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# Imaging Findings of Familial Dementia with a Tau R406W Mutation

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A 67-year-old man presented with memory impairment progressing during 1 year. His two brothers and one sister had dementia. Except for memory impairment, he had no abnormal neurological findings. Brain MRI showed mild frontotemporal atrophy involving hippocampus (Fig. 1). Fluorine-18 fluorodeoxyglucose positron emission tomography (FDG PET) revealed marked hypometabolism in the temporal poles as well as mild hypometabolism in the right striatum and posterior cingulate gyri even after correction for atrophy (1) (Fig. 2). Carbon-11 Pittsburgh Compound B PET showed no retention in the cortex. A R406W mutation was identified in exon 13 of the tau gene. Hypometabolism in the posterior cingulate gyri is frequently observed in AD, but it was also recently described in frontotemporal dementia (FTD) patients (3). The clinical phenotype of FTD with this mutation is similar to that of Alzheimer's disease (AD). FDG PET could help in the differential diagnosis.

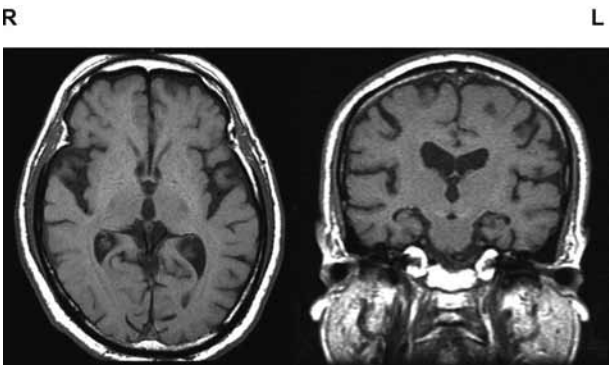


FIG. 1. — Brain MRI showed mild atrophy with mild frontotemporal atrophy. The MRI findings were not inconsistent with Alzheimer's disease.

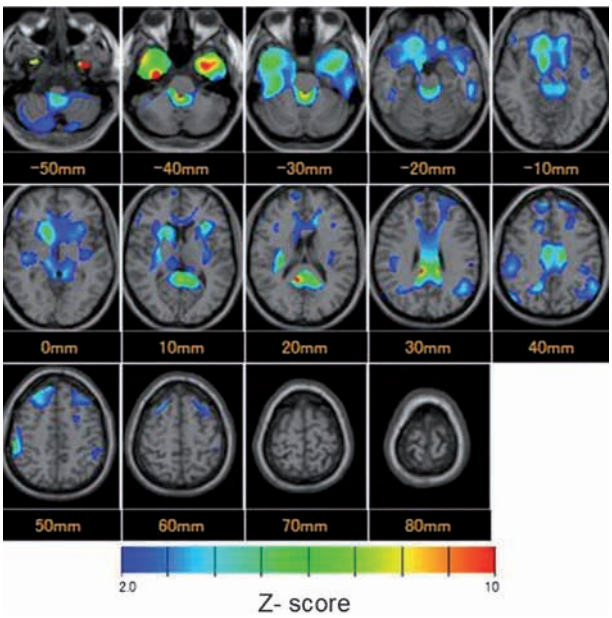


FIG. 2. — FDG PET *z*-score maps, displayed by overlaying on the anatomically standardized MRI image of healthy volunteers, showed remarkable reduction of the cerebral glucose metabolism in the bilateral temporal poles and mild reduction in the right striatum and posterior cingulated gyri.

## REFERENCES

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