Depression, anxiety may be among early signs of multiple sclerosis

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New research from the University of British Columbia is painting a clearer picture of the early signs of multiple sclerosis (MS), showing that people are nearly twice as likely to experience mental illness in the years
leading up to the onset of the diseases.

The study, published in *Neurology*, suggests that psychiatric conditions like anxiety and depression may be part of a prodromal phase of MS—a set of preliminary symptoms and clues that arise before classic MS symptoms.

"For a long time, it was thought that MS only really began clinically when a person experienced their first demyelinating event, such as in the form of vision problems," said senior author Dr. Helen Tremlett, professor of neurology at UBC and member of the Djavad Mowafaghian Center for Brain Health. "But we've come to understand there is a whole period preceding those events where the disease presents itself in more indirect ways."

MS is an autoimmune disorder in which the immune system attacks the protective sheath (myelin) that covers nerve fibers, disrupting communications to and from the brain. Recognizing MS is often challenging for medical professionals because its symptoms are varied and easily mistaken for other conditions. For many patients, this means the journey toward a diagnosis can be long and filled with uncertainty.

Dr. Tremlett and her team have been working to better characterize the early stages of MS with the hopes of facilitating earlier detection and possible intervention. Prodromal periods are well established in other diseases such as Parkinson's, where people experience symptoms such as constipation years before classical motor deficiencies begin.

"If we can recognize MS earlier, treatment could begin sooner. That has tremendous potential to slow disease progression and improve quality of life for people," said Dr. Tremlett.

For the study, the researchers examined health records for 6,863 MS
patients in B.C. They looked at the prevalence of mental health conditions, including depression, anxiety, bipolar disorder and schizophrenia, in the five years before patients developed classical, medically recognized signs of MS. These MS patients were compared to 31,865 patients without MS.

The findings revealed that MS patients were experiencing mental illness at nearly twice the rate of the general population, at 28.0% and 14.9% respectively. Health care usage for psychiatric symptoms—including physician and psychiatrist visits, prescriptions, and hospitalizations—was also consistently higher among MS patients.

Notably, the gap widened in each of the five years leading up to disease onset.

"We see higher and higher rates of psychiatric conditions that peak in the final year before MS onset," said first author Dr. Anibal Chertcoff, who conducted the study as a postdoctoral fellow in Dr. Tremlett's lab and is now an assistant professor at the University of Manitoba. "While we're not suggesting that these conditions alone can be a predictor of MS, they may be one piece of the MS prodrome puzzle and a potential signal when combined with other factors."

The study builds on previous work from Dr. Tremlett's lab showing that other symptoms such as fatigue, sleep disorders, irritable bowel syndrome, anemia and pain may also be part of the MS prodrome.

For Sharon Roman, who has lived with MS for 25 years, better defining this prodromal period could have huge benefits for patients.

"We take many things in life for granted—walking, balance, vision, speech, even the simple act of swallowing—until one day it's taken from us by MS," Roman said.
"The better we can identify the early signs and symptoms of MS, the earlier we can recognize, diagnose and treat it. We can help prevent people from being diagnosed the way I was, with a massive attack and hospitalization, and prevent the losses I've experienced. Earlier treatment may help slow progression."


Provided by University of British Columbia


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