

PO258 Pet imaging of cerebral amyloid load and cognition in tia and minor stroke

Magdalena M Kubiak, Sarah T Pendlebury, Kevin Bradley, Peter M Rothwell on behalf of Oxford Vascular Study

Abstract

Background

Stroke is associated with a doubling in dementia risk but the contribution of neurodegenerative pathology to vascular cognitive impairment (VCI) is uncertain. Previous studies of amyloid PET in VCI are conflicting, and may be confounded by lesional cognitive effects of major stroke. We therefore studied amyloid load versus VCI after TIA/minor stroke.

Methods

Consecutive consenting TIA/minor stroke patients (Oxford Vascular Study) underwent 18F-Flutemetamol-PET imaging. Cognitive function was defined as normal (MoCA ≥ 25) or VCI (MoCA < 25 , MMSE ≥ 20). 18F-Flutemetamol-binding (automated analysis of regional/global standardised uptake value ratios – SUVR) was defined as positive as SUVR > 2 SD relative to pons in two cortical regions or SUVR > 3 SD in one region.

Results

Among 19 TIA/stroke patients who underwent 18F-PET (mean age/SD=78.0/5.4, 50% male), 3 (15.8%) were amyloid positive. Of 9 patients with normal cognition (mean age/SD/MOCA=76.3/5.3/26.9) two were amyloid-positive. Of 10 with VCI (mean age/SD/MOCA=79.3/5.4/20.4), one was positive. There was no significant correlation between MoCA/recall subscore and global SUVR in either group. One 'positive control' with Alzheimer's dementia showed the expected high global uptake.

Conclusion

Amyloid load was low in cognitively normal and impaired TIA/minor stroke patients, confirming the one previous study of 18F-PET. Follow-up studies are required to determine whether amyloid pattern predicts cognitive decline.