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Title: A phase 1 open-label trial of intrathecal rituximab for progressive multiple sclerosis patients with magnetic resonance imaging evidence of leptomeningeal enhancement

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Institution: Johns Hopkins University

Country: United States

Summary: Multiple sclerosis involves an immune system attack on the brain and spinal cord. Within the tissues covering the brain and spinal cord (meninges), abnormal clusters of immune B cells have been described in progressive, and to a lesser extent, relapsing MS. These clusters are associated with increased damage to the adjoining surface of the brain and may play a role in MS progression. Rituximab is an agent that can eliminate B cells. This team proposes to use a special MRI technique to identify these cell clusters in 12 people with secondary- or primary-progressive MS. In people who have them, the team will then conduct a pilot test of rituximab delivered directly into the spinal fluid (intrathecally), and will evaluate the safety and potential effectiveness of this method for reducing the immune cell clusters.

What does this mean for people living with progressive MS? This study may point to a new treatment approach for stopping MS progression in some people with MS, and also provide a new biomarker for tracking the success of this treatment.

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Peter A. Calabresi, MD, earned his undergraduate degree from Yale College and medical degree from Brown University. He completed residency training at Strong Memorial Hospital in Rochester, NY, and a research fellowship at the National Institutes of Health, Neuroimmunology Branch. He serves as Chair of a grant review committee of the National MS Society and on the board of trustees of the Society's Maryland Chapter. Dr. Calabresi is the principal investigator on several clinical trials and also oversees translational laboratory research projects. Dr. Calabresi has published over 200 research papers including numerous articles on imaging and the immunopathogenesis of MS. He is the recipient of a five-year National MS Society Collaborative Center grant from the National MS Society to study remyelination in MS, and the Jacob Javits Neuroscience Investigator award from the National Institutes of Health.