National Multiple Sclerosis Society
Utah-Southern Idaho Chapter

News

Epilepsy Pill May Protect Against MS-Related Nerve Damage: Larger, Longer Studies Needed to Confirm Promising Phase 2 Trial Results

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A medication commonly used to prevent seizures in epilepsy could protect nerves in the eye from damage and also has the potential to slow the accumulation of disability in people with MS, according to a study released today. Larger, longer studies are needed to confirm these findings, which will be presented on April 24, 2015 at the American Academy of Neurology's 67th Annual Meeting in Washington, DC. The study was co-funded by the National Multiple Sclerosis Society, the MS Society of the United Kingdom, the National Institute for Health Research-Clinical Research Network and University College London Hospitals Biomedical Research Center.

Background: Nerve fibers, or axons, are thought to be damaged in MS in part because they can become flooded with toxic levels of sodium from the surrounding tissue as a consequence of the inflammation which is a hallmark of MS relapses. Phenytoin, an oral therapy that has been used extensively to treat epilepsy, was selected for this study because it blocks sodium channels, which are tiny pores that allow the passage of sodium into axons.

This Study: In a Phase 2 clinical trial at University College London (UK), researchers led by Raj Kapoor, MD, recruited 86 people who were experiencing early symptoms of acute optic neuritis. They were randomly assigned to receive either phenytoin or a placebo for 3 months to assess whether the pill could help to protect the retina, the light-sensitive nerve layer at the back of the eye, from damage. Optic neuritis involves inflammation of the nerves carrying information between the eye and the brain, and it is often an early sign of MS.

The team used medical imaging technology to measure the thickness of the retina at the beginning of the study and then six months later. They found that of those completing the study, on average those who received phenytoin had 30% less damage to the nerve fiber layer compared to those who received placebo. Most people recover vision from their first episode of optic neuritis and in this trial this was the case for people in both groups.

Comments: "Protecting nerve fibers from damage during the course of MS has the potential to slow progressive disability, which is a key goal of MS research," noted Dr. Kapoor. "If further studies of this or similar neuroprotective approaches are successful, it could change the future for people with MS."

"The National MS Society made a strategic investment to encourage research in the area of neuroprotection as an approach to preventing progressive disability in people with MS," said Bruce Bebo, PhD, the Society's Executive Vice President, Research. "It's very encouraging to see advances in this area. Another intriguing aspect of this study is that it involved repurposing a therapy already on the market, an approach that could cut years of development time and speed the use of medications for a new indication such as MS."

The Society will invest over $52 million in 2015 alone to support 380 new and ongoing studies around the world. So that no opportunity is wasted, the Society pursues all promising paths, while focusing on priority areas including progressive MS, nervous system repair, gene/environmental risk factors and wellness and lifestyle.

About Multiple Sclerosis

Multiple sclerosis, an unpredictable, often disabling disease of the central nervous system, interrupts the flow of information within the brain, and between the brain and body. Symptoms range from numbness and tingling to blindness and paralysis. The progress, severity and specific symptoms of MS in any one person cannot yet be predicted, but advances in research and treatment are moving us closer to a world free of MS. Most people with MS are diagnosed between the ages of 20 and 50, with at least two to three times more women than men being diagnosed with the disease. MS affects more than 2.3 million people worldwide.