

Saliva gland test for Parkinson's shows promise

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Described as a "big step forward" for research and treatment of Parkinson's disease, new research from Mayo Clinic in Arizona and Banner Sun Health Research Institute suggests that testing a portion of a person's saliva gland may be a way to diagnose the disease. The study was released today and will be presented at the American Academy of Neurology's annual meeting in San Diego in March.

"There is currently no diagnostic test for Parkinson's disease," says study author Charles Adler, M.D., Ph.D., a neurologist with Mayo Clinic in Arizona. "We have previously shown in autopsies of Parkinson's patients that the abnormal proteins associated with Parkinson's are consistently found in the submandibular saliva glands, found under the lower jaw. This is the first study demonstrating the value of testing a portion of the saliva gland to diagnose a living person with Parkinson's disease. Making a diagnosis in living patients is a big step forward in our effort to understand and better treat patients."

The study involved 15 people with an average age of 68 who had Parkinson's disease for an average of 12 years, responded to Parkinson's medication and did not have known saliva gland disorders. Biopsies were taken of two different saliva glands: the submandibular gland and the minor saliva glands in the lower lip. The surgical team was led by Michael Hinni, M.D., and David Lott, M.D., at Mayo Clinic in Arizona, and the biopsied tissues were tested for evidence of the abnormal Parkinson's protein by study co-author Thomas Beach, M.D., with Banner Sun Health Research Institute.

"This procedure will provide a much more accurate diagnosis of Parkinson's disease than what is now available," Dr. Beach says. "One of the greatest potential impacts of this finding is on clinical trials, as at the present time some patients entered into Parkinson's clinical trials do not necessarily have Parkinson's disease and this is a big impediment to testing new therapies."

The abnormal Parkinson's protein was detected in nine of the 11 patients who had enough tissue to study. While still being analyzed, the rate of positive findings in the biopsies of the lower lip glands appears much lower than for the lower jaw gland.

"This study provides the first direct evidence for the use of submandibular gland biopsies as a diagnostic test for living patients with Parkinson's disease," Dr. Adler. "This finding may be of great use when needing definitive proof of Parkinson's disease, especially when considering performing invasive procedures such as deep brain stimulation surgery or gene therapy."

Parkinson's disease is a progressive disorder of the nervous system that affects movement. It develops gradually, sometimes starting with a barely noticeable tremor in just one hand. But while tremor may be the best-known sign of Parkinson's, the disorder also commonly causes stiffness or slowing of movement. Currently, diagnosis is made based on medical history, a review of signs and symptoms, a neurological and physical examination, and by ruling out other conditions. Up to 30 percent of patients may be misdiagnosed early in the disease.

Although Parkinson's disease can't be cured, medications may markedly improve symptoms.

Provided by Mayo Clinic

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