

APOE Genotyping in Patients With Alzheimer’s Disease Considering Anti-Amyloid Therapy: A Descriptive Cohort Study and Patient-Reported Concerns

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Background

With emergence of anti-amyloid monoclonal antibody therapies (ATT) for Alzheimer’s Disease (AD), APOE genotyping (APOEG) has gained clinical relevance due to its association with amyloid-related imaging abnormalities (ARIA). However, real-world data describing clinical implementation, treatment uptake, and patient perspectives are limited.

Methods

We conducted a retrospective descriptive analysis of 17 patients with clinically diagnosed mild cognitive impairment (n=4) or mild AD (n=13). All patients underwent APOEG as part under a structured pre-treatment assessment at a tertiary institution in Singapore between December 2024 and December 2025. Extracted data included demographics, APOE genotype, and whether patients proceeded with ATT. For a subset of 14 patients, data were available regarding concerns for familial risk, willingness to share results, and concern about ARIA risk.

Results

Mean age of the cohort was 68.7 ± 6.8 years, including 14 females (82.4%). ε4 carriers was identified in 8 patients (47.1%), including one ε4/ε4 homozygote and seven ε4 heterozygotes.

Nine of the patients (52.9%) proceeded with ATT, four (23.5%) declined, one (5.9%) remained undecided, and three (17.6%) had pending pre-treatment assessments. Treatment uptake of patients who completed pre-treatment assessments (n=14), stratified by genotype, was 37.5% among ε4 carriers (n=7) and 75.0% among non-ε4 carriers (n=8).

Conclusion

In this real-life cohort, APOE genotyping can be feasibly integrated into clinical assessment for patients considering ATT. Although patients reported reduced worry after pre-test counselling and reassurance regarding increased monitoring for ARIA if they fall in the higher group, treatment uptake among ε4 carriers remained notably lower than non-carriers post-disclosure. These findings suggest that while structured education can alleviate concern, genotype-related risk perceptions may still influence treatment decisions for ATT.

