**Association between comorbidity and clinical characteristics of MS.**

**BACKGROUND:** Comorbidity may be associated with the clinical phenotype of disease and may affect prognostication and treatment decisions. Using the North American Research Committee on Multiple Sclerosis Registry, we described comorbidities present at onset and diagnosis of multiple sclerosis (MS) and examined whether comorbidities present at onset were associated with clinical course or age of MS symptom onset.

**METHODS:** In 2006, 8983 participants reported their physical and mental comorbidities; smoking status; height; and past and present weight. We compared clinical course at onset and age of symptom onset by comorbidity status.

**RESULTS:** At MS onset, a substantial proportion of participants had physical (24%) or mental (8.4%) comorbidities. The mean (SD) age of MS onset was 31.2 (9.0) years. Vascular, autoimmune, cancer, visual, and musculoskeletal comorbidities were associated with a later age of symptom onset. Among men and women, the odds of a relapsing course at onset were increased if mental comorbidities (OR 1.48; 1.08-2.01) were present at symptom onset. In women, gastrointestinal comorbidities (OR 1.78; 1.25-2.52) and obesity (OR 2.08 1.53-2.82) at MS onset were also associated with a relapsing course at onset.

**CONCLUSIONS:** Comorbidity is frequently present at onset of MS and is associated with differences in clinical characteristics.