Alzheimer's Disease

How **Korean Red Ginseng** could show cognitive benefits in patients with Alzheimer's disease

Background

Theory

The effect of Korean red ginseng (KRG) on Alzheimer's disease (AD):

In spite of enormous research efforts, only a few symptomatic treatment options currently exist for dementia. Ginseng has been proven to have effects on cognitive functions in healthy individuals. However, only a few studies have shown effects of KRG on dementia. The goals of this study were: 1) to further clarify the long-term efficacy of KRG as an adjuvant therapy to conventional anti-dementia medications in patients with AD and 2) to monitor the cognitive changes during the extended follow-up duration.
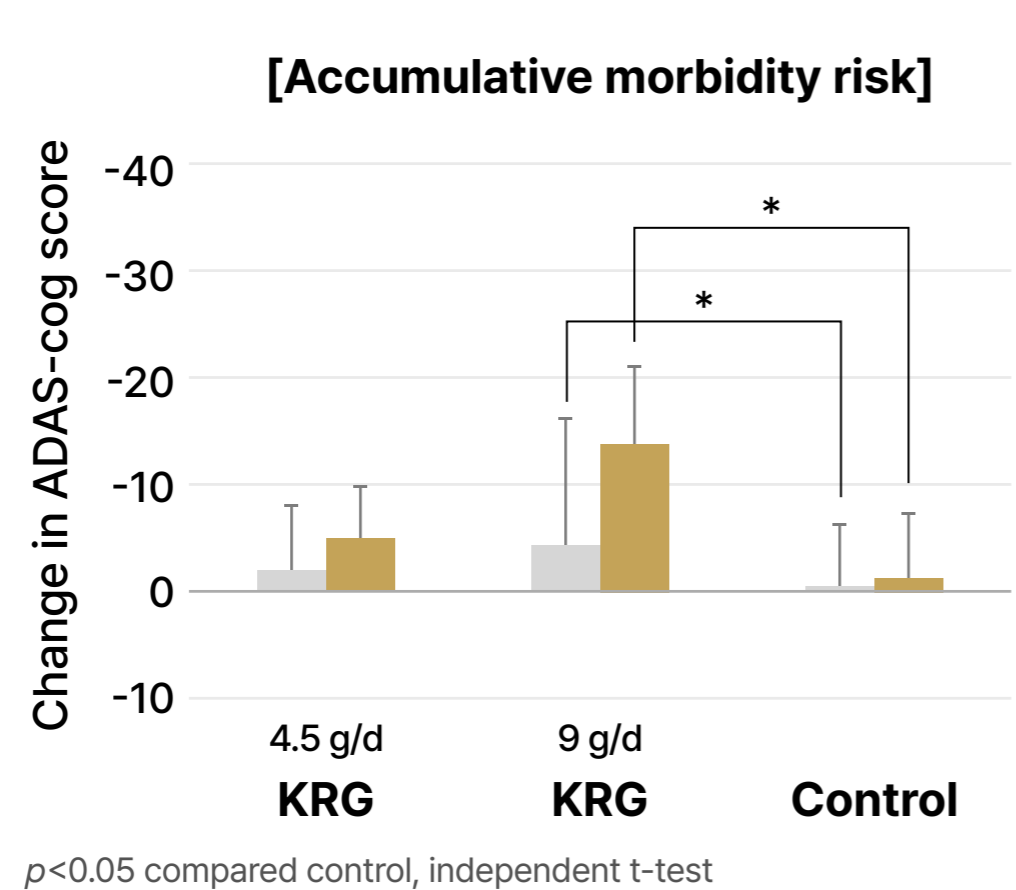
Method

A 24-week randomized open-label study:

To further determine long-term effect of KRG, the subjects with AD were recruited to be followed up to 2 yr. Cognitive function was evaluated every 12 wk using the Alzheimer's Disease Assessment Scale and the Korean version of the Mini Mental Status Examination with the maintaining dose of 4.5 g or 9.0 g KRG per d.

