

US/WORLD

Amidst COVID-19 Chaos, Researchers Discover Natural Treatment For Parkinson's Disease

Jun 7, 2020 07:04 AM **By** Susmita Pathak

Dopaminergic neurons in the human substantia nigra, the cells preferentially lost in Parkinson's disease. The yellow staining represents iron-dependent staining of the neurons.

*Subramanian Rajagopalan,
MSC. Buck Institute for
Research on Aging*

Whilst the world is fighting against COVID-19 efficiently, there are researchers who are trying to find relevant ways to control other medical conditions, the existence of which may make people more vulnerable to the Coronavirus infection. In the effort of doing so, scientists have detected two molecules that are naturally produced in the body, and that can effectively support the patients suffering from Parkinson's disease.

According to the research conducted by the scientists at McLean Hospital and Nanyang Technical University, Singapore, these two molecules, though available in short supply in the brains of the patients, can stimulate the production of dopamine that may act effectively in reversing the advancement of the Parkinson's disease. The inference that they came up with was published in the journal National Chemical Biology.

The scientists conducted the study, utilizing their knowledge on a protein called Nurr1 that plays a vital role in ensuring the maintenance of the health of the neurons. These neurons produce dopamine, which helps in controlling the movements and emotions of a person.

 **SHARE THIS STORY**

“We thought that small molecules that can activate Nurr1 may be promising drug candidates to treat Parkinson’s disease,” senior author and MacLean Hospital’s Director Kwang-Soo Kim [said](#). “After many years of research, in 2015, we found three FDA-approved drugs that bind Nurr1 and activate it.”

“This finding prompted us to hypothesize that there may be natural molecules -- that is, endogenous ligands -- that also bind to Nurr1 but don’t have side effects,” Kim, the professor of psychiatry at Harvard Medical School, added.

In the research, the scientists searched for such molecules in the tissues from mice, and they came across prostaglandin A1 and E1, the hormone-like compounds, which they considered as promising candidates that could help in Nurr1 protein activation effectively. In their experiment, the experts found that physiological concentrations of these molecules in the nanomolar ranges efficiently protected dopamine neurons against neurotoxins. Furthermore, they noticed that when the mice were induced to show symptoms matching Parkinson’s disease and were treated with prostaglandin A1 and E1, the motor skills and functions of the models transformed significantly without displaying any side effects.

“Although we showed that these molecules can correct Parkinson’s-like symptoms in animal models in a neuroprotective manner, further studies are essential to determine whether they can work in human clinical trials,” Kim said.