Neurology and Therapy

- OPENPEER REVIEWEDACCESSSUMMARY SLIDE
- Appropriate candidates for amyloid imaging in clinical situations include:
 - patients with persistent or progressive unexplained memory problems and confusion and demonstrate impairments with standard tests of cognition and memory
 - patients satisfying core clinical criteria for possible AD because of unclear clinical presentation by an atypical course or etiology
 - patients who have progressive dementia at an early age of onset, usually aged 65 years or less.
- However, amyloid imaging is inappropriate in cases including for patients with probable AD with typical age of onset, for patients with a positive family history or APOE4 mutations, for patients with unconfirmed cognitive complaints, or as a means of determining severity. Use of amyloid imaging for non-medical purposes is not recommended, such as assessing competency in a legal context or assessing ability to perform activities of daily living.
- Guidelines have noted the clinical limitations of C-11 due to its short half-life, stating that fluorine-18-labeled (¹⁸F)-labeled positron emission tomography (PET) half-life allows for better incorporation into routine practice.
- Clinical utility based on change in case management or change in diagnosis has not yet been established, but amyloid PET may be useful in excluding AD in cases of MCI complicated with vascular, traumatic, or medical causes.
- ¹⁸F-florbetaben is a promising new PET ligand allowing for more widespread use of amyloid imaging in clinical settings as it has the potential for early, reliable detection of beta-amyloid plaques, a hallmark of Alzheimer's disease, and can aid in facilitating specific treatment decisions due to its improved high sensitivity and specificity over previous clinical criteria.

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