Association between amyloid PET and hippocampus atrophy in a real-world cohort: preliminary findings

borelli lab

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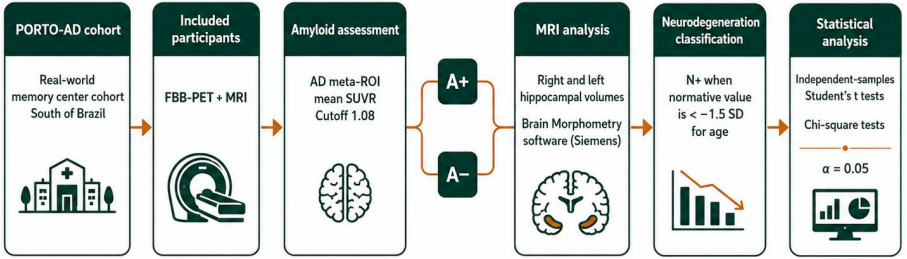
Amyloid PET positivity was associated with lower bilateral hippocampal volume and higher prevalence of hippocampal atrophy in a real-world Brazilian cohort.

INTRODUCTION

Current Alzheimer's disease (AD) models are largely built on homogenous, highly educated, Caucasian cohorts. AD pathology in vivo should also be replicated in resource-limited countries with heterogeneous genetic backgrounds to ensure the validity of the ATN framework globally. This study aimed to test the association between amyloid burden (A) and hippocampal volume (N) in a real-world cohort.

METHODS



CONCLUSIONS

In this real-world cohort, amyloid PET positivity was associated with bilateral hippocampal volume reduction and a higher prevalence of atrophy. Our findings corroborate previous findings where higher amyloid was associated with worse structural markers. Longitudinal studies are warranted.

REFERENCES

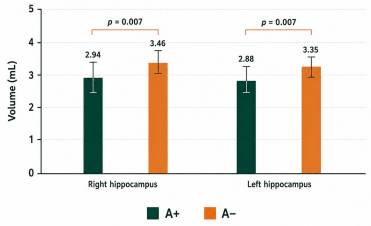
Jack et al., 2024; Bullich et al., 2017; Jovalekic et al., 2023; Collij et al., 2023.

RESULTS

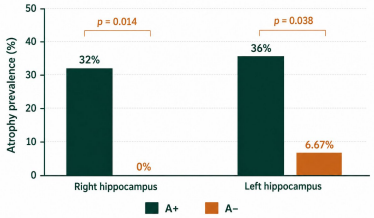
Table 1. PORTO-AD sample characteristics

Variable	Total (n = 40)	A+ (n = 25)	A− (n = 15)
Age, mean years (SD)	73.6 (8.1)	75.28 (7.05)	70.8 (9.18)
Female sex, n (%)	22 (55)	13 (52)	9 (60)
Education, mean years (SD)	17.87 (3.52)	15.87 (1.46)	20.14 (3.89)
Clinical diagnosis, n			
Clinical diagnosis – AD	10	9	1
Clinical diagnosis – MCI	10	5	5
Clinical diagnosis – Others	10	4	6
Amyloid and brain imaging			
Meta-ROI, mean SUVR (SD)	1.15 (0.2)	1.28 (0.12)	0.94 (0.06)
Hippocampal volume, mean (SD) – Right	3.14 (0.65)	2.94 (0.67)	3.46 (0.49)
Hippocampal volume, mean (SD) – Left	3.05 (0.6)	2.88 (0.56)	3.35 (0.54)
Hippocampal atrophy, n (%)			
Hippocampal atrophy – Right	8 (20%)	8 (32%)	0
Hippocampal atrophy – Left	10 (25%)	9 (36%)	1 (6.67%)

Hippocampal volume according to amyloid PET status



Prevalence of hippocampal atrophy according to amyloid PET status



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