Multiple Sclerosis Society of Canada
Société canadienne de la sclérose en plaques

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Medical Update Memo

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MS Society of Canada and MS Scientific Research Foundation announce $2.25 million myelin repair project

SUMMARY

On May 26 in Calgary, the Multiple Sclerosis Society of Canada and related MS Scientific Research Foundation announced the funding of $2.25 million to allow scientists at three North American research centres to continue their groundbreaking work with stem cells hopes that they may hold the key to repairing damage caused by multiple sclerosis. If successful, people with MS may be able to regain losses of physical ability caused by the often-debilitating disease. Research centres involved are the Hotchkiss Brain Institute in Calgary, Mayo Clinic in Rochester, Minnesota and Montreal Neurological Institute. Funding for the three-year research project is from the MS Scientific Research Foundation, which is related to the MS Society of Canada.

DETAILS

In MS, myelin, the vital protective covering of nerve fibres in the brain and spinal cord, is damaged during MS attacks. The damage results in a wide array of symptoms including vision problems, tingling, lack of coordination and sometimes, paralysis. The $2.25 million research project will allow the researchers to build on repair techniques, pioneered by the three centres, in way that have never been tested before in MS research. The lead researchers for the project are Dr. Jack Antel, Montreal Neurological Institute, Dr. Moses Rodriguez, Mayo Clinic in Rochester, Minn., and Dr. Samuel Weiss, Hotchkiss Brain Institute in Calgary. Also involved in the study are Dr. Jeffrey Dunn and Dr. Wee Yong from the University of Calgary, Dr. Douglas Arnold from the Montreal Neurological Institute and Dr. Arthur Warrington from the Mayo Clinic.

In earlier work with animals with MS-like disease, the researchers used stem cells to generate myelin-producing cells called oligodendrocytes. Stem cells (sometimes called progenitor cells) are cells within the body that have yet to become specialized. Researchers are working with stem cells to try to turn them into various types of cells that could repair a wide variety of damaged tissue. In the case of MS, the goal is to stimulate stem cells to become the cells that make myelin. The researchers also pioneered new ways of using magnetic resonance imaging to measure, non-invasively, the production of new myelin and the rate of recovery from MS attacks. The ability to generate myelin and measure whether the new myelin is wrapping effectively around nerve fibres is key to reducing disability caused by MS.

With the new funding, investigators at the three research centres will collaborate to determine whether adult human stem cells can be stimulated to create myelin. In essence, they are looking for an "on" switch that can kick-start the remyelination process for people who have MS. If successful, they hope to turn their findings into clinical trials to determine whether remyelination will lead to an actual decrease in disability.

"The work taking place at the three institutions involved is state of the art and provides real hope to people living with MS today," said Alexander R. Aird, chair of the MS Scientific Research Foundation and former chair of the MS Society of Canada.

The MS Society of Canada and the MS Scientific Research Foundation are the largest funders of MS research in Canada. The MS Society raises funds to support research and services almost entirely through individual and corporate donations and fund raising events across the country. The MS Scientific Research Foundation was established in 1973. It supports large cooperative multi-disciplinary research projects that are beyond the scope of the MS Society's regular granting program.

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