Imagerie TEP 18F-florbetapir & maladie d'Alzheimer
Amyloid PET Positivity in Different Primary Progressive Aphasia Phenotypes

Purpose

Primary progressive aphasia (PPA) is a neurological syndrome in which language functions become progressively impaired with relative sparing of memory and other instrumental functions. The pathologic causes of PPA are heterogeneous, but studies suggest that logopenic PPA (LPA) is underpinned by Alzheimer disease (AD) pathology in a high proportion of cases. The purposes of this descriptive and retrospective study were to characterize $^{18}$F-florbetapir PET imaging in a group of patients with a clinical
syndrome of PPA, to determine the value of clinical characterization based on language phenotype in predicting the underlying pathology of PPA with $^{18}$F-florbetapir, and to quantify amyloid load in PPA subjects classified as “positive” $^{18}$F-florbetapir scans. Then, we compare the quantification and distribution of $^{18}$F-florbetapir uptake with those of typical, predominantly amnestic AD patients.

**Methods**

We conducted a PET study with $^{18}$F-florbetapir in a cohort of 12 right-handed patients diagnosed with PPA: 3 patients with semantic-variant PPA, 5 with nonfluent PPA, 1 with LPA, and 3 unclassifiable patients. We evaluated amyloid deposition between APP groups and 11 patients with typical amnestic AD.

**Results**

Among the 12 patients with PPA syndrome, 8 (66.7%) were considered as amyloid positive. One of the 3 patients with semantic-variant PPA was $^{18}$F-florbetapir positive. In contrast, 4 of the 5 nonfluent-variant PPA, 2 of the 3 unclassifiable cases and the single patient with LPA were $^{18}$F-florbetapir positive. A significantly higher $^{18}$F-florbetapir uptake was observed in PPA $^{18}$F-florbetapir–positive patients compared with typical AD patients. This difference was observed in all regions of interest, except in posterior cingulate and temporal cortex.

**Conclusions**

These results suggest that $^{18}$F-florbetapir PET may be useful in a routine clinical procedure to improve the reliability of identifying AD pathology in patients with PPA syndrome, with different clinical subtypes of the PPA syndrome.

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