

Real-World Safety and Early Cognitive Outcomes of Lecanemab in Asian Patients With Early Alzheimer’s Disease

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OBJECTIVE

- To evaluate the real-world safety and early cognitive outcomes of lecanemab across the Alzheimer’s disease (AD) continuum, with a focus on infusion-related reactions (IRRs), amyloid-related imaging abnormalities (ARIA), and heterogeneity in early cognitive trajectories according to baseline cognitive severity and apolipoprotein E (APOE) ε4 genotype.

METHODS

- We prospectively recruited 127 patients across the AD continuum, including individuals with subjective cognitive decline, mild cognitive impairment due to AD, and mild AD dementia, who initiated lecanemab treatment at a tertiary memory clinic in Korea.
- Treatment safety was assessed through structured monitoring of IRRs and serial magnetic resonance imaging for ARIA.
- Cognitive performance was evaluated using the Mini-Mental State Examination (MMSE) over the first 6 months. Longitudinal changes in MMSE scores were analyzed using linear mixed-effects models, with subgroup analyses by baseline cognitive severity (Clinical Dementia Rating–Sum of Boxes ≤4 vs >4) and APOE ε4 genotype.

RESULTS

- Among 127 patients, 102 completed at least five infusions and underwent follow-up MRI for ARIA evaluation.
- IRRs occurred in 26 patients (20.5%), most commonly during the first infusion, and were predominantly mild to moderate; permanent treatment discontinuation occurred in one patient.
- ARIA was observed in 9 of 102 patients (8.8%), including ARIA-E in 4 (3.9%) and ARIA-H in 7 (6.9%), with most events being mild or asymptomatic and occurring within the first 3 months.
- Overall cognitive performance remained stable over 6 months, with no significant decline in MMSE scores.
- Patients with lower baseline cognitive severity showed a numerically more favorable MMSE trajectory, although this did not reach statistical significance.
- MMSE trajectories differed significantly by APOE ε4 genotype, with ε4 homozygotes exhibiting a steeper early decline compared with non-carriers.

Table 1. Baseline Characteristics of Patients

	Lecanemab (N=127)
Age, years	72.0 ± 8.0
Female, n (%)	77 (60.6)
Education, years	11.7 ± 4.7
CDR Global=0.5	91 (71.7)
MCI : mild Dementia : SCD	62 : 52 : 13
APOE ε4 Status	
Noncarrier	57 (44.9)
Carrier	70 (55.1)
Heterozygous	59 (46.5)
Homozygous	11 (8.7)
Centiloid values	71.45 ± 32.69
On AChEIs and/or memantine	119 (93.7)
CDR-SB	3.21 ± 2.03
MMSE	23.3 ± 3.7
HTN	44 (34.6)
Diabetes	24 (18.9)
Hyperlipidemia	51 (40.2)
Ischemic Heart Disease	4 (3.1)
Cerebrovascular Disease	2 (1.6)
On NOACs	4 (3.1)
On antiplatelet agent	25 (19.7)

