease course, is associated with a substantially increased risk of disability progression in multiple sclerosis. The impact of treating vascular comorbidities on disease progression deserves investigation.

Abbreviations: EDSS = Expanded Disability Status Scale; HR = hazard ratio; MS = multiple sclerosis; NARCOMS = North American Research Committee on Multiple Sclerosis; PDDS = Patient Determined Disease Steps.

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