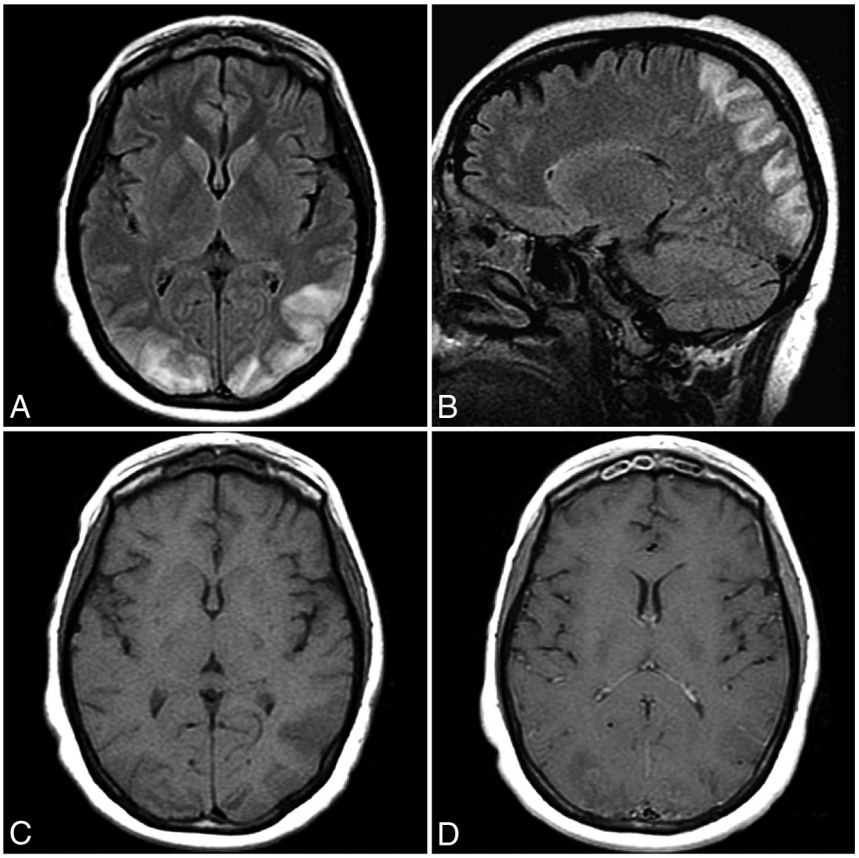
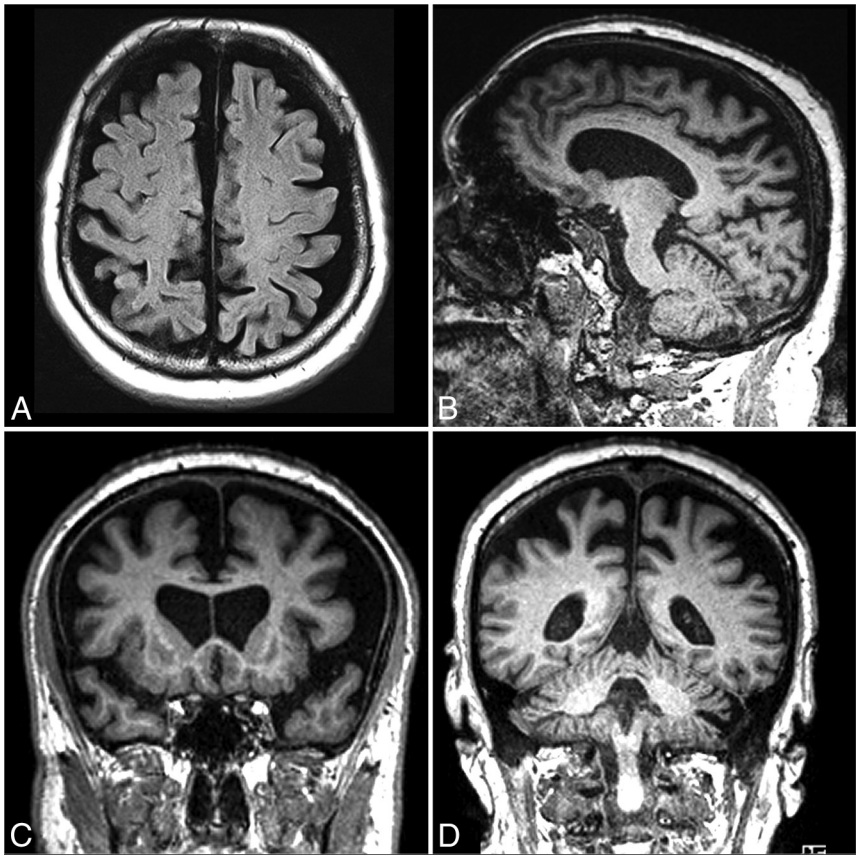
On-line Table: MRI imaging recommendation and summary of key features

