Antidepressants Appear to Bolster Executive Function After Stroke

BY DOUG BRUNK
San Diego Bureau

SAN DIEGO — Treatment with antidepressants improved executive function in patients with Parkinson’s disease who had a recent stroke, results from a 2-year study of 47 patients demonstrated.

The findings suggest that “modulation of the monoaminergic neurotransmission by chronic administration of antidepressants after stroke might have positive effects on the reorganization of neuronal networks associated with prefrontal functions,” researchers led by Dr. Kenji Narushima wrote in a poster presented at the annual meeting of the American Neuropsychiatric Association.

The study was conducted because, while decline of executive function is common following stroke, “there is little empirical evidence of effective biocomplementary treatments to improve stroke-related executive dysfunction,” the researchers wrote. “Antidepressants administered after stroke are known to prevent subsequent depression, improve activities of daily living, and reduce mortality independent of depression.” In a double-blind, placebo-controlled study, he and his associates in the department of psychiatry at the University of Iowa College of Medicine, Iowa City, enrolled 47 patients who had had a stroke in the prior 6 months to receive 12 weeks of therapy with nortriptyline, fluoxetine, or placebo, followed by tests of executive function at 3 months and 2 years.

Tests of executive function included the Controlled Oral Word Association Test, the Wisconsin Card Sorting Test, and the similarities, digit span, and arithmetic subtests of the Wechsler Adult Intelligence Scale-Revised.

The researchers observed no significant effect on executive function between treatment and placebo groups at 12 weeks. However, at 2 years, patients in the placebo group showed worsening of executive function while those in the treatment group demonstrated clear improvements in executive function independent of depressive symptoms.

Specifically, the treatment group showed significant improvements on the Controlled Oral Word Association Test and the Wisconsin Card Sorting Test, compared with the placebo group. Scores from the treatment group on the similarities, digit span, and arithmetic subtests of the Wechsler Adult Intelligence Scale-Revised, meanwhile, showed either improvement or resistance to worsening of executive function, but the differences did not reach statistical significance.

In an interview, Dr. Narushima said he expected the study to show that improvement of executive function would be related to improvement of depression. “But it didn’t show that,” he said. “Even the patients who didn’t get depressed after the stroke improved on executive dysfunction.” That’s amazing to me,” he said.

He added that it remains unclear when the best time to start an SSRI in a stroke patient is and what the proper dose is. “We are trying to find that out,” he said. A larger study is being planned.