

Outcomes in Parkinson's Disease

The AAN meeting included a number of presentations that highlighted new findings concerning the natural progression of and patterns of care in Parkinson's disease (PD).

Contrary to commonly held beliefs, the progression of clinical symptoms may not be more rapid in the earlier stages of PD, according to data from 588 patients randomized to placebo in the Attenuation of Disease Progression With Azilect® Given Once-Daily (ADAGIO) study. Olivier Rascol, University UPS of Toulouse, Toulouse, France, explained that this analysis examined changes in total scores on the Unified Parkinson's Disease Rating Scale (UPDRS) from baseline to 36 weeks (or last observed value). The mean UPDRS score deteriorated by 4.3 ± 0.3 units in the overall study group. Extrapolation yielded an estimated natural disease progression of 6.2 total UPDRS units per year, which was slower than the rates of 8 to 12 units per year reported in several previous studies. This slower rate was not anticipated, Dr. Rascol noted, as the patients were enrolled at earlier stages of PD than in other trials (a mean of 4.5

months after diagnosis, with a mean baseline total UPDRS score of 20.4 units) and loss of dopaminergic cells is believed to progress faster in the early stages of disease. Progression of symptoms was even slower among 160 patients with baseline UPDRS scores in the lowest quartile than among 145 patients with scores in the highest quartile. This observation may account for the previously reported detection of a larger magnitude of effect of disease-modifying therapy in this subgroup. In light of the findings, the investigators also speculated that the rate of cell loss in PD may not correlate directly with progression of symptoms.

Psychotic symptoms were identified for the first time as an independent predictor of mortality among PD patients in a long-term, population-based study presented by Elin B. Forsaa, Stavanger University Hospital, Stavanger, Norway. This observation came from a community-based sample of 230 PD patients with a mean duration of disease of 8.6 years at baseline who were followed prospectively from 1993 to 2005. A total of 211 patients (92%) died during

this period. Significant predictors of mortality included not only psychosis ($P=0.039$), but also age ($P=0.043$), male sex ($P=0.001$), UPDRS motor score ($P<0.001$), age at disease onset ($P=0.029$), and dementia ($P=0.001$).

Teresa Mangin, Oregon Health and Science University, Portland, Oregon, described a study showing that the extent of direct care required of caregivers for PD patients increases significantly according to stage of disease. Data obtained from 92 caregivers of patients with mid-stage disease and 52 caregivers of patients with late-stage disease revealed that the number of direct-care tasks was significantly higher in the latter group ($t=5.40$; $P=0.000$). These caregivers performed an average of 11 additional tasks (95% confidence interval [CI], 6.73 to 14.19). The strain associated with direct care was also significantly higher among caregivers of late-stage patients with respect to all mobility tasks and 43% of both transportation and personal care tasks. In contrast, caregiver strain related to the illness, arranging care, or performing additional tasks did not vary by disease stage. Dementia-related tasks, specifically dealing with patients' paranoia and repetitive questions, were rated significantly more difficult by caregivers of late-stage patients. Dr. Mangin commented that these observations reveal an unmet need for palliative interventions for patients with late-stage PD.

The so-called "doughnut hole," a gap in coverage for patients enrolled in Medicare Part D, is continuing to exact a tremendous toll on PD patients, potentially forcing them to forego filling much-needed prescriptions, reported Marcy L. Tarrants, Teva Neuroscience, Kansas City, Missouri. The doughnut hole refers to a situation in which Medicare Part D recipients become responsible for 100% of their medication costs. Once a specified threshold for total out-of-pocket drug costs has been reached, patients can begin to receive coverage under the Catastrophic Coverage benefit. To assess the impact of this gap in coverage, Dr. Tarrants and colleagues analyzed prescription claims filed for 93,041 PD patients ≥ 65 years

old from January 1, 2008, to December 31, 2008. Of this group, 26,337 patients (28%) had the Medicare Part D Standard Benefit and 66,664 (72%) were commercially insured (functioning as a control group). A total of 51% of the Standard Benefit group reached the doughnut hole (defined as annual drug costs of \$2,519 to \$5,726 per the 2008 Medicare Part D guidelines), with more than half of them becoming 100% responsible for medication costs by July of that year. Of these patients, 74% remained in the doughnut hole for the balance of the year, and only 26% (or 13% of the overall Standard Benefit group) reached the level at which they qualified for Catastrophic Coverage (ie, once the annual cost exceeded \$5,726). The proportion of patients with costs

$< \$2,519$ was significantly higher in the commercially insured group than in the Standard Benefit group (65% vs 49%, respectively; $P=0.01$), whereas the proportion with costs of \$2,519 to \$5,726 was lower (22% vs 38%, respectively; $P=0.01$). Of particular concern was the fact that patients in the doughnut hole reduced their medication-related spending by \$44 per month more than the controls. This reduction affected spending related to both PD ($-\$11$ per month) and decisions of whether to fill prescriptions for comorbidities ($-\$33$ per month). "These considerations effectively reduce the projected savings from the Medicare Part D program due to the ramifications of the decisions to reduce disease treatment," the investigators commented. ■

Vitamin D Levels and Risk

In the Elderly

Community-dwelling elderly individuals often have low levels of vitamin D, which is associated with a greater risk of falls and diminished cognitive function, according to Amie Peterson, Oregon Health and Science University, Portland, Oregon. These findings came from an analysis of data gathered as part of the Intelligent Systems for Assessment of Aging Changes Study, a home-based cohort study of independently living seniors ≥ 70 years old. Information on vitamin D levels was available for 154 participants (74% women) whose average age was 85 years; the mean serum vitamin D level was 38.0 ng/mL (range, 9 to 90 ng/mL). A total of 37 subjects (24%) reported experiencing at least 1 fall during the period spanning 3 months before and 3 months after the blood test. The mean vitamin D level was significantly higher among individuals who had not fallen (39.7 ng/mL) than in those who had experienced single falls (34.1 ng/mL) or multiple falls (28.6 ng/mL; $P=0.03$ for both comparisons). Levels of vitamin D also correlated significantly with several domains on a standardized psychometric battery and the Mini-Mental State Examination (MMSE). ■

In People With MS

Insufficient levels of vitamin D (25-hydroxyvitamin D) were found to be common among a population of patients with multiple sclerosis (MS) in southeastern Michigan, reported Asfa Y. Shaf, Henry Ford Hospital, Detroit, Michigan. Data obtained during routine office visits between 2007 and 2009 revealed insufficient vitamin D levels (< 10 ng/dL) in 80% of MS patients vs 60% of healthy controls. Individuals with MS were also significantly more likely to have extremely low levels of vitamin D when compared to controls (odds ratio [OR], 2.26; 95% confidence interval [CI], 1.26 to 4.05; $P=0.006$). Similarly, MS patients were significantly less likely to have normal vitamin D levels, defined as > 30 ng/dL (OR, 0.44; 95% CI, 0.29 to 0.68; $P<0.001$). Within the MS cohort, insufficient vitamin D levels were observed more frequently among younger and African-American patients ($P<0.01$ and $P<0.001$, respectively). No significant correlations were found between vitamin D insufficiency and gender, type of MS, duration of disease, or scores on the Expanded Disability Status Scale at the time of testing. ■