

Citicoline improves memory performance in elderly subjects.

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Abstract

Citicoline is a choline donor involved in the biosynthesis of brain phospholipids and acetylcholine extensively used in the treatment of neurodegenerative diseases. In this study we investigated the effects of the oral administration of citicoline alone (C1000:1000 mg/day; C500:500 mg/day) or in combination with nimodipine (C +NI:300 + 90 mg/day) during 4 weeks on memory performance in elderly subjects with memory deficits and without dementia (N = 24; age = 66.12 +/- 10.78 years; MMS score = 31.69 +/- 2.76). Results indicated that citicoline in comparison with placebo improves memory in free recall tasks, but not in recognition tests. A significant improvement in word recall (5.17 +/- 1.1 vs. 3.95 +/- 1.2 omissions; $p < 0.005$), immediate object recall (6.5 +/- 1.6 vs. 5.5 +/- 1.2 omission; $p < 0.05$) and delayed object recall (8.5 +/- 2.1 vs. 6.7 +/- 2.4 omissions; $p < 0.005$) was observed after citicoline treatment. Similar results were found in the three subgroups of treatment (8 subjects per group), suggesting that citicoline possesses memory-enhancing activity at doses of 300-1000 mg/day. A decrease in systolic blood pressure and minor changes in lymphocyte cell counting were also observed in old subjects after receiving citicoline. These effects are consistent with the vasoregulatory and neuroimmune actions of citicoline and suggest that this compound may improve memory by acting on mechanisms of brain neurotropism and cerebrovascular regulation. According to the present results, showing that citicoline improves memory performance in elderly subjects, we concluded that this molecule is suitable for the treatment of memory deficits in old people.