

Medical Update Memo

June 1, 2010

Memantine for cognitive impairment in multiple sclerosis: a randomized placebo-controlled trial. Lovera J, Frohman E, et al; *Mult Scler.* 2010 May 18. [Epub ahead of print]

Summary

This study compared the effect of memantine, a drug effective in improving cognitive function in some neurological conditions, to placebo in people with multiple sclerosis (MS). The authors used a specific neuropsychological assessment to study 126 people with MS and found no evidence that this treatment had any clinically meaningful effect on neuropsychological performance.

Details

Memantine, an NMDA antagonist, is effective for moderate to severe Alzheimer's disease. The objective was to determine whether memantine improves cognitive performance (CP) among subjects with multiple sclerosis (MS) and cognitive impairment (CI).

This double-blind, randomized, placebo-controlled trial compared memantine 10 mg twice a day (4 week titration followed by 12 weeks on the highest tolerated dose) with placebo. The primary outcome was the change from baseline to exit on the Paced Auditory Serial Addition Test (PASAT) and the California Verbal Learning Test-II (CVLT-II) Long Delay Free Recall (LDFR). Secondary outcomes included additional neuropsychological tests; self-report measures of quality of life, fatigue, and depression; and family/caregiver reports of subjects' CI and neuropsychiatric symptoms.

The differences between the groups on the change on the PASAT (placebo-memantine = 0.0 correct responses, 95% CI 3.4, 3.4; $p = 0.9$) and on CVLT-II LDFR (placebo-memantine = -0.6 words, 95% CI -2.1, 0.8; $p = 0.4$) as well as on the other cognitive tests were not

significant. Subjects on memantine had no serious adverse events (AEs) but had more fatigue and neurological AEs as well as, per family members' reports, less cognitive improvement and greater neuropsychiatric symptoms than subjects on placebo.

Investigators concluded that memantine 10 mg twice a day does not improve CP in subjects with MS, ages 18-65, without major depression, who have subjective cognitive complaints and perform worse than one SD below the mean on the PASAT or on the California Verbal Learning Test-II (total recall or delayed free recall).

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