

## Journal Watch

### Memantine in dementia patients

Presented By Mustafa Muhammad R2 FM

**Reference:** Reisberg B, Doody R, Stöffler A, Schmitt F, Ferris S, Möbius HJ, Memantine Study Group. Department of Psychiatry, New York University School of Medicine, New York 10016, USA.

Source: N Engl J Med. 2003;348(14):1333.

**Abstract:** Overstimulation of the N-methyl-D-aspartate (NMDA) receptor by glutamate is implicated in neurodegenerative disorders. Accordingly, we investigated memantine, an NMDA antagonist, for the treatment of Alzheimer's disease.

**METHODS:** Patients with moderate-to-severe Alzheimer's disease were randomly assigned to receive placebo or 20 mg of memantine daily for 28 weeks. The primary efficacy variables were the Clinician's Interview-Based Impression of Change Plus Caregiver Input (CIBIC-Plus) and the Alzheimer's Disease Cooperative Study Activities of Daily Living Inventory modified for severe dementia (ADCS-ADLsev). The secondary efficacy end points included the Severe Impairment Battery and other measures of cognition, function, and behavior. Treatment differences between base line and the end point were assessed. Missing observations were imputed by using the most recent previous observation (the last observation carried forward).

**RESULTS:** Two hundred fifty-two patients (67 percent women; mean age, 76 years) from 32 U.S. centers were enrolled. Of these, 181 (72 percent) completed the study and were evaluated at week 28. Seventy-one patients discontinued treatment prematurely (42 taking placebo and 29 taking memantine). Patients receiving memantine had a better outcome than those receiving placebo, according to the results of the CIBIC-Plus ( $P=0.06$  with the last observation carried forward,  $P=0.03$  for observed cases), the ADCS-ADLsev ( $P=0.02$  with the last observation carried forward,  $P=0.003$  for observed cases), and the Severe Impairment Battery ( $P<0.001$  with the last observation carried forward,  $P=0.002$  for observed cases). Memantine was not associated with a significant frequency of adverse events.

**CONCLUSIONS:** Antiglutamatergic treatment reduced clinical deterioration in moderate-to-severe Alzheimer's disease, a phase associated with distress for patients and burden on caregivers, for which other treatments are not available.

**Strengths:** \*RCT, using ADCS-ADL\* length of study is suitable for palliative patients

**Weakness:** \*small group of study only 181 patient \*Objective assessment of efficacy