

Evaluation of tau aggregation detected by novel tau tracer, [18F]T807 PET in mild cognitive impairment subjects: a preliminary collaborative PET study.

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United Kingdom

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Evaluation of tau aggregation detected by novel tau tracer, [18F]T807 PET in mild cognitive impairment subjects: a preliminary collaborative PET study.

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Research Abstract

Alzheimer's disease (AD) is characterised by the presence of aggregated "amyloid" and "tau" proteins in the brain associated with inflammation and brain cell damage. Some people with mild memory problems alone (MCI subjects) who have abnormal amyloid deposition can go on

to develop AD. These patients may also have evidence of abnormal tau aggregation in their cells. For some years we have been able to image brain amyloid and detect brain inflammation using Positron Emission Tomography (PET). In the last two years, novel imaging agents have been developed to detect aggregated tau protein in the brain. We now propose to investigate the relationship between the presence of abnormal amyloid and tau deposition in the brain and levels of inflammation in AD and MCI subjects and healthy controls using PET scanning. We will also be able to determine whether brain inflammation, amyloid deposition, or abnormal tau formation happens first in MCI subjects. This will reveal underlying disease mechanisms in AD, and increase our understanding of whether brain inflammation causes abnormal tau formation or whether neuroinflammation is secondary to abnormal tau formation. This will form the basis of future treatment decisions using anti-microglial and anti-tau agents in treatment of this disease.

Further information available at:

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