Medical Xpress

Prostate drug associated with lower risk of Parkinson's disease

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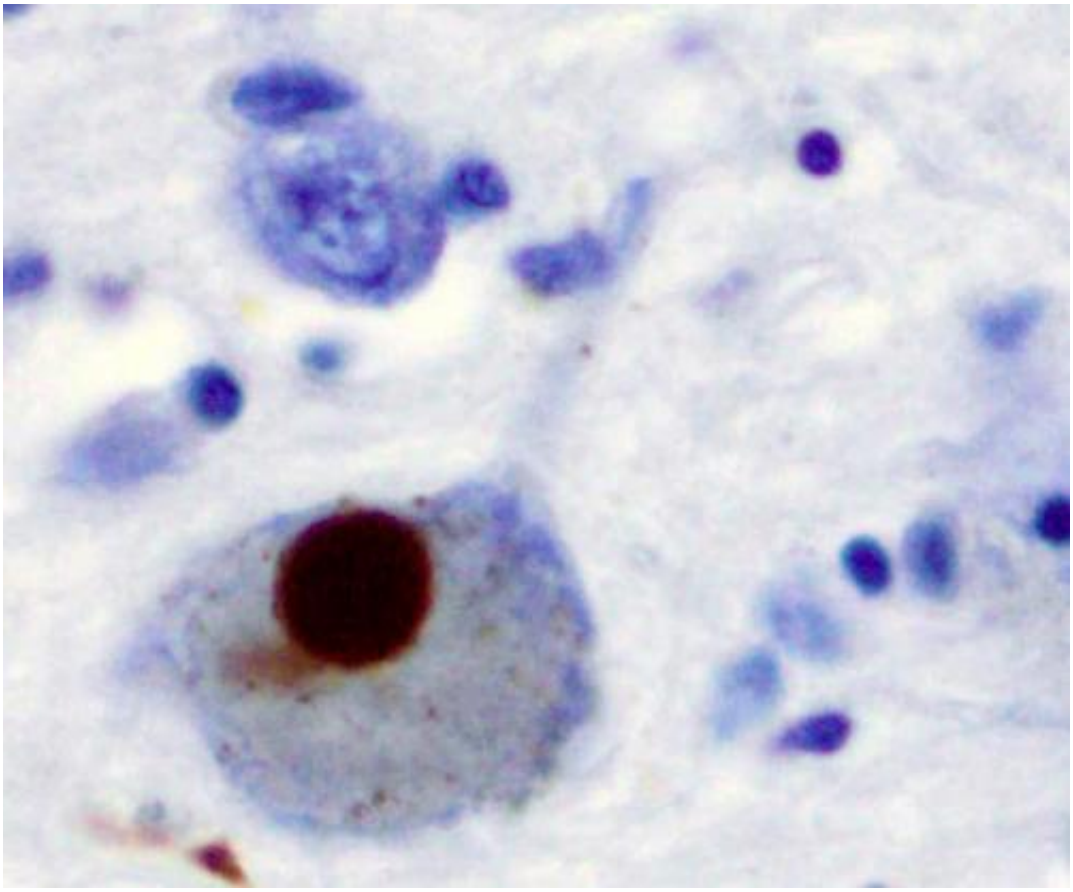

Immunohistochemistry for alpha-synuclein showing positive staining (brown) of an intraneural Lewy-body in the Substantia nigra in Parkinson's disease. Credit: Wikipedia

Taking a particular type of medication to treat enlarged prostate is

associated with a reduced risk of developing Parkinson's disease, according to a large observational study led by researchers at the University of Iowa, with colleagues in Denmark and China.

The findings, published Feb. 1 in *JAMA Neurology*, provide compelling evidence that terazosin, and similar medications, might have the potential to prevent or delay the development of Parkinson's disease.

The new study used data on almost 300,000 older men from two large, independent patient datasets—the Truven Health Analytics MarketScan database in the United States and national health registries in Denmark—to investigate whether taking terazosin is associated with the development of Parkinson's disease.

The findings build on previous preclinical research by the team, which showed that terazosin enhances cellular energy levels and can prevent or slow the progression of Parkinson's disease in animal models. In this earlier study, the team also used the Truven database to show that men with Parkinson's disease who were also taking terazosin and related drugs had reduced signs, symptoms, and complications of Parkinson's disease.

Importantly, the researchers had a good control group for this earlier database study. Tamsulosin is another drug commonly used to treat enlarged prostate, but unlike terazosin, tamsulosin has no effect on cellular energy production, which the team's lab studies suggest is important in terazosin's protective effect.

The new study extends these findings to investigate whether terazosin, and related drugs that can also enhance cellular energy production, are associated with a reduced risk of developing Parkinson's disease.

Using the U.S. and Danish databases, the team identified 150,000 men

newly started on terazosin or similar medications and matched them, based on age and clinical history to 150,000 men newly started on tamsulosin.

"We then tracked the health data on these men to determine how many in each group developed Parkinson's disease," explains Jacob Simmering, Ph.D., UI assistant professor of internal medicine and corresponding author of the study. "Men taking terazosin were 12 to 37% less likely to develop Parkinson's disease during follow-up than men taking tamsulosin."

Additionally, the study found that longer duration of use of the energy-enhancing prostate drugs was associated with increased protective effects.

"Despite the relative differences in population and health care system structure, we found a similar protective effect in both countries," Simmering adds. "The replication of the finding in an international cohort is powerful evidence suggesting a causal effect. If these results are confirmed through further investigation, especially a randomized clinical trial, terazosin may provide neuroprotection and potentially prevent—and not just manage—Parkinson's disease."

More information: *JAMA Neurology* (2021). DOI: 10.1001/jamaneurol.2020.5157

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