MedicalXpress

Naturally produced estrogen may protect women from Parkinson's disease

February 25 2009

Women who have more years of fertility (the time from first menstruation to menopause) have a lower risk of developing Parkinson's disease than women with fewer years, according to a large, new study by researchers at Albert Einstein College of Medicine of Yeshiva University.

"These findings, involving nearly 74,000 women, suggest that longer exposure to the body's own, or endogenous, hormones, including estrogen, may help protect the brain cells that are affected by Parkinson's disease," says lead author Rachel Saunders-Pullman, M.D., M.P.H., M.S., assistant professor of neurology at Einstein and attending physician in neurology at Beth Israel Medical Center, an affiliate of Einstein's in Manhattan.

An abstract of the study was released today by the American Academy of Neurology (AAN). Further study details will be presented at AAN's 61st Annual Meeting in Seattle, April 25 - May 2, 2009.

After Alzheimer's disease, Parkinson's disease is the most common neurodegenerative disease. About 1.5 million Americans currently have Parkinson's, characterized by symptoms that can include tremor (shaking), slowness of movement, rigidity (stiffness), and difficulty with balance. The condition typically develops after the age of 60, although 15 percent of those diagnosed are under 50. There is no cure for Parkinson's, although medications or surgery can ease symptoms of the disease.

Parkinson's disease is almost twice as common in men as in women, and researchers have long hypothesized that sex hormones might play a role in the disease.

In the current study, researchers analyzed the records of the Women's Health Initiative (WHI) Observational Study and focused on those women who developed Parkinson's disease. The study involved about 73,973 women who underwent natural menopause.

The study found that women who had a fertile lifespan of more than 39 years had about a 25 percent lower risk of developing Parkinson's compared with women who had a fertile lifespan shorter than 33 years.

In addition, the data showed that women who had four or more pregnancies were about 20 percent more likely to develop Parkinson's disease than were women who had three or fewer pregnancies. "One explanation for this finding is that the post-partum period, which is typically one with lower levels of estrogen, subtracts from a woman's total fertile lifespan," says co-author Sylvia Wassertheil-Smoller, Ph.D., professor of epidemiology and population health and the principal investigator of the WHI study at Einstein.

"Overall, our findings might lead one to assume that hormone therapy would make sense as a neuroprotective agent," says Dr. Saunders-Pullman. "However, we also found that women who were taking hormone therapy did not have a lower risk for Parkinson's. Thus, our data does not support a role for treatment with exogenous hormones, that is, hormones that originate outside the body, to prevent Parkinson's."

In fact, hormone therapy can have harmful neurological effects. "Earlier studies in the Women's Health Initiative demonstrated that hormone therapy increases one's risk for both stroke and dementia," says Dr. Wassertheil-Smoller. "Clearly, we need to conduct more research into

estrogen's effects on the brain."

Source: Albert Einstein College of Medicine