

Amyloid-based PET imaging in patients with suspected Alzheimer's disease

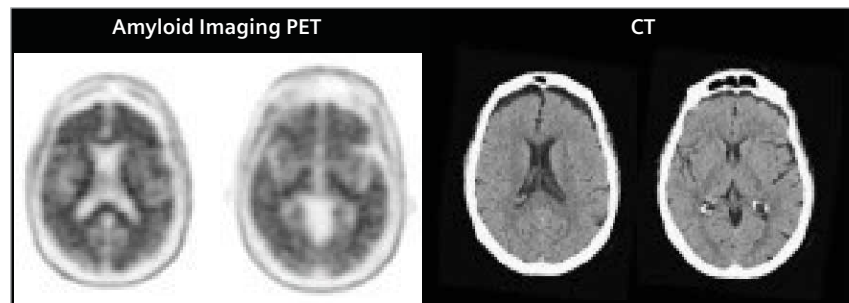
By Ruth Tesar | Originally published February 2015
Data courtesy of Northern California PET Imaging Center, Sacramento, CA, USA

History

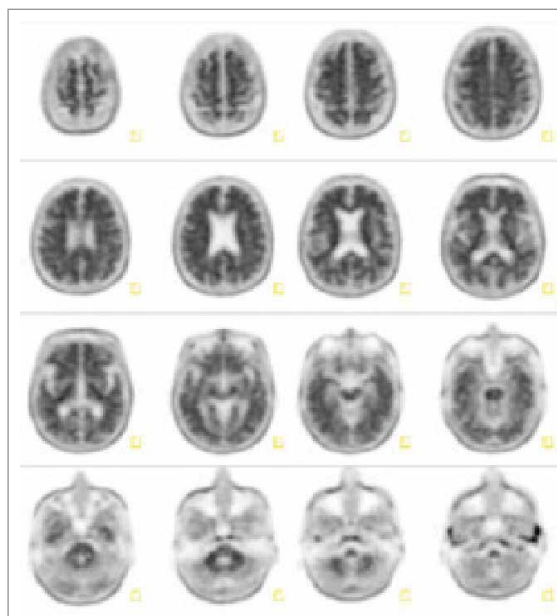
A 71-year-old female patient presented with progressive memory dysfunction to her neurologist. She underwent brain MRI, which demonstrated subtle hippocampal atrophy along with mild diffuse cortical atrophy. Lateral ventricles were within normal limits with small periventricular hyperdensities suggestive of mild subcortical small vessel disease.

In view of the suspicion of Alzheimer's disease, the patient underwent an amyloid imaging PET/CT study for evaluation of the extent of cerebral amyloid plaque in order to rule out the disease.

The study was performed with a 10-minute, single-bed position PET study following CT. The PET images were reconstructed at 400x400 matrix to improve the physicians ability to differentiate between tracer uptake in the white matter, considered normal, and uptake in the grey matter, which is abnormal.



1 Amyloid PET images show increased cortical amyloid uptake, with normal uptake in the white matter. CT slices at the same level shows normal ventricular size and absence of significant cortical atrophy consistent with prior MRI.



2 Amyloid PET images show diffuse increase in cortical uptake of amyloid tracer, with low cerebellar white matter uptake.

Findings

The amyloid PET images showed increased cortical amyloid uptake. Cerebellar uptake was low as expected. CT slices at the same level showed normal ventricular size and absence of significant cortical atrophy. This study appeared positive for cerebral amyloid.

Conclusion

Presence of a high amount of cortical amyloid tracer uptake in this patient with neurologically documented progressive memory dysfunction was suggestive of Alzheimer's disease. ●

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Published by

PETNET Solutions Inc.
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