Sequence	Pathologies Visible	Key Features
T1 volumetric high-resolution whole-brain reformatted in axial, coronal, and sagittal planes	Lewy body dementia	Less consistent pattern of cerebral volume loss; a pattern of relatively focused atrophy of the midbrain, hypothalamus, and substantia innominata, with a relative sparing of the hippocampus and temporoparietal cortex; relatively little cortical atrophy
	Posterior cortical atrophy	Bilateral parieto-occipital and temporo-occipital atrophy
	Pituitary region	Pituitary macroadenoma: mass lesion intrinsic to pituitary >10 mm; T1 hypointense to gray matter (may be heterogeneous if hemorrhage present), T2 isointense, enhancing solid components; may extend into suprasellar region to distort optic chiasm; laterally may invade cavernous sinus
FLAIR, volumetric whole-brain	Focal cortical dysplasia	T2 hyperintense cortical lesions
	Seizure (posterior cortical)	Blurring of gray-white matter junction
		Focal white matter abnormal signal
		Transmantle increased signal and abnormal gyral pattern
		Mesial temporal sclerosis, possibly others
	Primary brain tumors	Both low- and high-grade gliomas usually have associated FLAIR abnormality, involving cortex and white matter
		Enhancement, diffusion restriction, elevated cerebral blood volume in higher grade lesions
	Metastases	Location at gray-white matter junction
		Multiplicity
		Heterogeneous, depending on primary lesion, hemorrhage
		Enhancement, variable pattern
		Edema out of proportion to size of lesion
	PRES	Vasogenic edema with varying cortical and subcortical involvement
		Classically posterior but can also be in watershed distribution
		T2/FLAIR hyperintense
		Non-diffusion restricting
		Variable contrast enhancement
	RCVS	Initial imaging findings may be normal
		Convexity subarachnoid blood, lobar hemorrhage
		Cerebral edema (similar distribution to that in PRES)
	Migraine	T2/FLAIR punctate hyperintensities in deep white matter (often centrum semiovale, coronal radiata)
SWI including phase and magnitude images	Cavernous venous malformations	"Popcorn ball" appearance with complete hemosiderin rim (T2), heterogeneous core (T1/T2) due to blood-containing locules
		Prominent susceptibility effect (blooming)
DWI	CJD (and variant CJD)	Abnormality may be bilateral or unilateral, symmetric, or asymmetric
		Cortical diffusion restriction (most common early feature)
		T2 hyperintensity in putamen, caudate, and thalamus
		Hockey stick sign, hyperintense signal in pulvinar and dorsomedial thalamic nuclei vCJD

