

Information for patients from JNNP

Three traits may help predict MS prognosis

A trio of factors may help forecast how quickly early-stage multiple sclerosis progresses to a more advanced stage, reports a new study. Researchers found that two factors – being male and having movement problems early on – increase the chances that a person's disease will get worse faster. On the other hand, being diagnosed at a younger age may indicate a slower progression, although not a better prognosis overall.

What do we know already?

If you have multiple sclerosis (MS), the nerves in your brain and spinal cord slowly lose their coating. Over time, these nerves get damaged and may stop working properly, which can lead to difficulty moving your arms and legs, loss of vision, and other problems around your body.

However, many people diagnosed with early MS – called relapsing-remitting MS – live a long time without serious problems. If you have this type, you get bouts of symptoms (relapses), after which your symptoms may clear up completely (remit). You may stay in remission for months or even years. However, eventually many people develop a more serious form of the disease in which some symptoms remain after a relapse and get worse over time (called secondary progressive MS). But how soon this occurs varies widely, with some people still having the mild form of MS after 30 or more years. Studies have looked for clues about which people with MS might be most likely to progress more quickly, but overall these trials have been small and not very reliable.

Researchers have now done a large, long-term study looking at 5,169 people diagnosed with relapsing-remitting MS in Canada. Using health records, they tracked who developed secondary progressive MS – and how quickly – over 20-plus years, from September 1980 through July 2003. In particular, they were interested in whether people's sex, age at diagnosis, and early symptoms might be linked to how quickly their disease progressed.

What does the new study say?

Over the course of the study, 1,821 people (35 percent) developed secondary progressive MS (SPMS). People progressed to this later stage at very different rates. Those with the fastest progression developed SPMS less than 12 years after their initial MS diagnosis, while those with the slowest progression took more than 32 years.

Men were more likely than women to progress quickly. This wasn't entirely surprising, as other studies have suggested that the female hormone oestrogen may help protect against nerve damage. The researchers also found a higher chance of early progression among people who had movement problems (motor symptoms) when they were first diagnosed with MS. However, they didn't find any link with other types of early symptoms, such as vision problems or numbness.

People diagnosed with MS at a younger age generally had a slower progression, which confirms previous findings. But the researchers point out that this doesn't necessarily translate into a better long-term outlook. Although people diagnosed at a younger age may take longer to convert to SPMS, they are still typically younger at the onset of this more advanced stage.

How reliable are the findings?

This was a large and well-conducted study. The researchers gathered their information from a robust database of health records, covering more than 80 per cent of people with MS in British Columbia, Canada. In their analysis, they looked only at people who weren't taking medicines that can slow the progression of MS, called immunomodulatory drugs (IMDs). This makes it more likely that their results reflect genuine trends in the natural course of MS. However, this type of study can't tell us why certain factors may be associated with a faster onset of secondary progressive MS. Instead, these findings are valuable primarily to help guide future research to better understand this disease and how to treat it.

Where does the study come from?

The study was done by researchers in Canada and the Netherlands, and it was funded by grants from several public and private research foundations. What does this mean for me?

If you have MS, you may be concerned to learn that you have a risk factor associated with faster disease progression. But bear in mind that MS is an unpredictable illness and no one can say for certain what will happen to you. Indeed, being male or having early motor symptoms does not mean you will definitely develop secondary progressive MS more quickly. It just means that you have a higher chance of this happening than someone who doesn't have this risk factor. However, you may have other traits that actually lower your risk, such as taking immunomodulatory drugs.

What should I do now?

There's nothing you need to do based on this research. But be sure to talk to your doctor if you have any questions about your disease outlook and what steps you might take to stay healthy for longer.

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Koch M, Kingwell E, Rieckmann P, *et al.* The natural history of secondary progressive multiple sclerosis. *Journal of Neurology, Neurosurgery, and Psychiatry*. 2010;81: 1039-1043.
<http://jnnp.bmj.com/content/81/9/1039.full>

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