Can an over-the-counter vitamin-like substance slow the progression of Parkinson's disease?

September 21 2009

Rush University Medical Center is participating in a large-scale, multi-center clinical trial in the U.S. and Canada to determine whether a vitamin-like substance, in high doses, can slow the progression of Parkinson's disease, a neurodegenerative disorder that affects about one million people in the United States.

"At present, the very best therapies we have for Parkinson's can only mask the symptoms - they do not alter the underlying disease," said neurologist Dr. Katie Kompoliti, a specialist in movement disorders. "Finding a treatment that can slow the degenerative course of Parkinsons's is the holy grail of Parkinson's research."

The substance being tested, called coenzyme Q10, is produced naturally in the body and is an important link in the chain of chemical reactions that produce energy in mitochondria, the "powerhouses" of cells. The enzyme is also a potent antioxidant - a chemical that "mops up" potentially harmful chemicals generated during normal metabolism.

Several studies have shown that Parkinson's patients have impaired mitochondrial function and low levels of coenzyme Q10. Moreover, laboratory research has demonstrated that coenzyme Q10 can protect the area of the brain damaged in Parkinson's.

The Phase III clinical trial, a large, randomized study with a control

group, follows an earlier investigation that tested several doses of coenzyme Q10 in a small group of patients with early-stage Parkinson's disease. The highest dose, 1,200 mg, appeared promising. Over the course of 16 months, patients taking this dose experienced significantly less decline than other patients in motor (movement) function and ability to carry out activities of daily living, such as feeding or dressing themselves.

But researchers involved in the study, including Kompoliti, were cautious about their findings, citing the need for a more extensive review to confirm the results.

In the present trial, funded by the National Institutes of Health and the National Institute of Neurological and Disorders and Stroke, 600 patients will be enrolled at 60 centers in the U.S. and Canada. Two dosages of coenzyme Q10 are being tested,1,200 mg and 2,400 mg, delivered in maple nut-flavored chewable wafers that also contain vitamin E.

Participants in the study will be evaluated periodically over 16 months for symptoms of Parkinson's disease, including tremor, stiffness of the limbs and trunk, impaired balance and coordination, and slowing of movements. They will also be assessed for ability to perform daily activities, overall quality of life, and need to take medications to alleviate symptoms.

Source: Rush University Medical Center (news : web)