Treating multiple sclerosis may rely on stem cell stimulation

Two drugs already on the market — an antifungal and a steroid — may potentially take on new roles as treatments for multiple sclerosis. According to a study published in Nature, researchers discovered that these drugs may activate stem cells in the brain to stimulate myelin producing cells and repair white matter, which is damaged in multiple sclerosis. The study was partially funded by the National Institute of Neurological Disorders and Stroke (NINDS), part of the National Institutes of Health.

Specialized cells called oligodendrocytes lay down multiple layers of a fatty white substance known as myelin around axons, the long “wires” that connect brain cells. Myelin acts as an insulator and enables fast communication between brain cells. In multiple sclerosis there is breakdown of myelin and this deterioration leads to muscle weakness, numbness and problems with vision, coordination and balance.

It is unknown how myelin-producing cells are damaged, but research suggests they may be targeted by malfunctioning immune cells and that multiple sclerosis may start as an autoimmune disorder. Current therapies for multiple sclerosis include anti-inflammatory drugs, which help prevent the episodic relapses common in multiple sclerosis, but are less effective at preventing long-term disability. Scientists believe that therapies that promote myelin repair might improve neurologic disability in people with multiple sclerosis.

Adult brains contain oligodendrocyte progenitor cells (OPCs), which are stem cells that generate myelin-producing cells. OPCs are found to multiply in the brains of multiple sclerosis patients as if to respond to myelin damage, but for unknown reasons they are not effective in restoring white matter. In the current study, researchers wanted to see if drugs already approved for other uses were able to stimulate OPCs to increase myelination.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: Drugs that activate brain stem cells may reverse multiple sclerosis