

Real-World Outcomes of Aducanumab Therapy Utilizing The Ohio State University Clinical Guidelines for Anti-Amyloid Therapy

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BACKGROUND

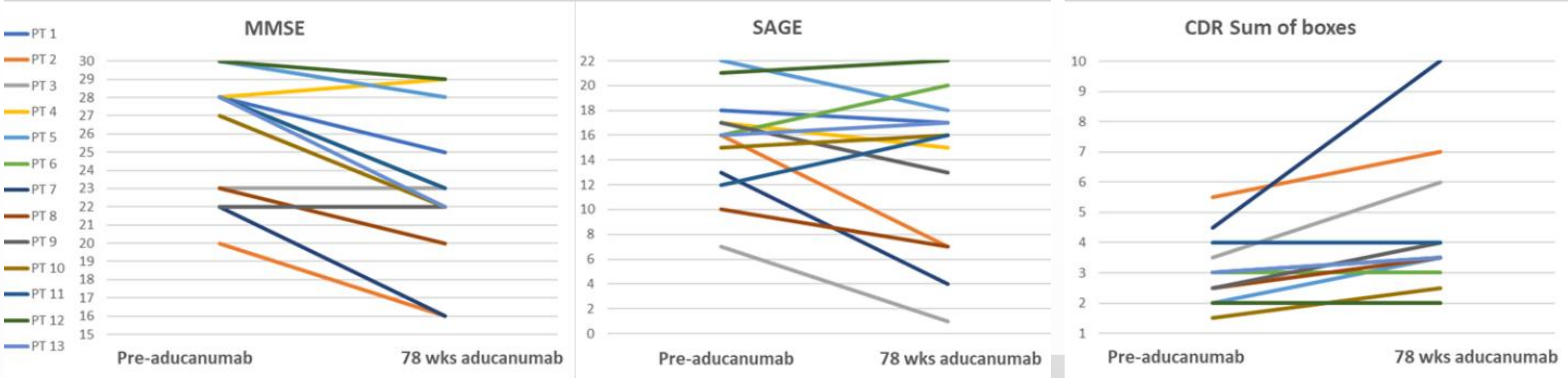
- ❖ Anti-amyloid monoclonal antibodies therapies (AAT) offer disease-modifying potential for early Alzheimer’s disease (AD), but real-world data on outcomes and safety using structured clinical guidelines remain limited.
- ❖ In 2021, OSU developed clinical guidelines to standardize patient selection, monitoring, and discontinuation of AAT
- ❖ We report real-world clinical, biomarker, and safety outcomes in patients treated with aducanumab using these guidelines

Methods

- ❖ 15 patients with mild cognitive impairment (MCI) due to AD or mild AD dementia initiated aducanumab treatment between Aug 2021 and Mar 2022 at OSU’s memory disorders center.
- ❖ Our guidelines were followed to determine eligibility, treatment management, and discontinuation.
- ❖ Cognitive and functional assessments (MMSE, SAGE, CDR) were performed every six months.
- ❖ CSF biomarkers were assessed at baseline and 78 weeks. Long-term clinical follow-up extended to 4 years

