Clinical and metabolic imaging characterization of late-onset Posterior Cortical Atrophy.

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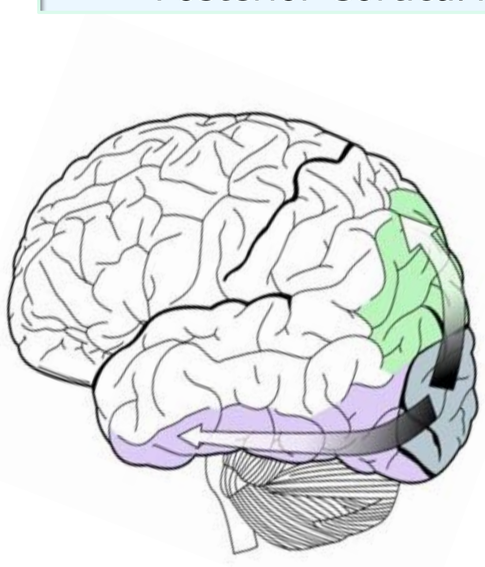
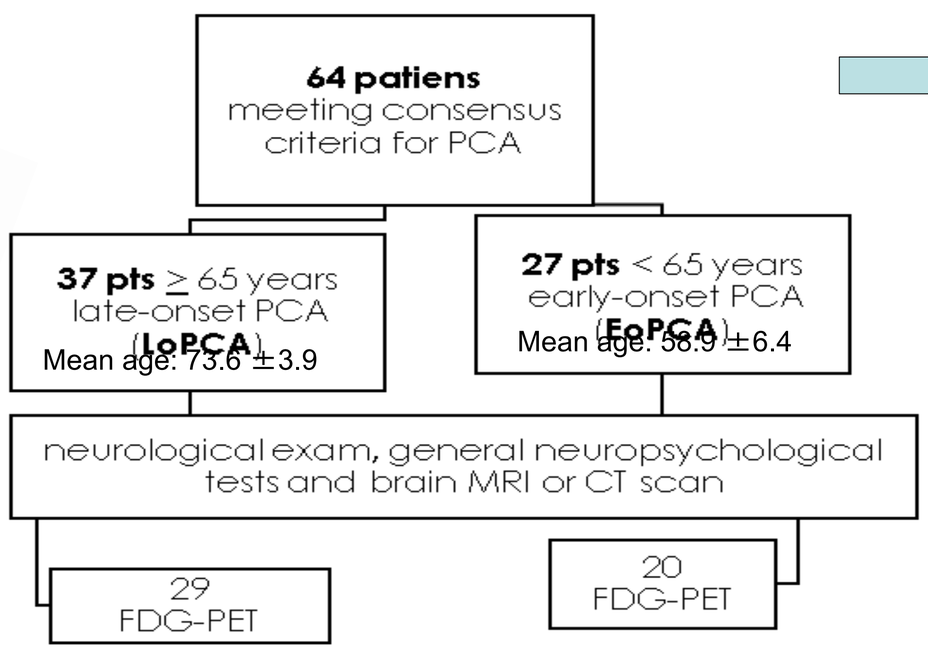
Our study aimed at exploring the ***neuropsychological*** and ***FDG-PET imaging features*** of late-onset Posterior Cortical Atrophy (PCA), the 'visuospatial variant' of Alzheimer's Disease (AD)[1], compared with presenile PCA.