Outcome

With 61 AD patients (KRG group (4.5 g/day low-dose, 9.0 g/day high dose), Control group)
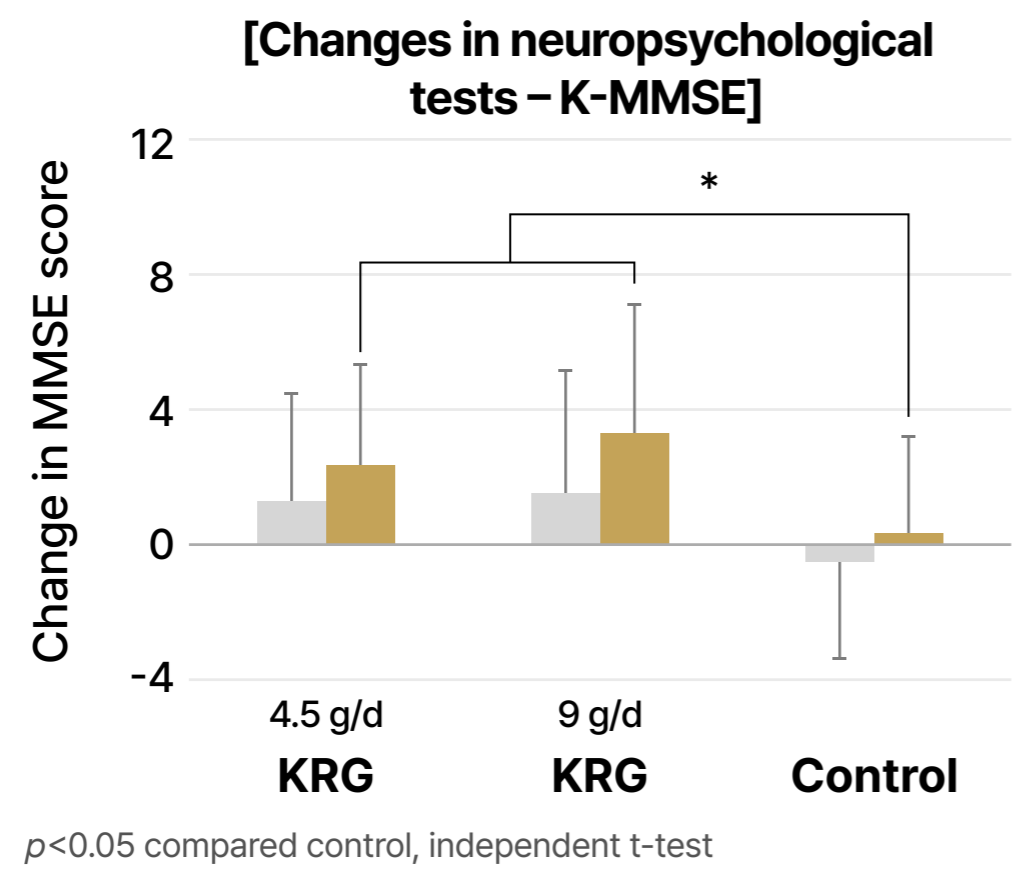
Neuropsychological test (1) - ADAS

[Accumulative morbidity risk]

Change in ADAS-cog score — 4.5 g/d KRG, 9 g/d KRG, Control

12 week / 24 week

p<0.05 compared control, independent t-test

At 12 week and 24 week, the mean changes in the performance on the ADAS-cog showed significance difference between high-dose KRG group and control group (*p<0.05*).

ADAS (Alzheimer's Disease Assessment Scale)-cognitive subscale

The most popular cognitive testing instrument used in clinical trials of nootropics. A total score of 0, 1 or 2 indicates higher likelihood of clinically important cognitive impairment.
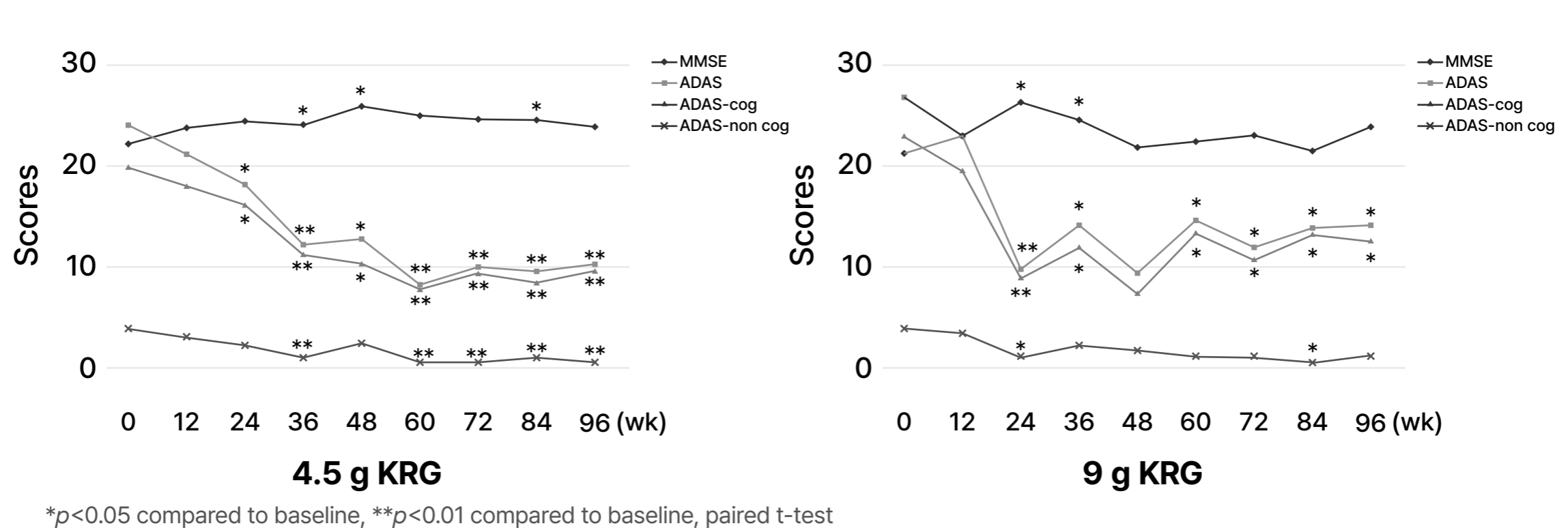
Neuropsychological test (2) – K-MMSE

