

Blood biomarker could mark severe cognitive decline, quicker progression among Parkinson's patients

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A genetic mutation, known as GBA, that leads to early onset of Parkinson's disease and severe cognitive impairment (in about 4 to 7 percent of all patients with the disease) also alters how specific lipids, ceramides and glucosylceramides are metabolized. Mayo Clinic researchers have found that Parkinson's patients who do not carry the genetic mutation also have higher levels of these lipids in the blood. Further, those who had Parkinson's and high blood levels were also more likely to have cognitive impairment and dementia. The research was recently published online in the journal *PLOS ONE*.

The discovery could be an important warning for those with Parkinson's disease. Parkinson's is the second most common neurodegenerative disease after Alzheimer's disease. There is no biomarker to tell who is going to develop the disease—and who is going to develop cognitive impairment after developing Parkinson's, says Michelle Mielke, Ph.D., a Mayo Clinic researcher and first author of the study.

Cognitive impairment is a frequent symptom in Parkinson's disease and can be even more debilitating for patients and their caregivers than the characteristic motor symptoms. The early identification of Parkinson's patients at greatest risk of developing dementia is important for preventing or delaying the onset and progression of cognitive symptoms. Changing these [blood lipids](#) could be a way to stop the progression of the disease, says Dr. Mielke.

There is a suggestion this blood lipid marker also could help to predict who will develop Parkinson's disease and this research is ongoing.

"There is currently no cure for Parkinson's, but the earlier we catch it—the better chance we have to

fight it," says Dr. Mielke. "It's particularly important we find a biomarker and identify it in the preclinical phase of the disease, before the onset even begins."

Dr. Mielke's lab is researching blood-based biomarkers for Parkinson's disease because blood tests are less invasive and cheaper than a brain scan or spinal tap—other tools used to research the disease.

Provided by Mayo Clinic

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