

Finding a treatment for Parkinson's disease dementia

September 2 2015, by Kate Bourne

University of Adelaide neuroscientists are leading a world-first study into a form of dementia experienced by many Parkinson's disease sufferers, which is expected to ultimately lead to a new therapy for the condition.

Speaking in Parkinson's Awareness Week (1-7 September), Dr Lyndsey Collins-Praino, from the University of Adelaide's School of Medicine, says so much remains unknown about Parkinson's disease dementia and there is an urgent need for effective treatments.

"Parkinson's disease is characterised by four major motor symptoms: resting tremor, bradykinesia (slow movement), postural instability and rigidity. In addition to the [motor impairments](#) seen in Parkinson's disease, many patients also suffer from some degree of cognitive impairment, which can range from mild impairment to dementia," says Dr Collins-Praino.

"Within 20 years of diagnosis of Parkinson's disease over 80% of patients develop dementia. Parkinson's disease dementia, which includes a variety of behavioural and cognitive impairments, dramatically decreases the quality of a patient's life.

"Current pharmacological therapies for Parkinson's disease dementia have varying efficacy and may actually worsen some of the motor symptoms," she says. "Despite the growing recognition of cognitive impairment in Parkinson's disease, the brain mechanisms that underlie

the development of these cognitive deficits are unknown."

Dr Collins-Praino is leading a team of researchers who are looking at an association between brain inflammation and Parkinson's disease dementia.

"There is now a growing body of evidence that suggests inflammation in the brain may influence the development of cognitive impairment and dementia in Parkinson's disease," says Dr Collins-Praino.

"While increases in inflammatory markers are usually thought to be associated with negative consequences for cognition, it is also possible that certain aspects of the inflammatory response may protect the brain from damage.

"To address whether particular inflammation may actually protect the brain against [cognitive impairment](#) in Parkinson's disease, our lab has been comparing levels of inflammation in the brain in Parkinson's patients with and without dementia.

"We've made some exciting findings and once we have a sound understanding of what is going on in the [brain](#) of Parkinson's sufferers, we're hoping to target those pathways to develop an effective treatment for Parkinson's disease dementia," she says.

Provided by University of Adelaide

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