MedicalXpress

Statins may not be used for protection against Parkinson's disease

June 14 2017

Use of statins may speed up the onset of Parkinson's disease symptoms in people who are susceptible to the disease, according to Penn State College of Medicine researchers.

Some previous research has suggested that statins, used to treat high cholesterol, may protect against Parkinson's disease. Research findings have been inconsistent, however, with some studies showing a lower risk, some showing no difference and some showing a higher risk of Parkinson's disease in statin users.

"One of the reasons that may have explained these prior inconsistent results is that higher cholesterol, the main indication to use statins, has been related to lower occurrence of Parkinson's disease," said Xuemei Huang, professor of neurology. "This made it hard to know if the statin protective effect was due to the drug or preexisting cholesterol status."

Another reason for the inconsistent results is that there are two types of statins. Water-soluble statins cannot get into the brain, while fat-soluble statins, called lipophilic, can. Since people with high cholesterol are treated for both kinds, the interpretation of results as it relates to Parkinson's disease is not easy.

The researchers analyzed data in a commercially-available database of insurance claims for more than 50 million people. They identified nearly 22,000 people with Parkinson's disease, and narrowed the number to 2,322 patients with newly diagnosed Parkinson's disease. They paired

each Parkinson's patient with a person in the database who did not have Parkinson's—called a control group. Researchers then determined which patients had been taking a statin and for how long before Parkinson's disease symptoms appeared. Researchers reported their results in the journal *Movement Disorders*.

After analyzing the data, researchers found that prior statin use was associated with higher risk of Parkinson's disease and was more noticeable during the start of the drug use.

"Statin use was associated with higher, not lower, Parkinson's disease risk, and the association was more noticeable for lipophilic statins, an observation inconsistent with the current hypothesis that these statins protect nerve cells," Huang said. "In addition, this association was most robust for use of statins less than two-and-a-half years, suggesting that statins may facilitate the onset of Parkinson's disease."

Guodong Liu, assistant professor of public health sciences, said, "Our analysis also showed that a diagnosis of hyperlipidemia, a marker of high cholesterol, was associated with lower Parkinson's disease prevalence, consistent with prior research. We made sure to account for this factor in our analysis."

A recent study reported that people who stopped using statins were more likely to be diagnosed with Parkinson's disease, a finding interpreted as evidence that statins protect against Parkinson's disease.

"Our new data suggests a different explanation," Huang said. "Use of statins may lead to new Parkinson's disease-related symptoms, thus causing patients to stop using statins."

Huang stressed that more research needs to be completed and that those on statins should continue to take the medication their health care

provider recommends.

"We are not saying that statins cause Parkinson's disease, but rather that our study suggests that statins should not be used based on the idea that they will protect against Parkinson's," Huang said. "People have individual levels of risk for heart problems or Parkinson's disease. If your mom has Parkinson's disease and your grandmother has Parkinson's disease, and you don't have a family history of heart attacks or strokes, then you might want to ask your physician more questions to understand the reasons and risks of taking statins."

One limitation of this study was that the MarketScan data did not include Medicare patients, Medicaid patients or the uninsured. Also, because it was a private insurance sample, the patients were all under 65 years old, so the findings cannot be generalized to those who are older.

Provided by Pennsylvania State University