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Introduction

Amyloid-β (Aβ) is the first biomarker to become abnormal in Alzheimer's Disease (AD) [1].

The use of Amyloid PET Imaging (API) in the clinical setting is guided by the **appropriate use criteria** (Box) [2]. These patients are characterised by atypical clinical presentation and diagnostic uncertainty.

Box

Appropriate Use Criteria [2]

1. Persistent/progressive MCI
2. Dementia with atypical clinical course/etiologically mixed presentation
3. Early Onset Dementia (<65 age years)

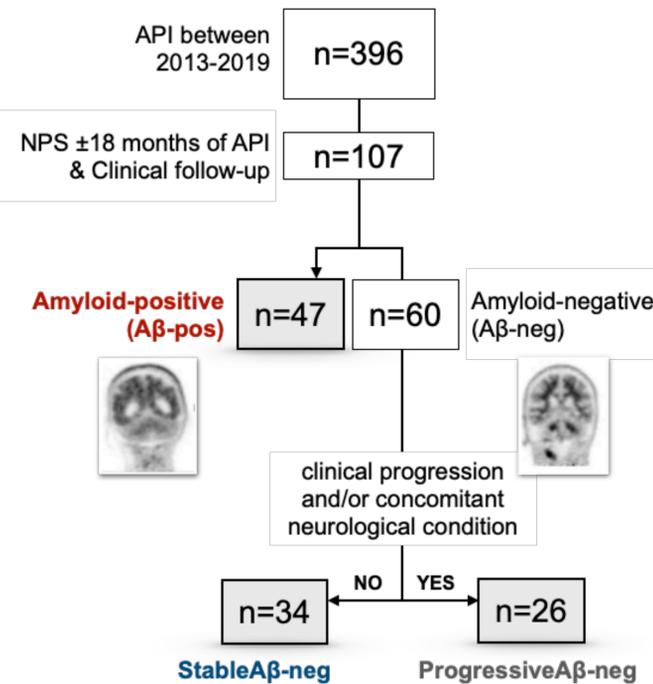
A large proportion of these patients is also referred for **clinical neuropsychological assessment (NPS)**. Previous work has investigated the relationship between Aβ and cognition in the general population [3], but the cognitive and affective profiles of patients meeting appropriate use criteria have not been investigated to-date.

Aim

To investigate the **cognitive profiles** and **affective symptoms** of a Memory Clinic Cohort referred to API and neuropsychological assessment as part of their diagnostic assessment.

Methods

Subjects



Amyloid PET

- Referral to API was in line with appropriate use criteria and followed a multidisciplinary discussion.
- In this context, positive scans are strongly indicative of an **AD diagnosis**.

Neuropsychological assessment

Patients were included if a comprehensive NPS was conducted within 18 months of API.

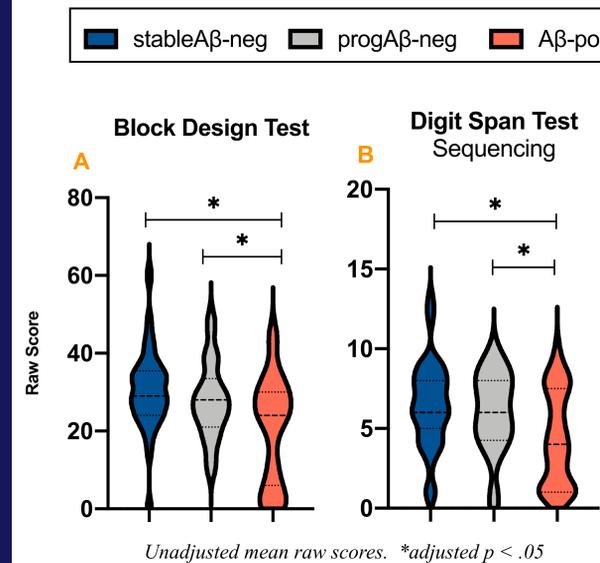
Results

Demographics

	Aβ-pos	stableAβ-neg	progAβ-neg
Age years, M±SD	66.57±8.84	68.03±10.48	66.58±8.71
Gender, %F	61.70%	29.4%	50%

Cognition

The Aβ-pos group performed worse than both amyloid-negative groups in the **visuospatial (A)** and **working memory (B)** domains.

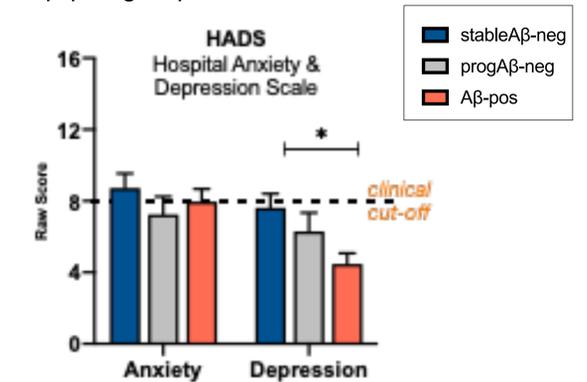


Episodic memory performance differentiated the Aβ-pos group from the stableAβ-neg but not the progAβ-neg group.

No significant differences were found in the remaining 8 cognitive measures examined.

Affective symptoms

Depression was higher in the stableAβ-neg than in the Aβ-pos group.



Overall, the three groups reported **high scores** of anxiety and depressive symptoms.

Conclusions

- In this population **visuospatial** and **working memory** dysfunction was more closely associated with amyloid positivity than episodic memory [4].
- Symptoms of **anxiety** and **depression** are frequent in patients meeting appropriate use criteria for API.

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References

- [1] Jack et al., 2013 *The Lancet Neuro*] [2] Johnson et al., 2013 *Alz & Dem*] [3] Jansen et al., 2018 *Jama Psychiatry*] [4] Loreto et al., in press *Brain Comms*]