

New hope for multiple sclerosis: cannabidiol

As an effective treatment of multiple sclerosis, cannabidiol might be the solution. Animal trials have produced interesting results.

By: www.endoca.com



When it comes to treatments for multiple sclerosis, cannabidiol protects the nervous system. Medical News Today reports on a study done on mice with multiple sclerosis-like diseases to determine whether cannabidiol can prevent inflammation in the brain and spinal cord. The study was published in Journal of Neuroimmune Pharmacology.

[Dr. Ewa Kozela from Tel Aviv University](#) explains inflammation is part of the body's natural immune response but gets out of hand in diseases like multiple sclerosis (MS). His study investigates how cannabidiol, a compound found in cannabis, can be utilized to protect the nervous system and its function by regulating inflammation.

Dr. Kozela and his team targeted immune cells that harm the brain and spinal cord with the cannabinoids known as tetrahydrocannabinol (THC) and cannabidiol (CBD). In response to both compounds, immune cells in paralyzed mice showed less inflammation. In particular the interleukin 17 (IL-17) closely associated with MS was reduced.

They conclude CBD and THC restrains immune cells from triggering the production of IL-17 and limits the molecule's ability to damage the brain and spinal cord.

70 Cannabinoids, unique to cannabis

In 1964 scientists in Israel discovered and identified THC and about 70 other cannabinoids with promising biological effects in cannabis.

Co-author of the study Professor Zvi Vogel was amongst the very first researchers to describe endocannabinoids in the 1990s, molecules found naturally in the body that act like THC. CBD is the most common and potent cannabinoid in marijuana according to Vogel.

He is particularly interested in cannabidiol (CBD) found in the hemp variety of cannabis, which provides medical benefits without the psychedelic side effect of THC.

A study done in 2011 showed CBD prevent immune cells attacking nerve cells in the spinal cord of mice with MS-like symptoms. The partially paralyzed limbs of the mice regained movement after they were injected with CBD. At first, mice responded by twitching their tails and then began walking without a limp. Research found much less inflammation in the spinal cords of mice treated with CBD than in untreated counterparts, which lead to the further investigation.

More than 400 000 people in the United States and about 2.5 million people globally suffer from MS. Plus minus 200 new cases are diagnosed each week in the United States alone. Most people

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Chemicals in marijuana 'protect nervous system' against MS

Written by Markus MacGill

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Chemical compounds found in marijuana can help treat multiple sclerosis-like diseases in mice by preventing inflammation in the brain and spinal cord, according to a study reported in the *Journal of Neuroimmune Pharmacology*.


"Inflammation is part of the body's natural immune response, but in cases like MS, it gets out of hand," says Dr. Ewa Kozela of Tel Aviv University, Israel.

"Our study looks at how compounds isolated from marijuana can be used to regulate inflammation to protect the nervous system and its functions."

Dr. Kozela and colleagues set out to see if the known anti-inflammatory properties of two substances found in marijuana - the cannabinoids known as tetrahydrocannabinol (THC) and cannabidiol (CBD) - could also be applied to the treatment of inflammation associated with MS.

With either THC or CBD, the researchers treated immune cells that specifically target and harm the brain and spinal cord. In response to both chemicals, the immune cells, isolated from paralyzed mice, produced fewer inflammatory molecules, particularly interleukin 17 (IL-17).

Interleukin 17 "is strongly associated with MS and very harmful to nerve cells and their insulating covers," the researchers say. They conclude:



are diagnosed between the ages of 20 – 40, but MS also affects children and the aged.

As a proven treatment for multiple sclerosis, cannabidiol is almost there.

As the quest for a treatment of MS continues, research into CBD as the solution seems very promising. Dr Kozela says, "When used wisely, cannabis has huge potential, we are just beginning to understand how it works".

According to anecdotal reports, Cannabinoids like cannabidiol have proved to be highly effective in helping patients manage many of the symptoms of (MS).

A Vacaville, CA. patient living with MS for 20 years went from taking large amounts of opioids each day to CBD. “WOW, what relief I got! This is amazing when it comes to pain, muscle spasms, and it helped me sleep a couple of hours longer. I’m a tried and true believer and will continue to use CBD in my fight against MS,” he said.