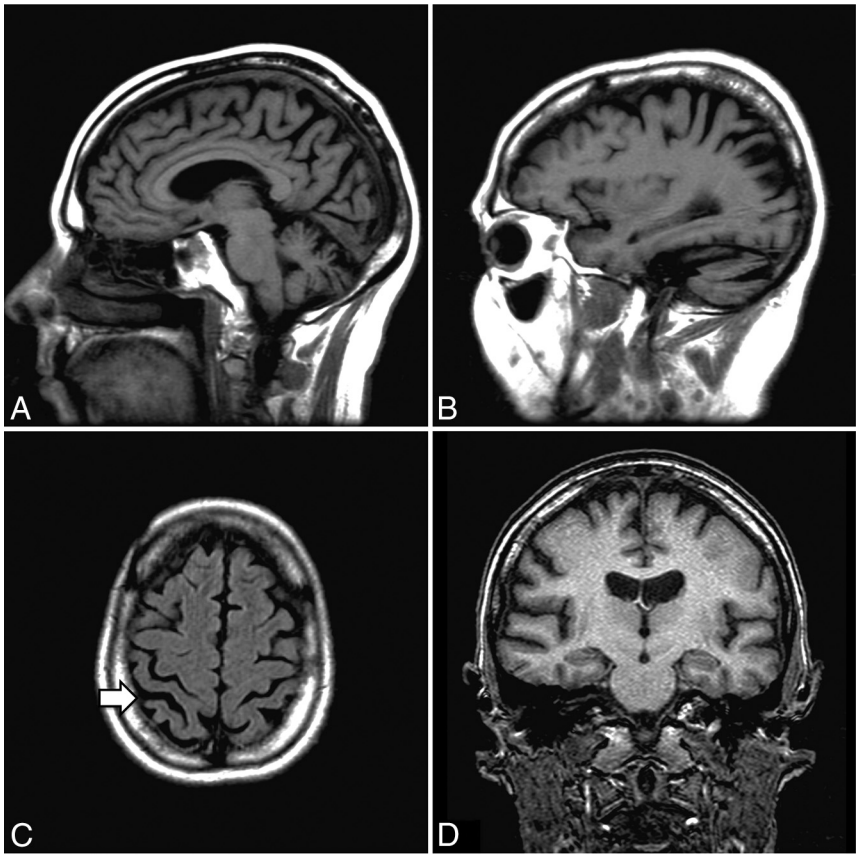
Note:—PRES indicates posterior reversible encephalopathy syndrome; RCVS, reversible cerebral vasoconstriction syndrome; vCJD, variant CJD.



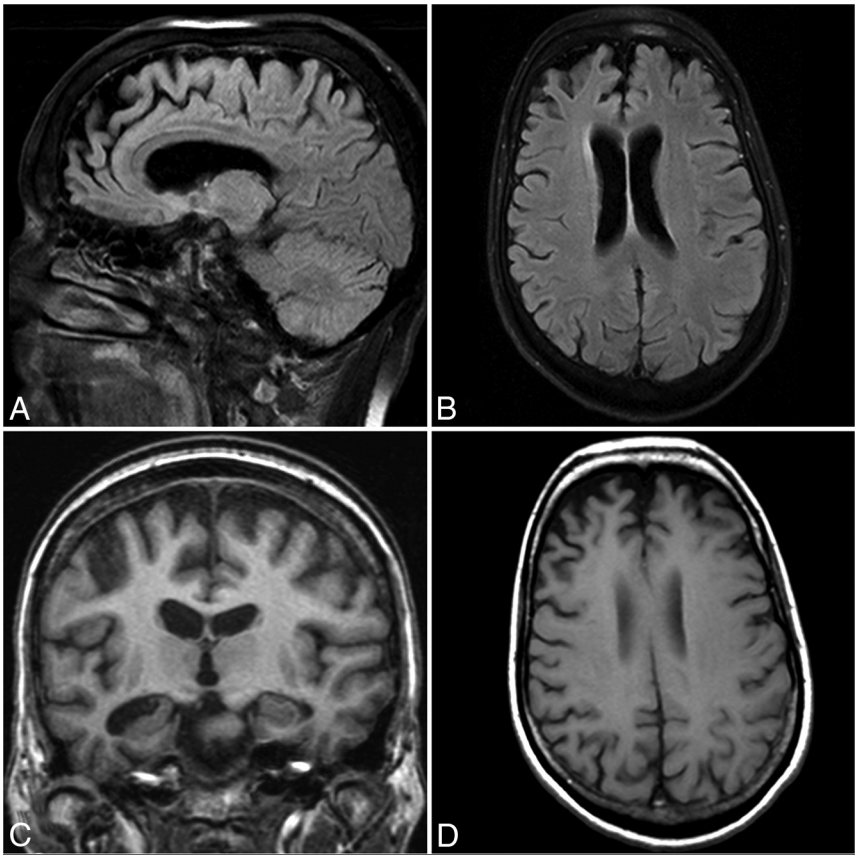
ON-LINE FIG 1. Posterior reversible encephalopathy syndrome: symmetric parieto-occipital vasogenic edema, with FLAIR (*A* and *B*), hyperintense T1 (*C*), and hypointense subcortical white matter abnormalities without contrast enhancement (*D*). Appearance is characteristic of posterior reversible encephalopathy syndrome.



