A 74-year-old man presented with falls, dysphagia, and personality change.

Examination showed axial parkinsonism (without response to levodopa), low pitched dysarthria, supranuclear vertical gaze palsy, decreased blinking, square-wave jerks, primitive reflexes, apathy, and decreased verbal fluency. Brain MRI showed dorsal midbrain and frontal paramedian atrophy. Probable progressive supranuclear palsy (PSP) was diagnosed.

$^{18}$Fluorodeoxyglucose (FDG)-PET showed bilateral hypometabolism in the lateral and midline frontal cortex, insular cortex, head of caudate nucleus, brainstem, and cerebellum (figure), consistent with described FDG-PET findings in PSP. Although not required for diagnosis of probable PSP, FDG-PET may help differentiate parkinsonian syndromes. In Parkinson disease, FDG-PET most frequently shows hypermetabolism of the dorsolateral putamen. Cerebellar hypometabolism has been reported in patients with PSP but is not specific. Predominant cerebellar together with bilateral putamen hypometabolism favors multiple system atrophy.

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