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Original Contribution

Ginkgo biloba for Preventing Cognitive Decline in Older Adults

A Randomized Trial

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Context The herbal product *Ginkgo biloba* is taken frequently with the intention of improving cognitive health in aging. However, evidence from adequately powered clinical trials is lacking regarding its effect on long-term cognitive functioning.

Objective To determine whether *G biloba* slows the rates of global or domain-specific cognitive decline in older adults.

Design, Setting, and Participants The Ginkgo Evaluation of Memory (GEM) study, a randomized, double-blind, placebo-controlled clinical trial of 3069 community-dwelling participants aged 72 to 96 years, conducted in 6 academic medical centers in the United States between 2000 and 2008, with a median follow-up of 6.1 years.

Intervention Twice-daily dose of 120-mg extract of *G biloba* (n = 1545) or identical-appearing placebo (n = 1524).

Main Outcome Measures Rates of change over time in the Modified Mini-Mental State Examination (3MSE), in the cognitive subscale of the Alzheimer Disease Assessment Scale (ADAS-Cog), and in neuropsychological domains of memory, attention, visual-spatial construction, language, and executive functions, based on sums of z scores of individual tests.

Results Annual rates of decline in z scores did not differ between *G biloba* and placebo groups in any domains, including memory (0.043; 95% confidence interval [CI], 0.034-0.051 vs 0.041; 95% CI, 0.032-0.050), attention (0.043; 95% CI, 0.037-0.050 vs 0.048; 95% CI, 0.041-0.054), visuospatial abilities (0.107; 95% CI, 0.097-0.117 vs 0.118; 95% CI, 0.108-0.128), language (0.045; 95% CI, 0.037-0.054 vs 0.041; 95% CI, 0.033-0.048), and executive functions (0.092; 95% CI, 0.086-0.099 vs 0.089; 95% CI, 0.082-0.096). For the 3MSE and ADAS-Cog, rates of change varied by baseline cognitive status (mild cognitive impairment), but there were no differences in rates of change between treatment groups (for 3MSE, $P = .71$; for ADAS-Cog, $P = .97$). There was no significant effect modification of treatment on rate of decline by age, sex, race, education, *APOE*E4* allele, or baseline mild cognitive impairment ($P > .05$).

Conclusion Compared with placebo, the use of *G biloba*, 120 mg twice daily, did not result in less cognitive decline in older adults with normal cognition or with mild cognitive impairment.

Trial Registration clinicaltrials.gov Identifier: [NCT00010803](#)

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