

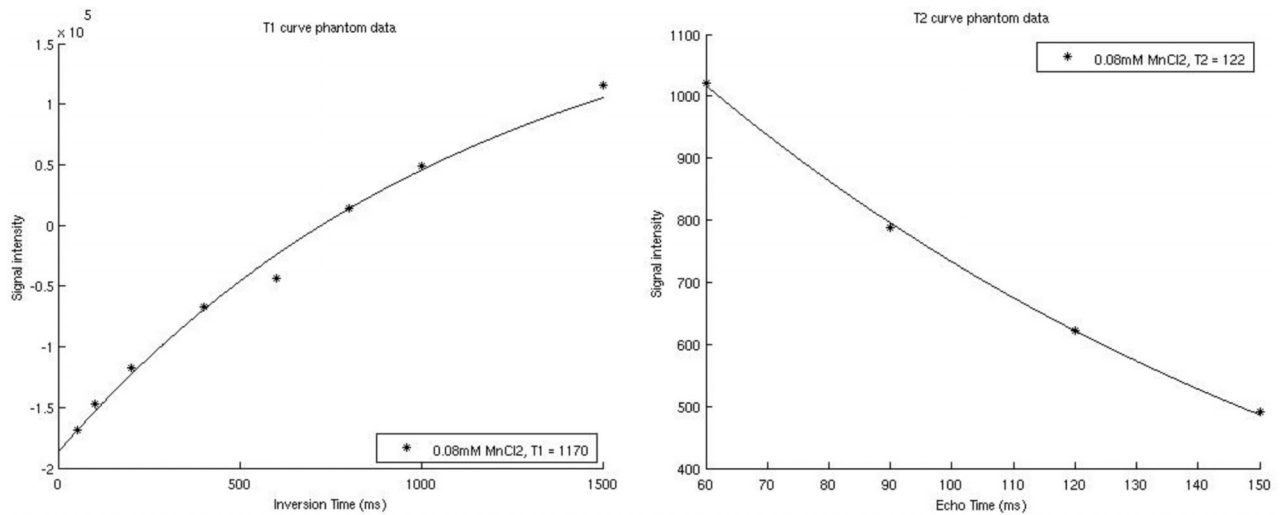
**On-line Table: Participant characteristics**

	Normal Cognition (n = 26)	MCI (n = 33)	AD (n = 15)
<b>Demographics</b>			
Age (mean) (SD) (yr)	73.31 (5.5)	69.21 (6.2) <sup>a</sup>	71.67 (6.3)
Female sex (No) (%)	12 (46)	16 (48)	4 (27)
Education (mean) (SD)	5.27 (1.3)	4.76 (1.1)	4.80 (1.5)
ApoE4-positive (No) (%) <sup>b</sup>	10 (38)	14 (44)	7 (47)
<b>MRI characteristics</b>			
Fazekas scale score (median) (IQR)	1.0 (1.0–2.0)	2.0 (1.0–2.0)	1.0 (1.0–2.0)
Microbleeds present (No) (%)	0 (0)	6 (18) <sup>a</sup>	3 (20) <sup>a</sup>
Lacunae present (No) (%)	5 (19)	7 (21)	3 (20)
Ischemic stroke present (No) (%)	1 (4)	6 (18)	0 (0)
Lacunar and/or ischemic stroke present (No) (%)	5 (19)	11 (33)	3 (20)
Hemorrhagic stroke present (No) (%)	0 (0)	1 (3)	1 (7)
MTA score (median) (IQR)	0.50 (0–1)	1.0 (0–1.5)	1.50 (0.5–2.5) <sup>a</sup>
Pericortical enhancement (No) (%)	5 (19)	10 (30)	6 (40)
<b>Cognition</b>			
MMSE (median) (IQR) <sup>b</sup>	29 (28–30)	27 (26–29.5) <sup>a</sup>	24 (21–27) <sup>a,c</sup>

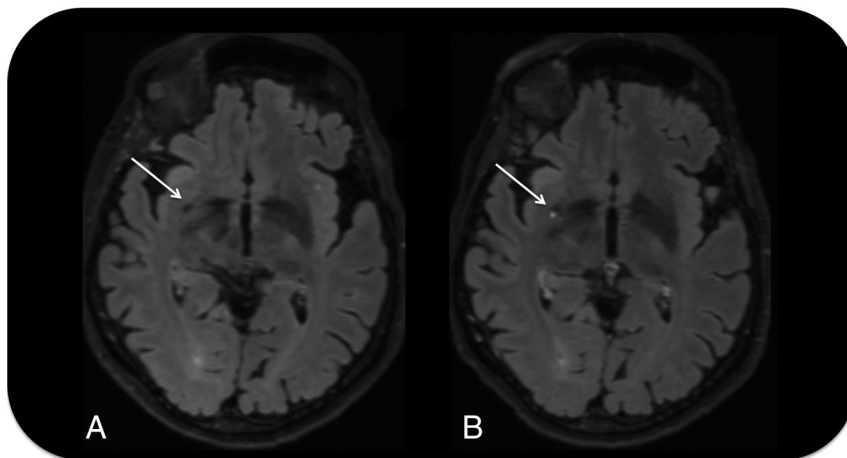
<sup>a</sup>  $P < .05$  vs normal cognition.

<sup>b</sup> Data were missing: ApoE4-positive,  $n = 73$ ; MMSE,  $n = 72$ .