OSU GUIDELINES

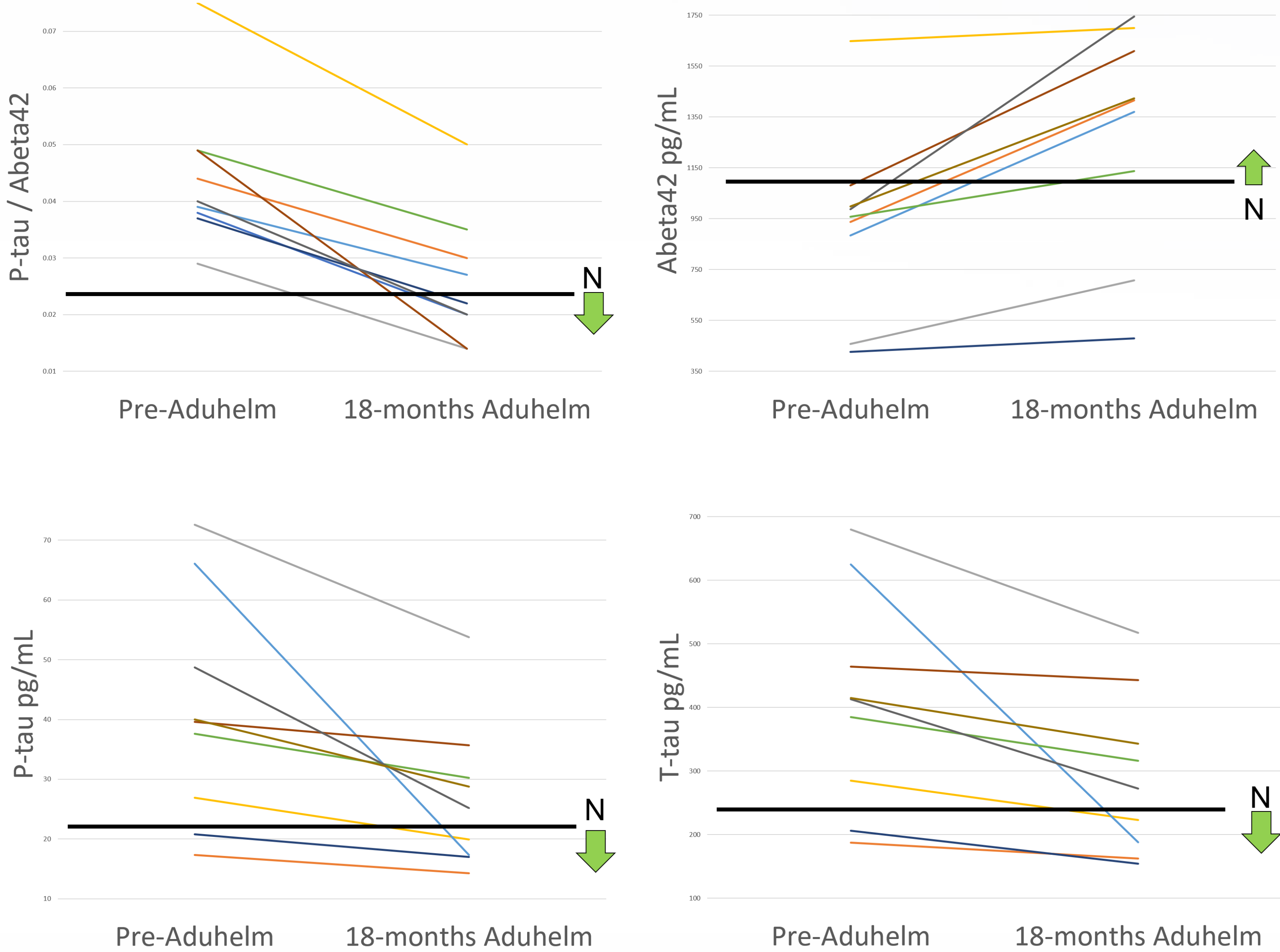
❖ AAT OSU Guidelines can be accessed at:
<https://acrobat.adobe.com/id/urn:aaid:sc:US:01dc1eec-5b11-4735-99f7-1dbf63f36889>



Results

- ❖ After 78 weeks, mean declines were 2.6 points on MMSE and 1.2 points on CDR-SB, comparable to the high-dose EMERGE trial cohort.
- ❖ At four years, 42% of those starting as MCI due to AD or Mild AD remained at these stages.
- ❖ ARIA occurred in 33.3% of patients, consistent with clinical trial rates; most cases were mild and asymptomatic, with one severe case leading to discontinuation at week 12.
- ❖ CSF biomarkers demonstrated treatment effect, including an average 30.5% increase in Aβ42, 48.7% reduction in p-tau, and 69.2% reduction in p-tau/Aβ42 ratio.

Pre-infusion and post 78 weeks aducanumab CSF biomarker levels, n=9



Pre-infusion and post 78 weeks MMSE, SAGE, and CDR-SB scores, n=13

Demographics	Baseline	Week 78	4 Years
Cohort size (n)	15	13	12
Gender (%female)	53		
Mean age at time of prescription (years)	74.0		
Mean years from symptom onset	4.0		
MCI due to AD diagnosis, n (%)	10 (67)	6 (46)	4 (33)
Mild AD dementia diagnosis n (%)	5 (33)	5 (39)	1 (8)
Moderate AD dementia diagnosis n (%)	0 (0)	2 (15)	6 (50)
Severe AD dementia diagnosis n (%)	0 (0)	0 (0)	1 (8)
Oral cognitive symptomatic therapy n (%)	14 (93)		
Education, average years (%)	15.1		
CSF Biomarkers, Mayo Clinic, n	9	9	
Average Abeta42 level, pg/mL	930.9	1214.6	
Average P-Tau level, pg/mL	61.6	31.6	
Average T-Tau level, pg/mL	386.1	337.0	
Average P-Tau to Abeta42 ratio	0.044	0.026	
Cognitive test scores/CDR, n	13	13	12
Average MMSE score/30	26.2	23.6	20.5
Average SAGE score/22	15.2	13.3	12.8 (n=7)
Average CDR Sum of Boxes	3.0	4.2	6.9
Average CDR Global	0.6	0.7	1.2

Conclusion

- ❖ Application of structured clinical guidelines enabled safe and effective real-word use of aducanumab.
- ❖ These 4-year clinical follow-up findings support the utility of standardized guidelines for optimizing outcomes with anti-amyloid therapies in clinical practice.
- ❖ Our comprehensive guidelines can be utilized by other institutions to guide widespread, safe, and effective use of anti-amyloid therapies.

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