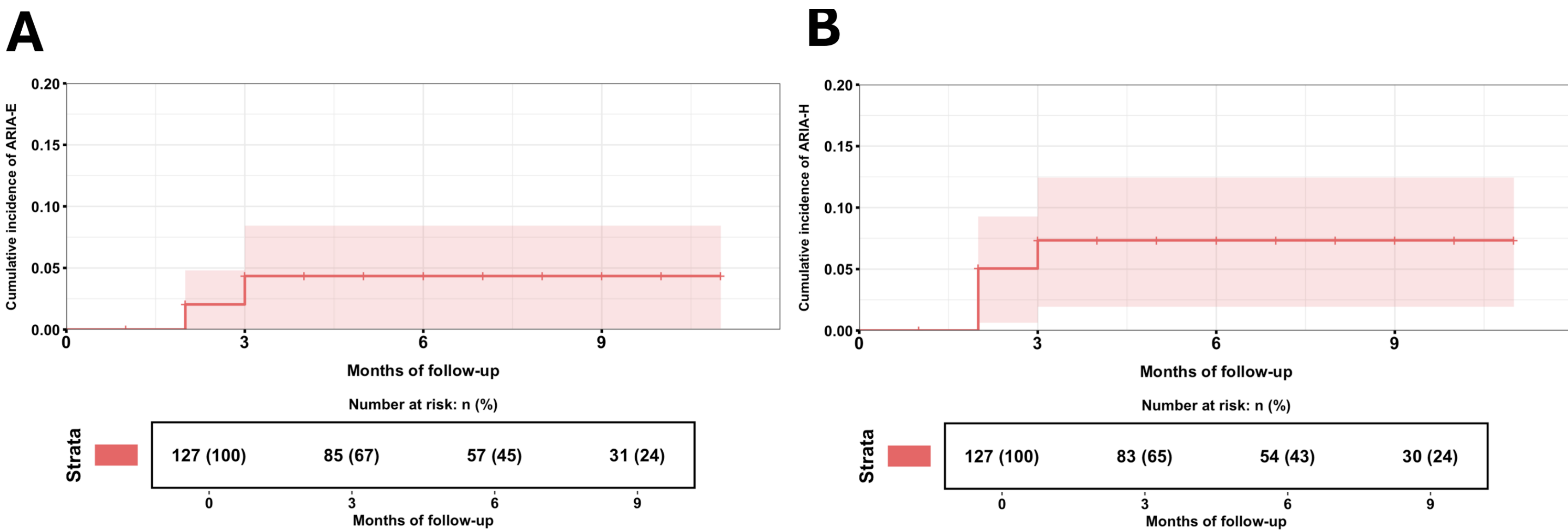


Figure 1. Cumulative incidence curves of amyloid-related imaging abnormalities during lecanemab treatment

