Colorectal Cancer Survival in Multiple Sclerosis
A Matched Cohort Study

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Study Question
Do overall survival and cancer-specific survival after a colorectal cancer diagnosis differ in persons with and without multiple sclerosis (MS)?

What Is Known and What This Paper Adds
Colorectal, breast, and cervical cancers are the most common incident cancer diagnoses in patients with MS. Women with MS have lower all-cause survival after breast cancer than women without MS. Little is known about survival after colorectal cancer in patients with MS. The results of this investigation show that patients with MS have lower all-cause and cancer-specific survival after a colorectal cancer diagnosis than patients without MS.

Methods
This retrospective matched cohort study used population-based administrative databases in Manitoba and Ontario, Canada. Persons with MS were identified with a validated case definition of MS, and 338 people with MS and colorectal cancer were identified through linkage to cancer registries. Each person with MS was matched to 4 people with MS on birth year, sex, cancer diagnosis year, and geographic region (n = 1,352). All-cause survival was compared between cohorts with the use of multivariable Cox proportional hazards regression models adjusted for age at cancer diagnosis, cancer diagnosis year, income, region, and Elixhauser comorbidity score. Cancer-specific survival was compared between cohorts with multivariable cause-specific hazards models. Findings were pooled across provinces with meta-analysis.

Results and Study Limitations
On multivariable analysis, MS was associated with an increased hazard of all-cause mortality (hazard ratio [HR] 1.45, 95% confidence interval [CI] 1.19–1.76), which was highest 6 months after diagnosis and declined thereafter. MS was also associated with an increased hazard of cancer-specific mortality (HR 1.29, 95% CI 1.04–1.61). After adjustment for cancer stage, MS remained associated with an increased hazard of all-cause death (HR 1.60, 95% CI 1.16–2.21) and cancer-specific death (HR 1.47, 95% CI 1.02–2.12). The limitations of the study include the use of administrative datasets that lacked some relevant information such as race/ethnicity and health behaviors. The investigators were not able to examine how disease-modifying therapies for MS affected cancer survival outcomes.

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Figure
Group-Specific All-Cause Survival
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