

Arch Gerontol Geriatr .Jul-Aug 2020; 89:104073. doi: 10.1016/j.archger.2020.104073.

Epub 2020 May 16.

The CITIMEM study: A pilot study. Optimizing pharmacological treatment in dementia

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Abstract

Introduction: Citicoline can have beneficial effects both in degenerative and in vascular cognitive decline; it works through an increase in acetylcholine intrasynaptic levels and promoting phospholipid synthesis, (chiefly phosphatidylcholine), cellular function, and neuronal repair. Memantine is an N-methyl-D-aspartate (NMDA) receptor antagonist used for the treatment of mild to moderate Alzheimer's disease (AD). When co-administered they could have a synergistic action in patients affected with AD and mixed dementia (MD) too.

Scope: The aim of the present study was to show the effectiveness of oral citicoline plus memantine in patients affected with AD and MD.

Patients and methods: This was a retrospective study between 2015 and 2017 on 126 patients aged 65 years old or older affected with AD or MD (mean age 80.7 ± 5.2 years old). The study involved four different centers for dementia all over Italy. Diagnosis of AD was made according to clinical symptoms, neuropsychological tests and brain imaging. Diagnosis of MD was made when symptoms typical of AD such as memory loss were associated to symptoms due to cerebrovascular deficits, i.e., impaired judgement, ability to make decisions, plan or organize, and brain imaging. 58 patients were treated with memantine (group A), 68 patients with memantine plus citicoline 1 g/day given orally (group B). In both groups memantine dosage was 10-20 mg/day according to its tolerability. 24 patients of group A and 29 patients of group B were affected with MD. Cognitive functions were assessed by MMSE, daily life functions by ADL and IADL, behavioral symptoms by NPI, comorbidities by CIRS, and mood by GDS-short form. Tests were administered at baseline (T0), after 6 (T1), and 12 months (T2). The primary outcomes were the effects of combined treatment versus memantine alone on cognitive functions assessed by MMSE. The secondary outcomes were the possible side effects or adverse events of combination therapy versus memantine alone, influence on daily life functions and behavioral symptoms.

Results and conclusions: Patients treated with citicoline plus memantine showed an increase in MMSE between T0 and T1 (16.6 ± 2.9 vs 17.4 ± 2.7) and between T1 and T2 (17.4 ± 2.7 vs 17.7 ± 2.8). The difference in MMSE score was significant when comparing the two groups, both at T1 ($p = 0.003$) and T2 ($p = 0.000$). Since it is important to maximize the pharmacological means in AD and MD, the present study encourages the role of combined administration of memantine plus citicoline in disease management and in slowing down the progression of disease.

Fonte <https://pubmed.ncbi.nlm.nih.gov/>