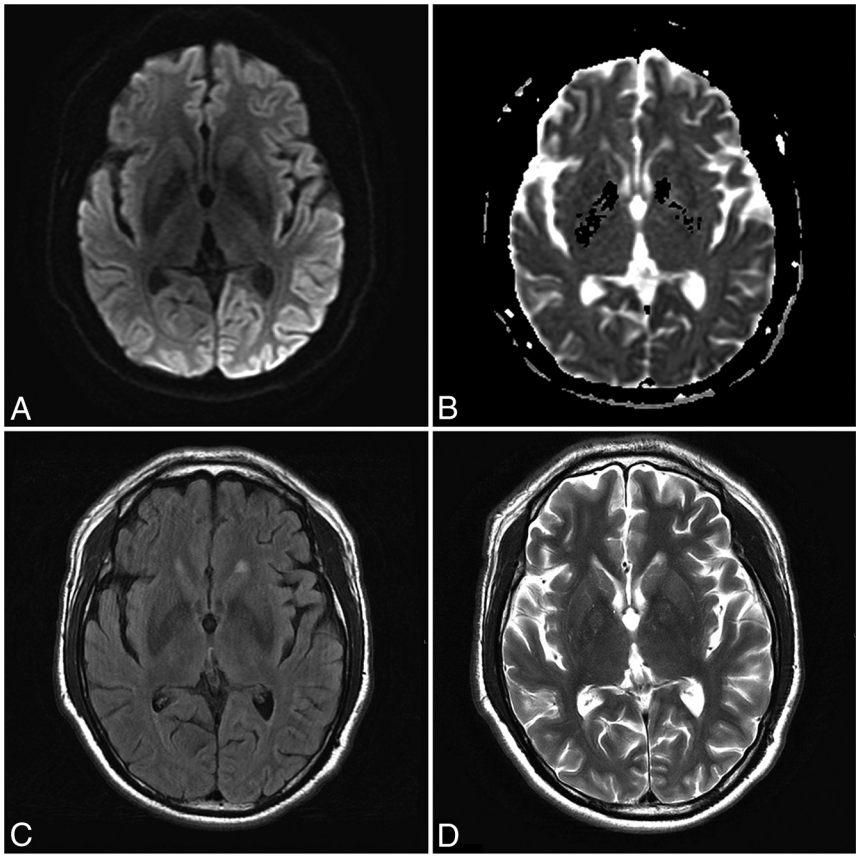
ON-LINE FIG 2. Lewy body dementia: multiplanar T1 imaging demonstrates global cerebral volume loss, most pronounced within the frontal and parietotemporal regions.



ON-LINE FIG 3. Posterior cortical atrophy: sagittal, axial, and coronal T1 MR imaging demonstrate prominent bilateral parieto-occipital (*A* and *B*) and temporo-occipital cortical atrophy (*D*), slightly more prominent within the right hemisphere (*C*). Features are those typical of posterior cortical atrophy.



ON-LINE FIG 4. Frontotemporal lobar degeneration: sagittal and axial FLAIR (*A* and *B*) and T1 MR imaging (*C* and *D*) demonstrate bilateral cerebral volume loss with a striking frontotemporal predominance, consistent with the diagnosis of frontotemporal dementia.



ON-LINE FIG 5. CJD: DWI (*A*) and ADC (*B*) sequences demonstrate cortical diffusion restriction within the frontal and occipital lobes bilaterally, with corresponding FLAIR (*C*) and T2 (*D*) hyperintensity, typical of Creutzfeldt Jakob disease. Cortical diffusion restriction is the most common early manifestation of CJD.