[Changes in neuropsychological tests – K-MMSE]

Change in MMSE score — 4.5 g/d KRG, 9 g/d KRG, Control

12 week / 24 week

p<0.05 compared control, independent t-test

There was a significant difference in the K-MMSE scores in the KRG group (4.5 g/d plus 9 g/d) compared to control at both 12 week and 24 week.

K-MMSE (Mini Mental State Examination)

A test used to determine inclusion in AD clinical trials and diagnostic studies. A score of 25 or higher is classified as normal. If the score is below 24, the result is usually considered to be abnormal, indicating possible cognitive impairment.

Long-term evaluation – ADAS & MMSE

MMSE, ADAS, ADAS-cog, ADAS-non cog

Scores — 0 12 24 36 48 60 72 84 96 (wk)

4.5 g KRG

9 g KRG

*p<0.05 compared to baseline, **p<0.01 compared to baseline, paired t-test*

In the long-term evaluation of the efficacy of KRG after 24 week, the ADAS-cog and MMSE scores sustained without apparent declining at each visit for 2 year.

Impact
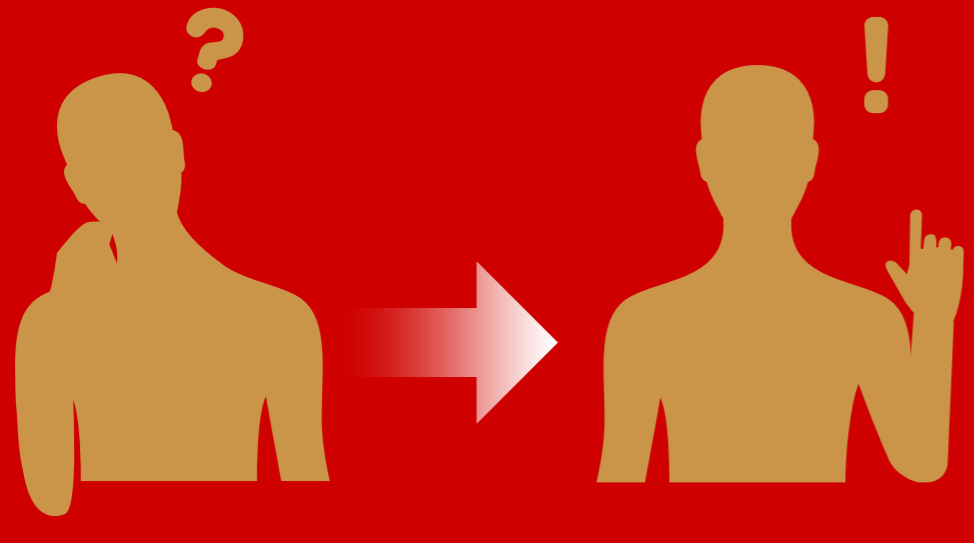
Effect of Korean Red Ginseng on Alzheimer's Disease

The effect of Korean red ginseng on cognitive functions was sustained for 2 year follow-up, indicating **feasible efficacies of long-term follow-up for Alzheimer's disease.**

Conclusion

The efficacy of Korean Red Ginseng on cognitive function

The study results suggest that **Korean red ginseng treatment is both safe and feasible, and is effective for the long-term management of Alzheimer's disease patients.**

Source: Heo JH et al. "Improvement of cognitive deficit in Alzheimer's disease patients by long term treatment with Korean red ginseng" *J Ginseng Res.* 2011;35(4):457-461.