

Israeli Doctors Strive for Possible Parkinson's Breakthrough

An artificial sweetener known as mannitol may have the ability to halt the accumulation of toxins in the brain, which could ultimately lead to a new treatment for Parkinson's disease, according to a study conducted by Tel Aviv University.

Mannitol is a common component used in sugar-free gum and candy and is approved by the FDA to be used for medical treatment. Mannitol is already used to flush out excess fluids and ease the passage of other drugs during surgery.

Now scientists at Tel Aviv University have found that mannitol also prevents clumps of a protein known as α -synuclein from forming in the brain, which is a process that occurs when one has Parkinson's disease.

Upon discovering that mannitol could effectively prevent the protein from forming, the Israeli researchers studied fruit flies that had been genetically altered to carry the gene for α -synuclein by watching their behavior in a test tube. Only 38 percent of the flies infected with α -synuclein could climb a test tube at first, versus 72 percent of normal flies.

After eating food with mannitol for almost a month, 70 percent of the α -synuclein infected flies could then climb the tube. The protein's presence in the brain had also been reduced by 70 percent.

Tel Aviv University reports, "These findings were confirmed by a second study that measured the impact of mannitol on mice engineered to produce human α -synuclein, developed by Dr. Eliezer Masliah of the University of San Diego. After four months, the researchers found that the mice injected with

mannitol also showed a dramatic reduction of α -synuclein in the brain."

According to professor Daniel Segal, one of the researchers who partook in this study, this means that combining mannitol with other medical treatments for Parkinson's disease could make a major breakthrough in combating the disease. He believes that these other medications, which until now were ineffective, may be able to capitalize on the fact that mannitol has the ability to break through the barrier into the brain.

A Major Problem

Today, as many as 1 million Americans suffer from Parkinson's disease, with 60,000 being diagnosed each year. Worldwide, between 7 to 10 million people have this particular disease.

In the United States alone, the cost of Parkinson's disease, including treatment, social security payments, and lost income from the inability to work, amounts to \$25 billion per year, while each individual with Parkinson's disease usually spends on average \$2,500 per year, and therapeutic surgery can cost \$100,000 per patient.

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