

# Abstract

Geriatr Gerontol Int. 2010 Jan;10(1):25-31.

## Changes in cognitive functions of patients with dementia of the Alzheimer type following long-term administration of donepezil hydrochloride: relating to changes attributable to differences in apolipoprotein E phenotype.

Kanaya K, Abe S, Sakai M, Fujii H, Iwamoto T.

Department of Geriatric Medicine, Hachioji Medical Center, Tokyo Medical University, Tokyo, Japan.

**AIM:** We conducted a study of changes in cognitive functions by long-term monitoring of dementia of Alzheimer type (DAT) patients to investigate the relationship between the progression of DAT symptoms and the presence of apolipoprotein (ApoE)4.

**METHODS:** The subjects consisted of 40 DAT patients who had been treated with donepezil for 3 years or more. The Mini-Mental State Examination (MMSE) and Alzheimer's Disease Assessment Scale - Cognitive Subscale Japanese version (ADAS-Jcog), were conducted annually. The patients were categorized into ApoE4(+) and ApoE4(-) groups. Changes in initial cognitive function assessment score (0 years) were then studied longitudinally at each stage of the observation period (1, 2, 3 years) (Wilcoxon's signed-rank test). Moreover, the scores at each time period were compared cross-sectionally between the two groups (Mann-Whitney U-test).

**RESULTS:** Significant decreases in MMSE scores were observed at the three time periods in both groups ( $P < 0.01$ ) in the cross-sectional study. In the longitudinal study, the ApoE4(+) group demonstrated a lower trend ( $P < 0.1$ ) after 1 year only. Significantly poorer ADAS-Jcog scores were observed in the ApoE4(+) group at the 3-year point both in the longitudinal and in the cross-sectional study ( $P < 0.05$ ). For ADAS-Jcog sub-items, in the longitudinal study, orientation was demonstrated to be significantly poorer in the ApoE4(+) group in the third year ( $P < 0.05$ ).

**CONCLUSION:** ApoE4 was suggested to not only be a risk factor for disease onset, but also a risk factor for exacerbation of symptoms with respect to long-term prognosis.

PMID: 20102379

