

Making progress against major diseases

By Sarah Sobanski

The last week of July saw Canadian scientists complete a 13-year study that alleges to have reversed multiple sclerosis (MS).

Ottawa-based doctors treated 24 MS patients by transplanting their stem cells and destroying their diseased cells.

Each patient had early onset and aggressive MS. None of the patients who participated in the study experienced a relapse.

The procedure lured hematopoietic stem cells from each patients' bone marrow into his or her blood, so that they could be harvested. Each patient was then subjected to intensive chemotherapy to rid his or her body of its immune system. The harvested cells were then put back into the body to build a new immune system on a clean slate.

Anyone who has witnessed another person suffer from MS knows that it is one of the worst diseases out there. Watching someone's body turn on them, forcing them into a wheelchair and then to shut down completely, is heartbreaking and terrifying.

According to the MS Society of Canada, MS is an autoimmune disease of the central nervous system, a.k.a the brain and spinal cord. It attacks myelin, or what protects the nerves in your body, cutting off ties to the brain through inflammation and causing lesions. The longer someone has MS, the more scar tissue builds on the nerves, halting functionality and damaging their nerve fibres.

Canada has the highest rate of MS in the world with over 100,000 Canadians living with MS ? still only a fraction of the 2.3 million around the world. That's mostly 15 to 40-year-olds who are diagnosed. The the majority are on the younger side of the spectrum.

Hearing that there might be a cure for MS blew me away. It was followed by a significant breakthrough in amyotrophic lateral sclerosis (ALS) ? which attacks the voluntary muscles of the body ? and of course, I didn't believe either.

Having to watch people close to my family, whether it's MS or cancer or mental illness, I've developed a belief that there are just some things we can't beat. Cancer, especially, has been among the most infamous murderers of humankind for close to a century. I thought deadly diseases weren't going anywhere fast, but then I heard about this patient study.

Patient Jennifer Molson, diagnosed in 1996 at the age of 21, could no longer walk or work. After joining the MS study in 2002, Molson had the opportunity to walk down the aisle. She got her first dance with her husband.

As many as 70 per cent of participants in the study experienced a complete stop in disease progression, and 40 per cent of participants experienced symptom reversal.

In some cases, patient symptoms of vision loss, muscle weakness or inability to balance disappeared. In all cases, not a single active inflammatory lesion could be detected after treatment. That's zero lesions from 327 scans, down from 188 lesions on 48 scans. None of the patients required MS-specific drugs to control their disease.

Now, I still don't want to call it a cure. This was a study of only 24 patients with particular symptoms on the spectrum of MS.

The CEO and president of the MS Society of Canada said this produceure is a treatment option for people living with highly active, relapsing MS.

Dr. Harold Atkins, who worked with Dr. Mark S. Freedman through the trials noted it is a high risk procedure. People who have been living with the disease for a long time won't benefit from it. Maclean's even titled its coverage of the study, *New 'cure' for MS? Not so fast.*

As far as I'm concerned, however, any breakthrough is a breakthrough. Are we still ridiculously far away from taking our lives back from a plethora of diseases that find our medical sciences are mostly a joke? Ok, yes. Did we just, however, find a new way to save early onset MS patients, meaning thousands of young people in our society will never have to slowly give up their legs and their lives? Hell yes.

Canadian scientists actually reversed severe MS ? I'll take 24 out of 2.3 million over zero any day. Here's hoping the jump is quick from here.