

Green tea may protect brain cells against Parkinson's disease

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Does the consumption of green tea, widely touted to have beneficial effects on health, also protect brain cells? Authors of a new study being published in the December 15th issue of *Biological Psychiatry* share new data that indicates this may be the case. The authors investigated the effects of green tea polyphenols, a group of naturally occurring chemical substances found in plants that have antioxidant properties, in an animal model of Parkinson's disease.

Parkinson's disease is a progressive, degenerative disorder of the central nervous system, resulting from the loss of dopamine-producing brain cells, and there is presently no cure. According to Dr. Baolu Zhao, corresponding and senior author on this article, current treatments for Parkinson's are associated with serious and important side effects.

Their previous research has indicated that green tea possesses neuroprotective effects, leading Guo and colleagues to examine its effects specifically in Parkinson's. The authors discovered that green tea polyphenols protect dopamine neurons that increases with the amount consumed. They also show that this protective effect is mediated by inhibition of the ROS-NO pathway, a pathway that may contribute to cell death in Parkinson's.

Considering the popularity of green tea beverages worldwide, there is enormous public interest in the health effects of its consumption. John H. Krystal, M.D., Editor of *Biological Psychiatry* and affiliated with both Yale University School of Medicine and the VA Connecticut Healthcare System, reminds us that "many health-related claims have been made for a wide variety of naturally-occurring substances and many of these claims, as in the case of St. John's Wort and Ginko Biloba, have not held up in rigorous clinical studies. Thus, it is extremely important to identify the putative neuroprotective mechanisms in animal models, as

Guo and colleagues have begun to do for Parkinson's disease."

Dr. Zhao's hope is that eventually "green tea polyphenols may be developed into a safe and easily administrable drug for Parkinson's disease." Dr. Krystal agrees, that "if green tea consumption can be shown to have meaningful neuroprotective actions in patients, this would be an extremely important advance."

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