Parkinson's disease treatment strategies appear to have similar long-term effects on disability

March 9 2009

Patients with early Parkinson disease appear to have similar overall levels of disability and quality of life six years after beginning treatment with either levodopa or a dopamine agonist, according to a report posted online today that will appear in the May print issue of *Archives of Neurology*. However, persistent differences are seen in some effects of these medications, including motor symptoms, fluid build-up and sleepiness.

Individuals with Parkinson disease are believed to have a depleted natural supply of the neurotransmitter dopamine. Background information in the article cites previous research indicating that patients with early Parkinson disease who begin therapy with levodopa, a medication processed into dopamine by the body, experience greater improvement in symptoms than those taking other medications. Over time, the effects of levodopa begin wearing off and patients develop more frequent motor problems, including dyskinesias (impairments in the ability to control movement). This has led some to argue in favor of initial treatment with a dopamine agonist, a drug that stimulates dopamine receptors in the brain but is not processed into dopamine by the body.

In the paper, the Parkinson Study Group CALM Cohort Investigators report on the long-term outcomes of the Comparison of the Agonist Pramipexole With Levodopa on Motor Complications of Parkinson's

Disease (CALM-PD trial). Between 1996 and 1997, 301 participants with early Parkinson disease (less than seven years since diagnosis) were randomly assigned to take either levodopa or the dopamine agonist pramipexole. Clinicians involved in the study were permitted to add levodopa or other medications to the patients' therapy if disability emerged or persisted. Between June and August 2001, treatment groups were revealed to the patients and subsequent care was left to the discretion of their neurologists. A total of 222 patients (108 in the pramipexole group and 114 in the levodopa group were followed until August 2003.

After an average of six years of follow-up, most patients were taking combination therapy regardless of their initial treatment assignment, with more than 90 percent taking levodopa. Of those who started on pramipexole, more than 80 percent were still taking a dopamine agonist, with 84.1 percent of those remaining on pramipexole.

Self-reported scores on scales measuring disability, quality of life and total disease severity were similar between the group initially taking pramipexole and the group that began on levodopa. Motor complications were significantly more common in the levodopa group than in the pramipexole group (68.4 percent vs. 50 percent), but disabling dyskinesias were uncommon in both groups. Patients in the pramipexole group reported more severe somnolence (sleepiness) and were more likely to experience edema (swelling from excess fluid) than those in the levodopa group.

More information: *Arch Neurol.* 2009;66[5]:(doi:10.1001/archneurol.2009.32)

Source: JAMA and Archives Journals