

# Blood urate levels associated with the progression of Parkinson's disease

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Higher blood levels of the compound urate, a salt derived from uric acid that is associated with gout, may be associated with a slower progression of Parkinson's disease, according to an article posted online today that will appear in the June 2008 print issue of *Archives of Neurology*, one of the JAMA/Archives journals.

Urate is a powerful antioxidant that circulates at high levels in the human bloodstream, according to background information in the article. It may serve as one of the body's major defenses against oxidative stress, or damage to cells caused by nitrogen and oxygen. Oxidative stress may contribute to the loss of brain cells that produce dopamine, leading to Parkinson's disease and other neurodegenerative disorders.

Michael A. Schwarzschild, M.D., Ph.D., of Massachusetts General Hospital, Boston, and colleagues studied 804 individuals with early Parkinson's disease who were enrolled in a drug trial conducted between April 2002 and August 2005. Participants' blood urate levels were measured at the beginning of the study. They were then seen one month later and again every three months until 24 months had passed. At each visit, they were clinically assessed to determine if their disease had progressed enough to require dopaminergic therapy.

Overall, 493 participants (61 percent) became disabled enough by their Parkinson's disease to require dopaminergic therapy by the end of the study. Patients with high blood urate levels were less likely to progress to this point. When participants were separated into five groups based on their blood levels of urate, those in the group with the highest levels (6.7 milligrams per deciliter or higher) were half as likely to require dopaminergic therapy as those with the lowest levels (less than 4.3 milligrams per deciliter).

The apparent association between urate levels and

Parkinson's disease progression could indicate that urate itself protects dopamine-producing neurons that are typically destroyed as the condition worsens, the authors note. Alternatively, other compounds that the body eventually turns into urate could be neuroprotective.

Source: JAMA and Archives Journals

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