Common Drug in Asthma Inhalers May Reduce Risk of Parkinson's Disease

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Sometimes a drug used to treat one disease could help manage or prevent another. Now, new findings published in the journal Science suggest that an asthma medication may cut the risk of Parkinson's disease (PD) by a third, reports Medical News Today.

For the study, researchers at the University of Bergen in Norway and Harvard University in Cambridge, Massachusetts, teamed up to analyze 1,000 different medications to determine which ones could lower or increase PD risk. Scientists first studied cell cultures to find compounds that could downregulate (the process of suppressing a response to a stimulus) the genetic expression of alpha-synuclein, a clumpy brain protein that can lead to Parkinson's symptoms when it builds up in excessive amounts.

After they learned that a class of drugs called beta2-adrenoreceptor agonists could possibly lower alpha-synuclein expression, researchers tested them in mice and stem cells. Scientists discovered that two kinds of this particular drug produced opposite effects on PD risk and decided to delve deeper. The meds were the beta2-adrenergic agonists salbutamol (used to treat asthma) and beta-blockers (used to treat hypertension).

Researchers then reviewed more than 100 million prescriptions in Norway's prescription database between 2004 and 2015 and examined the entire Norwegian population. Results showed that salbutamol, a medication in asthma inhalers, significantly reduced the risk of Parkinson's by 34 percent in those using the drug. In addition, researchers discovered that the beta-blocker propranolol could boost a person's chance of developing PD. (The findings matched the results of the animal study.)

"These medicines have never been studied in relation to Parkinson's disease," said Trond Riise, PhD, MS, a professor in the Department of Global Public Health and Primary Care at the Norwegian university and the study's coauthor. "Our discoveries may be the start of a totally new possible treatment for this serious disease. We expect that clinical studies will follow these discoveries."

Scientists said the findings suggested a possible new way to target PD and implement new strategies to develop meds that benefit patients with the illness.

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