Method: Within the still growing IDeA-L sample (Individual determinants of antidepressant response - a longitudinal study), we examined the depressive state of 50 stationary patients with severe depression (44% female, IDS x = 41,488 SD = 10,855, age x = 39) at baseline, after week-2 to estimate EI and after week-12 to estimate the state of remission with the inventory of depressive symptoms (IDS-30). Functional connectivity (FC) was assessed during a 20-minute multi-echo sequence (resting-state, eyes open, cross-fixation) in a 3-Tesla MRI-Scanner. All patients received pharmacological antidepressant treatment according to current guideline recommendations (75% SSRI). The DMN was analyzed in a group-ICA to estimate connectivity strength. In the next step a logistic regression was performed to investigate if the DMN-FC together with EI can discriminate between remitters and non-remitters.

Summary of results: An independent component analysis on a group level to extract networks was performed. Two components showed a high overlap with the anterior and posterior part of the DMN. Within a dual-regression analysis DMN-connectivity measures were extracted on single subject level. The logistic regression analysis with remission past week-12 as the outcome measure and EI and DMN-FC as predictors overall was not significant ($\chi 2 = 3.87$, df = 4, p = .424), but sensitivity of EI was increased from 23% without DMN-FC to 64% for the combined marker.

Conclusion: The addition of DMN-FC significantly increased the predictive value of early improvement with antidepressant pharmacotherapy. This suggests the high relevance of combining clinical and functional markers in antidepressant response prediction. However, the small sample size limits the results and the analysis should be repeated within a larger sample size.

No conflict of interest

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USE OF MONOCLONAL ANTIBODIES IN ALZHEIMER'S DISEASE - A SYSTEMATIC REVIEW OF PHASE III CLINICAL TRIALS

J. Reis [1], F. Moreira [2], M. Santos [2]

[1] *Escola Superior de Saúde, Instituto Politécnico do Porto, Rua Dr. António Bernardino de Almeida- 400- Porto, Portugal;* [2] *REQUIMTE/LAQV- Escola Superior de Saúde, Instituto Politécnico do Porto, Rua Dr. António Bernardino de Almeida- 400- Porto, Portugal*

Background: Alzheimer's disease (AD) is an irreversible neurodegenerative disorder and the most prevalent form of dementia worldwide (1). It is characterized by progressive cognitive decline, memory loss, and neuropsychiatric symptoms, significantly impacting patients' quality of life and imposing a substantial burden on caregivers and healthcare systems (1). Current pharmacological treatments available in Portugal include cholinesterase inhibitors: Rivastigmine, Galantamine, Donepezil, and the N-methyl-D-aspartate (NMDA) receptor antagonist Memantine (2). These drugs primarily offer symptomatic relief by modulating neurotransmitter activity but fail to halt or reverse disease progression. Given the limited efficacy of these therapies, there has been a paradigm shift towards disease-modifying treatments, particularly those targeting the key pathological hallmarks of AD—amyloid beta (Aβ) plaques and Tau protein aggregation (2). In recent years, immunotherapy has emerged as a promising strategy in AD research, particularly through the development of monoclonal antibodies (mAbs) designed to target and clear amyloid beta aggregates (4). Several mAbs have been investigated in late-stage clinical trials, with varying degrees of success.

Objective: This systematic review aims to evaluate the efficacy of these monoclonal antibodies in modifying the disease course and delaying cognitive decline in AD patients.

Methods: A comprehensive literature search was conducted using PubMed, Cochrane, ScienceDirect, and ClinicalTrials.gov databases. The search strategy was structured based on the PICO (Population, Intervention, Comparison, Outcome) framework, with search queries adapted for each database. The inclusion criteria were as follows: a) phase III clinical trials published between 2014 and 2023, b) studies including participants diagnosed with AD, c) articles published in English, Portuguese, or Spanish, and d) trials evaluating monoclonal antibodies targeting amyloid beta. The methodological quality of selected studies was assessed using the Joanna Briggs Institute (JBI) critical appraisal tool. The study protocol was registered in PROSPERO under ID CRD42023473601.

Results: A total of 5 III clinical trials meet all the study requirements and were included in the systematic review (5–9). Findings from these trials revealed contradictory results. Crenezumab, Gantenerumab, and Solanezumab failed to demonstrate significant cognitive benefits in their primary outcome measures, with no statistically significant differences between treatment and placebo groups. Conversely, Aducanumab exhibited a modest reduction in cognitive decline, particularly in the high-dose group of the EMERGE trial. Specifically, a statistically significant improvement was observed in the Clinical Dementia Rating – Sum of Boxes (CDR-SB) score from baseline to week 78 in the high-dose Aducanumab cohort, suggesting a potential disease-modifying effect. However, the ENGAGE study, which also assessed Aducanumab, did not replicate these positive findings, raising concerns about the consistency of its therapeutic benefits.

Conclusion: There was insufficient evidence to conclusively determine the effectiveness of monoclonal antibodies in significantly delaying AD progression. While Aducanumab has shown some promise at higher doses in specific trials, inconsistencies across studies highlight the need for further investigation. The failure of Crenezumab, Gantenerumab, and Solanezumab to achieve meaningful clinical benefits underscores the challenges of targeting amyloid beta in AD therapy. Further large-scale, well-designed clinical trials are essential to validate these findings and refine therapeutic approaches for AD.

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DEVELOPMENT STUDY OF TURKISH SPEECH ANALYSIS FOR MAJOR NEUROCOGNITIVE DISORDER DUE TO ALZHEIMER'S DISEASE

M. Ozturk [1], S. Oyucu [2], H. Polat [3], Ö. Aydın [4], E.T. Ozel KIZIL [5]

[1] *Kırıkkale University School Of Medicine, Psychiatry, Kırıkkale, Türkiye;* [2] *Adiyaman University, Faculty of Engineering, Adiyaman, Türkiye;* [3] *Gazi University, Faculty of Technology, Ankara, Türkiye;* [4] *Ankara University, Faculty of Language and History-Geography, Ankara, Türkiye;* [5] *Ankara University School of Medicine, Psychiatry, Ankara, Türkiye*

Alzheimer's disease (AD) is a neurodegenerative disease characterized by loss of cognitive functions, and memory impairment is considered as the core symptom.However language skills are also affected[1].Early diagnosis and management of Alzheimer's disease are very important for the quality of life of both patients and caregivers [2].However in recent years advances in the fields of classification,voice processing and speech to text have made it possible to diagnose diseases even more easily [3].The diagnosis of AD based on linguistic features and speech is a relatively new field and so far there is no established and widely accepted method.There are limited number of studies conducted in Turkish.

The aim of this study was to investigate whether it is possible to distinguish individuals with major neurocognitive disorder due to Alzheimer Disease (AD-