Adding Safinamide to Dopamine Agonists Eases Parkinson’s

BY AMY ROTHMAN SCHONFELD Contributing Writer

Boston — The addition of safinamide toongoing dopamine agonist monotherapy relieved motor and cognitive symptoms in a group of patients withParkinson’s disease, according to the results of a randomized, placebo-controlled, multinationalPhase III trial.

The higher dose tested offered no advantage over the lower dose, according to the presentation made by Dr. Fabrizio Stocchi at the 99th annual meeting of the American Academy of Neurology. “Dopamine agonists tend to lose their effects [with extended use],” says Dr. Stocchi, a professor of neurology at the Institute of Neurology IRCNS San Raffaele Pisana in Rome. “We asked whether another compound can expand dopamine agonist monotherapy.”

Safinamide is a selective and reversible inhibitor of MAO-B. It inhibits dopamine reuptake and glutamate release, and does not potentiate the effects of tyramine. A total of 270 patients with early Parkinson’s disease (PD) maintained for at least 4 weeks on dopamine agonist monotherapy were randomized into three groups receiving either supplemental safinamide in low dose (50-100 mg/day), high dose (150-200 mg/day), or placebo.

The results showed that after 24 weeks of treatment with low-dose safinamide plus dopamine agonist, the Unified Parkinson’s Disease Rating Scale (UPDRS) Part III motor score was significantly improved over the effect of dopamine agonist monotherapy (mean change from baseline: low dose vs. control: –6.0 plus or minus 7.2 vs. –3.6 plus or minus 7.1; P = 0.0125).

Scores for the high-dose safinamide group (–3.9 plus or minus 6.0) were not significantly better than those of the controls. The number of responders (patients showing a 30% improvement or more) on the UPDRS III also increased with the low-dose combination.

Safinamide/dopamine agonist combination therapy had other benefits. Significant improvements with low-dose safinamide were also noted on the UPDRS Part II Activities of Daily Living Score, the EuroQol, and the Clinical Global Impression–C. No clinically significant side effects were reported with either dose of safinamide.

Low-dose safinamide-treated patients also performed better on the Cogtest battery, designed to evaluate cognitive domains known to be impaired in Parkinson’s patients. Improved scores were noted in several cognitive domains, including spatial working memory, strategic target detection, and auditory number sequencing.

Dr. Stocchi is involved in a 1-year extension phase of the study. A Phase III pivotal study of safinamide in Parkinson’s disease is underway.

Iron Accumulation in Gray Matter Of MS Patients Is Quantified

BY AMY ROTHMAN SCHONFELD Contributing Writer

Chicago — With the use of a new method that provides objective and specific measurement of iron deposition in brain tissue in vivo, investigators have been able to quantify iron accumulation in the deep gray matter of patients with multiple sclerosis.

The iron accumulation was positively correlated with both lesion load and neuropsychological test performance, according to Dr. Yulin Ge, who presented his findings at the annual meeting of the American Society of Neuroradiology.

“The reason why iron has accumulated in these regions is probably because the axons are transected by the MS lesions, interrupting iron outflow from iron-rich deep gray matter nuclei to projected cortical sites,” he said.

Dr. Ge’s work was awarded the 2007 ASNR Cornelius G. Dyke Memorial Award for excellence in original, unpublished research in neuroradiology.

Using magnetic field correlation (MFC) imaging, Dr. Ge and his colleagues studied 17 patients with relapsing-remitting multiple sclerosis (MS) and 14 age-matched normal controls with a 3-T MR system using a fast, MFC imaging method that applies a unique iron contrast mechanism for measuring the iron deposition in vivo.

There was significantly more iron deposition in the deep gray matter of patients with MS than that in normal controls (P < 0.03), with an average increase of 2.4% in the globus pallidus, 39.5% in the putamen, and 30.6% in the thalamus. Low iron concentrations in patients relative to controls were noted in the frontal white matter and the genu and splenium of the corpus callosum.

Increased iron deposition measured with MFC in the deep gray matter of MS patients was positively correlated with total number of brain lesions (thalamus: P = 0.01; globus pallidus: P = 0.02).

Increased iron in deep gray matter was correlated inversely and significantly with performance on several neuropsychological tests, including the Rey Complex Figure Test, the California Verbal Learning Test, and the Digit Span Backward test, Dr. Ge reported. “This is very exciting,” says Dr. Ge, a radiologist at New York University, New York. “Researchers used to feel MS is a white matter disease. Now we know there are deep gray matter neurontrophic abnormalities, which we think are mainly due to excessive iron accumulation in these regions.”

Abnormal iron deposition is a causal factor of neurodegenerative pathology in MS, said Dr. Ge, who noted that his MFC findings support observations made using diffusion tensor imaging and MR spectroscopy demonstrating gray matter involvement in MS. In addition to providing mechanistic clues of MS pathophysiology, MFC will be a sensitive tool to evaluate MS patients and to monitor the effects of iron chelating agents and other neuroprotective MS treatments, he said.

Parkinson’s Risk Increases With Greater Pesticide Exposure

BY JONATHAN GARDNER London Bureau

Exposure to pesticides is associated with an elevated risk of developing Parkinson’s disease and other degenerative parkinsonian syndromes, a large European multicenter study shows.

Moreover, the risk of Parkinson’s is increased, depending on the level of pesticide exposure. That suggests a cause-and-effect relationship. “Many previous studies have found such an association, but few have established an exposure-response relationship,” investigators wrote in their report, which was published online in May in Occupational and Environmental Medicine.

Having ever been knocked unconscious and first-degree family history of Parkinson’s disease also were each significantly associated with increased Parkinson’s risk, wrote Dr. Finlay Dick of the department of environmental and occupational medicine at Aberdeen (Scotland) University and associates.

The researchers enrolled 959 patients with parkinsonism, including 767 with Parkinson’s disease, from centers in Italy, Malta, Romania, Scotland, and Sweden, along with 1,980 age- and gender-matched controls from clinics or the community at each site. Subjects completed a questionnaire about lifetime occupational and hobby exposure to solvents, pesticides, iron, copper, and manganese.

Adjusted logistic regression analysis showed that the strongest association was among patients with a first-degree family history of Parkinson’s disease (odds ratio 4.85). Significant dose-response associations were seen between the development of Parkinson’s disease/parkinsonism and exposure to pesticides (odds ratio 1.13 for low exposure vs. no exposure; OR 1.41 for high vs. no exposure) and even having been knocked unconscious (OR 1.35 for once vs. never; OR 2.33 for more than once vs. never). The researchers stressed that the study did not make clear whether head injuries occurred before disease onset, adding that the association might be due to recall bias or an increased risk of falls in Parkinson’s disease. “Head injury has previously been linked to an increased risk of Parkinson’s disease, but the results have been inconsistent,” they noted (Occup. Environ. Med. 2007 May 30 [Epub doi:10.1136/ oem.2006.027903]).

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