High prevalence of lifetime depressive symptoms in patients referred for clinical amyloid-PET: a retrospective study

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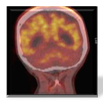
Introduction

The optimal use of Amyloid PET Imaging (API) in clinical practice is guided by the **appropriate use criteria** (*Box*) [1]. Patients meeting these criteria are characterised by **atypical clinical presentation** and **diagnostic uncertainty**.

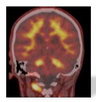
Box

Appropriate Use Criteria [1]

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



Positive API



Negative API

Large-cohort studies have extensively evaluated the impact of incorporating amyloid-PET in the diagnostic workup of this clinical population [2]. However, no studies to-date have described the **neuropsychiatric characteristics** of this particular population, although these may have clinical implications.

Aims

1. To evaluate the **prevalence** of lifetime depressive symptoms in a Memory Clinic cohort of patients referred for clinical API
2. To investigate the **association** between history of depression and Alzheimer's pathology in this group

Methods

Subjects

185 consecutive patients who:

were referred to the Imperial Memory Centre (Imperial College Healthcare NHS Trust, London, UK) for suspected cognitive decline

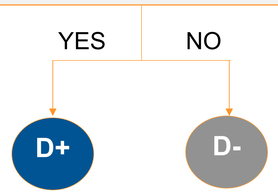
underwent clinical API between January 2017 and June 2019

- **Decision to perform API** was made by consensus by a multidisciplinary team and was in line with appropriate use criteria
- API images were visually read as positive (**Aβ-pos**) or negative (**Aβ-neg**)

Depression Assessment

Depression was retrospectively evaluated through **structured review** of electronic and physical case records

History of depression = previous/ongoing depressive symptoms that were recorded by the clinician and/or required antidepressant medication



Results

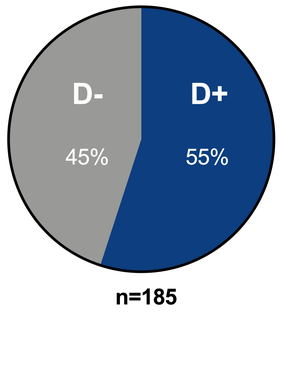
Demographics

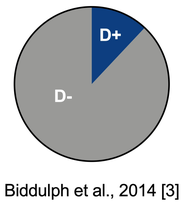
D- and D+ groups did **not** differ for age or gender

	D+	D-
Age years, M±SD	66.75±8.99	67.51±9.82
Gender, %F	56%	54%

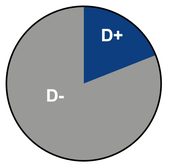
Depression Prevalence

102 patients (55%) had a history of lifetime depressive symptoms compared with just 12% [3] and 19% [4] of elderly individuals in the general population





Biddulph et al., 2014 [3]



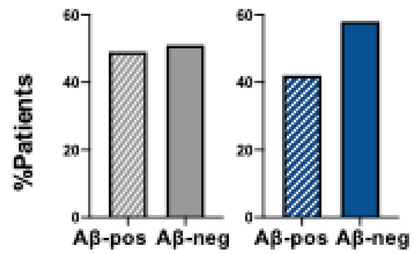
McDougall et al., 2007 [4]

Depression Onset

Depression onset data were available for 92 (90%) patients: 54 (58.7%) reported earlier onset (age<60 years) and 38 (41.3%) reported later (age≥60 years) **symptom onset**

Depression & Amyloid Status

Amyloid-PET status was **not associated** with depression (%Aβ-pos: D+ 41.2%, D- 49.4%, $\chi^2(1)=1.12$ $p=.26$)



Mean age did not differ between Aβ-pos and Aβ-neg patients (mean±SD: Aβ-pos 67.23±8.69 Aβ-neg 66.98±9.98, t(183)=.18 p=.27)

Conclusion

In the clinical population with cognitive impairment meeting the appropriate use criteria, the prevalence of previous or ongoing depressive symptoms

- is **considerably higher** that that seen in the general population aged over 65 years
- is **independent** of amyloid-PET results

These findings have clinical implications for the diagnosis and management of this group

References

[**1** Johnson et al., 2013 *Alz & Dem*] [**2** Rabinovici et al., 2019 *JAMA*] [**3** Biddulph et al., 2014 *BMC Geriatrics*] [**4** McDougall et al., 2007 *Psychol Med*]

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