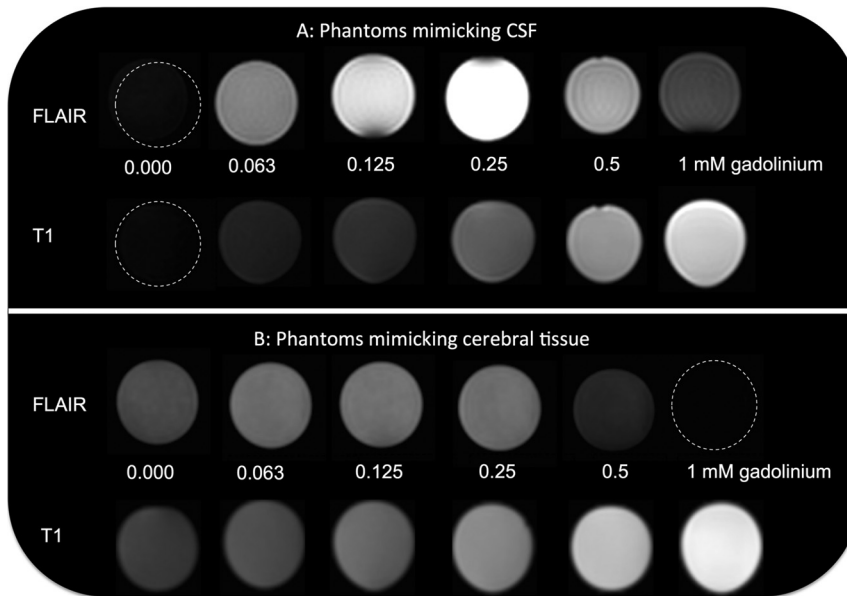
<sup>c</sup>  $P < .05$  vs MCI.



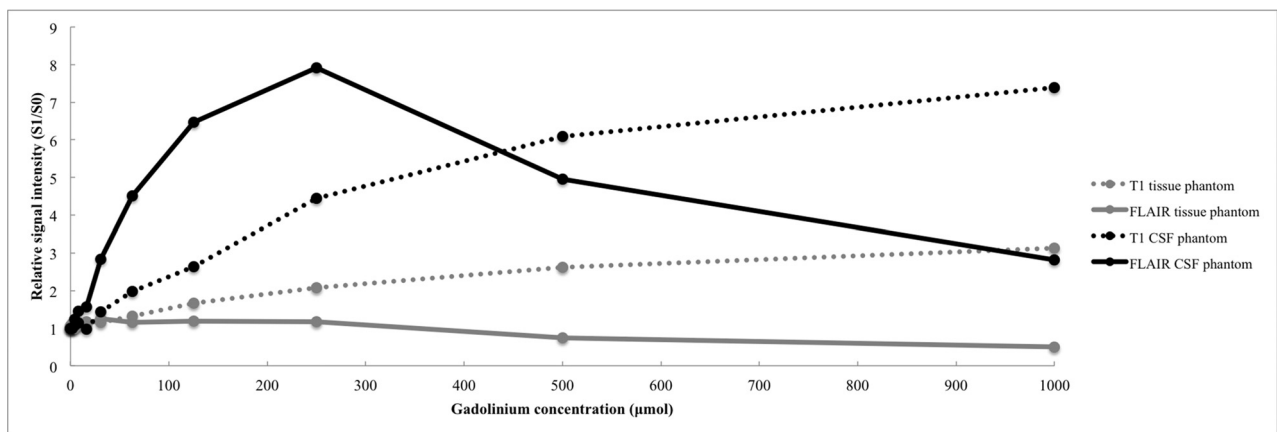
**ON-LINE FIG 1.** Graphs show the signal intensity of a phantom containing 0.08-mmol/L MnCl<sub>2</sub> versus T<sub>1</sub> and T<sub>E</sub> on T<sub>1</sub>- and T<sub>2</sub>-weighted MR imaging, respectively, and a fit to the data. On inversion recovery turbo spin-echo images with a fixed TR of 3000 ms, the signal intensity increases when the T<sub>1</sub> increases (*left graph*). On T<sub>2</sub>-weighted images with a fixed TR of 453 ms, the signal intensity decreases when the T<sub>E</sub> increases (*right graph*). The calculated T<sub>1</sub> and T<sub>2</sub> relaxation times of the phantom are 1170 and 122 ms, respectively.



**ON-LINE FIG 2.** On the precontrast FLAIR image (A), no signal enhancement is apparent in this 72-year-old female participant with MCI, while postcontrast enhancement is visible in what appears to be an enlarged perivascular space on the postcontrast FLAIR image (B).



**ON-LINE FIG 3.** FLAIR and T1-weighted signal intensities of different gadolinium concentrations in phantoms mimicking CSF and cerebral tissue. The FLAIR sequence is more sensitive to the lowest concentrations of gadolinium contrast agent compared with T1WI in phantoms mimicking CSF. At higher concentrations, the FLAIR sequence shows signal decay due to the decreasing T2 relaxation time, while the T1-weighted signal still increases. In phantoms mimicking cerebral tissue, both FLAIR and T1WI are not very sensitive for detecting low concentrations of gadolinium. The signal intensity keeps increasing for higher concentrations of gadolinium contrast agent on T1WI, while there is a signal decay on FLAIR images.



**ON-LINE FIG 4.** The signal intensity of each phantom containing gadolinium (SI) is divided by the signal intensity of the phantom containing no gadolinium (S0) to show the relative signal intensities for the T1 and FLAIR sequences for phantoms mimicking tissue and CSF. At low gadolinium concentrations (ie, 100–250 µmol), the relative signal intensity on FLAIR images is highest in the CSF phantoms.