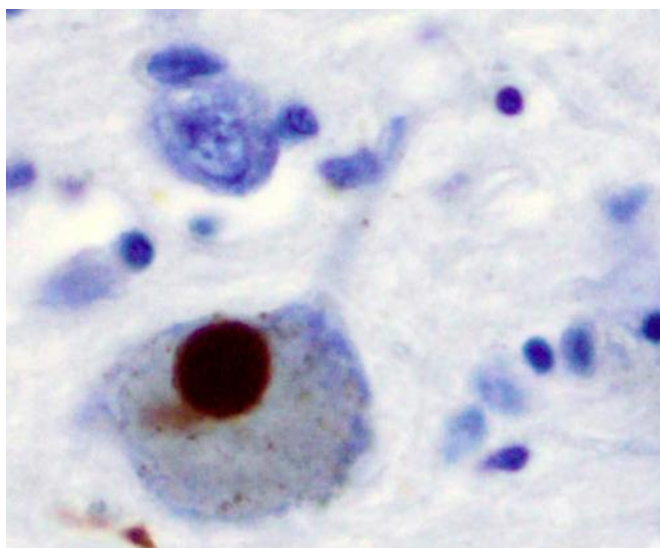


Use of anticholinergic drugs does not increase risk for dementia in Parkinson's disease patients

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

Recent evidence has shown a greater risk of dementia, in particular Alzheimer's disease (AD), in individuals using anticholinergic medications regularly. These drugs are widely used by older adults to treat bladder dysfunction, mood, and pain, and many of them are available without prescription. Since these drugs are often used to treat both motor symptoms and non-motor symptoms in patients with Parkinson's Disease (PD), there is concern for increased risk of dementia. Contrary to expectations, a study in the current issue of the *Journal of Parkinson's Disease* determined that the cognitive performance of PD patients taking anticholinergic medications did not differ from those who did not.

Principal investigator David J. Burn, Director of the

Institute of Neuroscience and Professor of Movement Disorder Neurology at Newcastle University, UK, explained, "This is the first study to explore an association between anticholinergic burden and [mild cognitive impairment](#) (MCI) in PD participants, and is timely given recent research demonstrating cumulative anticholinergic burden and risk of AD in the general population. Our assessment will help determine whether patients prescribed medication with anticholinergic activity are more likely to develop dementia, and hence allow early targeted intervention to reduce future risk."

Using data from the Incidence of Cognitive Impairment in Cohorts with Longitudinal Evaluation - Parkinson's Disease study (ICICLE-PD), a twin center longitudinal observational study of the anatomical, biochemical, and genotypic mechanisms underlying the evolution of persons developing dementia (PDD), the investigators studied 195 PD patients and 84 control patients. The PD patients' detailed medication history, including over-the-counter drugs, was evaluated according to the Anticholinergic Drug Scale (ADS). Each drug was classified on a scale from 0 to 3 according to no (0), mild (1), moderate (2) or high (3) anticholinergic activity. Total usage from baseline to 18-month follow up was used to produce a total burden score. Those with ADS scores greater than or equal to 1 were in the PD+ADS group while those with ADS scores equal to 0 were designated PD-ADS.

Comparison of the PD+ADS (n = 83) and PD-ADS (n = 112) groups revealed no differences with respect to global cognition or assessments of attention, memory, and executive function at 18 months. The proportion of mild [cognitive impairment](#) (MCI) was similar in those with and without anticholinergic drug use. Although a greater

proportion of PD subjects were taking anticholinergic medications, the total drug burden did not differ between the PD patients and controls.

More information: Alison J. Yarnall et al. Anticholinergic Load: Is there a Cognitive Cost in Early Parkinson's Disease?, *Journal of Parkinson's Disease* (2015). DOI: [10.3233/JPD-150664](https://doi.org/10.3233/JPD-150664)

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