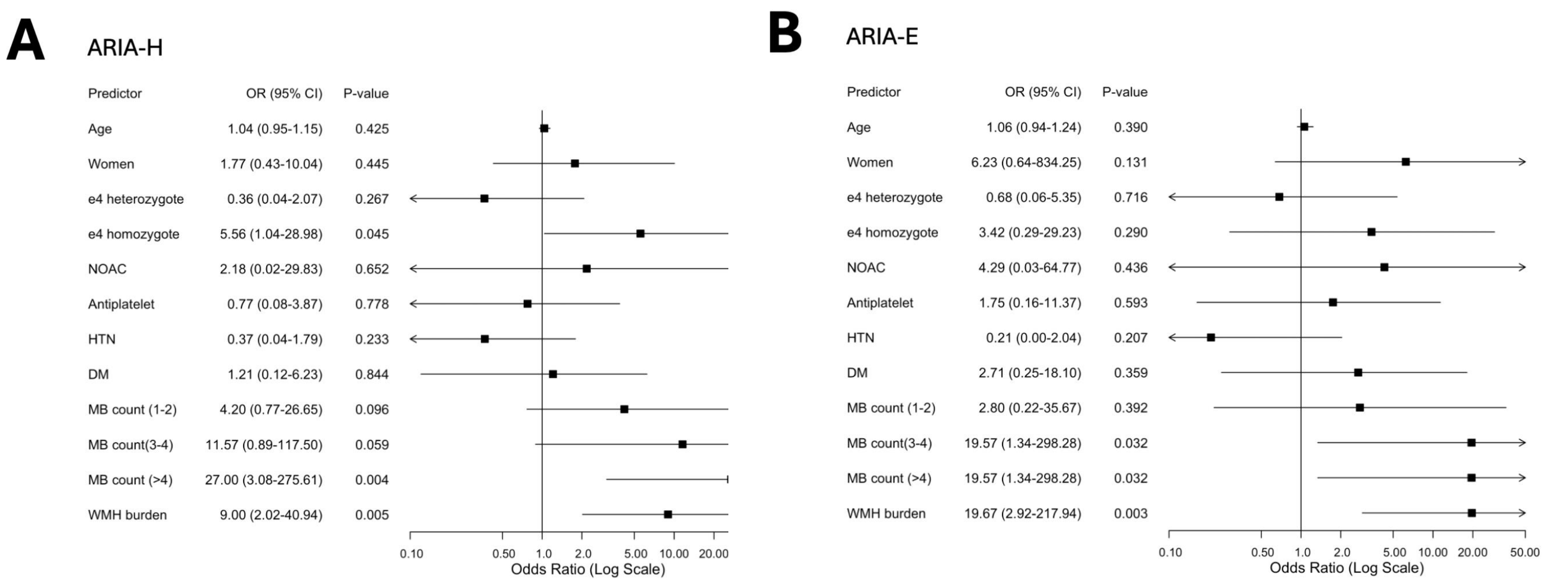


Figure 2. Forest plots of risk factors for ARIA-E and ARIA-H

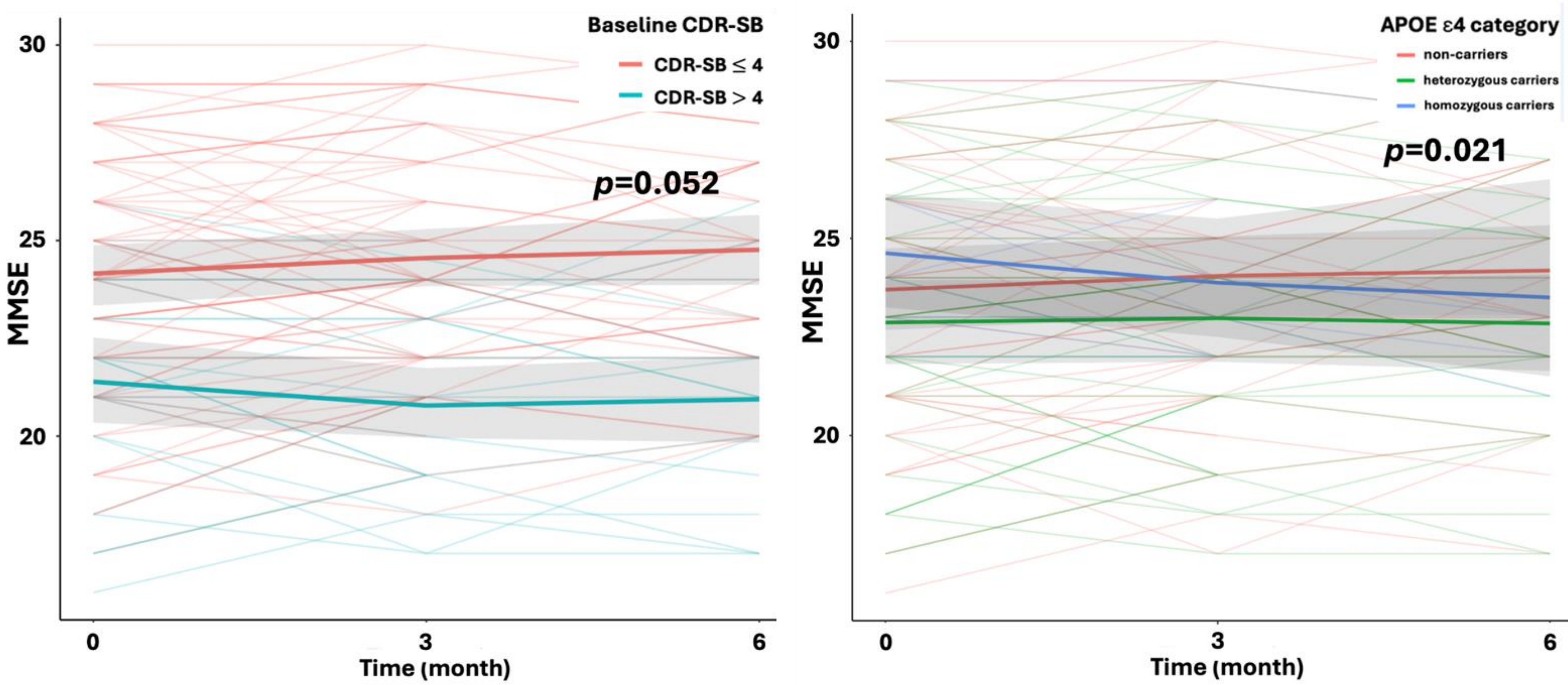


Figure 3. MMSE trajectories stratified by baseline disease severity and APOE ε4 genotype

CONCLUSION

- In this prospective real-world cohort, lecanemab was generally well tolerated and associated with short-term cognitive stability in patients with early AD.
- Safety outcomes were favorable, and early cognitive trajectories varied according to baseline cognitive severity and APOE ε4 genotype.
- These findings provide important real-world evidence from an Asian population and support the need for longer-term, biomarker-informed studies to optimize individualized anti-amyloid therapy.