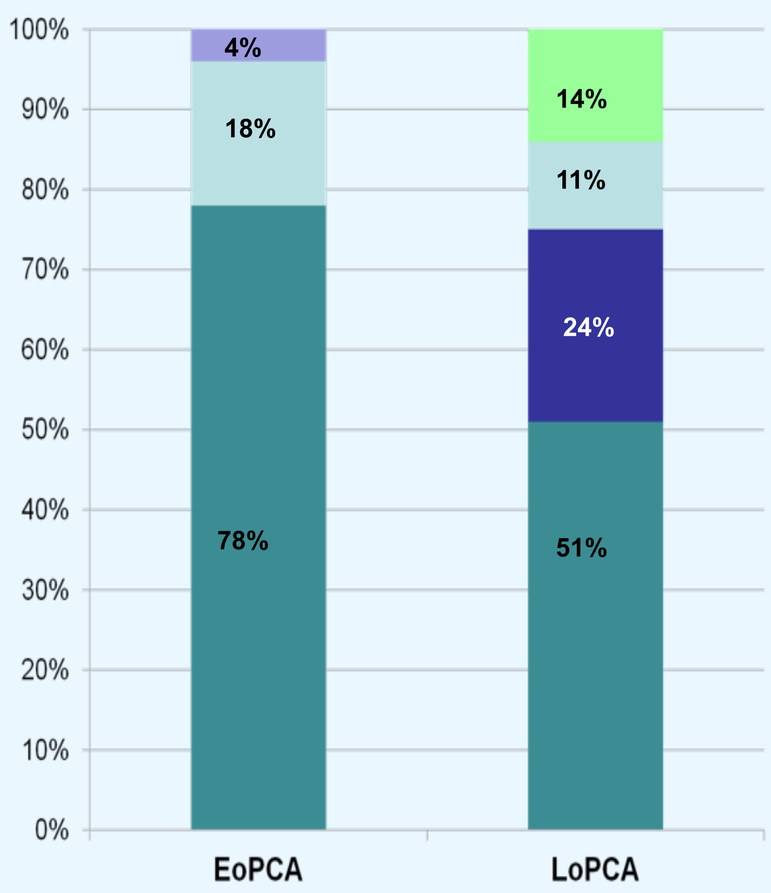




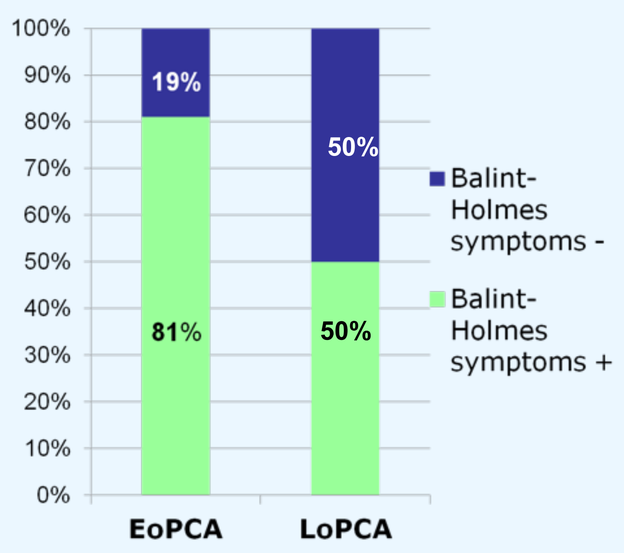
Methods:

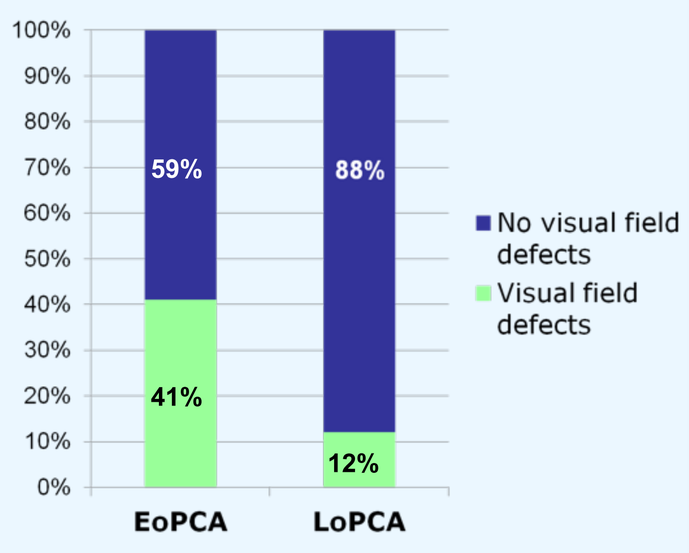
- Signs and symptoms of PCA were rated as present/absent, used for defining PCA variants, and compared, in terms of prevalence, between the two study groups via chi-square analysis, with a significance threshold $p < 0.05$
- PET scans were analyzed semiquantitatively using SPM8, and compared for each of the two PCA groups with scans from a pool of 30 healthy elderly controls via t-test analysis

RESULTS:



- No difference in disease duration, MMSE score or sex distribution
- NO difference for visuospatial deficits, Gerstmann symptoms, visual agnosia, alexia, apraxia or neglect





LoPCA:
1. LOWER PREVALENCE OF BIPARIETAL VARIANT
2. HIGHER PREVALENCE OF OCCIPITO-TEMPORAL VARIANT
2. LESS BALINT-HOLMES SYMPTOMS AND VISUAL FIELD DEFECTS

Hypometabolism on FDG-PET:

➢ **EoPCA < healthy controls**

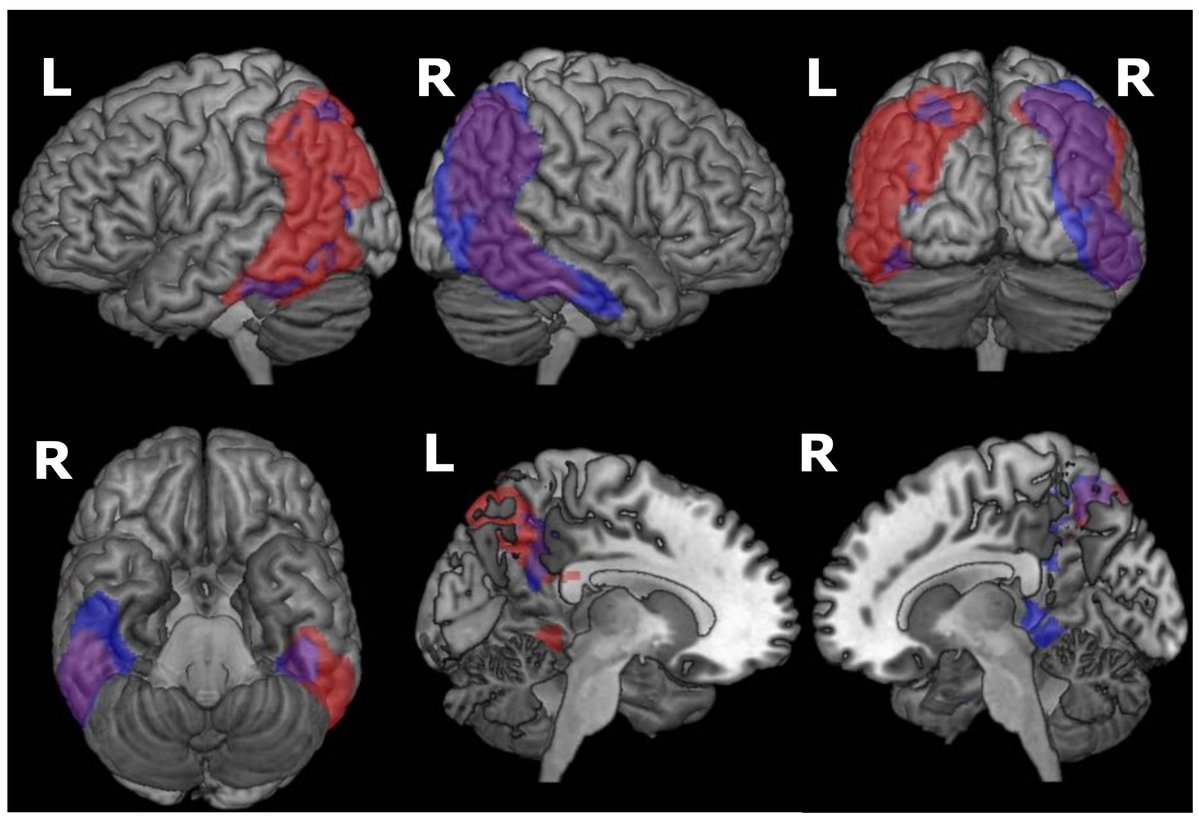
1. T-P region
2. Precuneus
3. Parahippocampal gyrus

- Left > right

➢ **LoPCA < healthy controls**

1. T-O-P region
2. Precuneus
3. Parahippocampal gyrus

- Highly asymmetric, right



CONCLUSIONS:

- The occipitotemporal (visual agnosic) variant appeared to be more typical of LoPCA, whereas the biparietal (simultanagnosic) variant, but also the presence of visual field defects, seemed more typical of EoPCA
- Metabolic imaging data suggested major involvement of the right hemisphere in late-onset patients
- Presenile and senile forms of AD show neurobiological and clinical differences[3]. Our study confirmed and identified such differences for the posterior variant of the disease.

References:

1. Crutch SJ, Lehmann M, Schott JM, et al. Posterior cortical atrophy. Lancet Neurol 2012; 11:170–8.
2. Crutch SJ, Schott JM, Rabinovici GD, et al. Consensus classification of posterior cortical atrophy. Alzheimers Dement 2017; 13: 870–84.
3. Koedam ELGE, Lauffer V, Van Der Vlies AE, et al. Early-versus late-onset Alzheimer's disease: more than age alone. J Alzheimer's Dis 2010; 19:1401-8.

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