Appendix E1

The intra- and interrater reliability was 0.821 (95% CI: 0.693, 0.948; *P* < .001) and 0.770 (95% CI: 0.636, 0.903; *P* < .001), respectively. Of 50 subjects who had coronal T1-weighted images, 12 subjects (24%) had MTA. The agreement between MTA assessment on FLAIR images and that on coronal T1-weighted images was 0.803 (95% CI: 0.620, 0.985; *P* < .001).

Table E1. Lesion Volumes and Cognition in Patients without MTA

Parameter	Patients with Normal Cognition (*n* = 52)	Patients with Abnormal Cognition (*n* = 33)	*P* Value*	Correlation with Global Cognition		Correlation with Fluency	
				R^2 Value	*P* Value[†]	R^2 Value	*P* Value[‡]
Mean age (y)[§]	72.3 ± 9.4	76.7 ± 9.4	.039	…	…	…	…
Mean ACE-R score[§]	89.9 ± 4.3	73.7 ± 7.1	<.001[‖]	…	…	…	…
No. of patients with lacunar infarctions	8 (15.4)	10 (30.3)	.185	…	…	…	…
Percentage normalized lacunar infarction volumes ($\times 10^{-5}$)[§]	0.8 ± 2.7	3.4 ± 8.0	.053	0.06	.030[‖]	0.08	.007[‖]
No. of patients with acute lesions	17 (32.7)	17 (51.5)	.044[‖]	…	…	…	…
Percentage normalized acute lesion volumes ($\times 10^{-4}$)[§]	2.3 ± 4.8	6.0 ± 11.3	.017[‖]	0.06	.020[‖]	0.04	.068
Percentage normalized chronic subcortical ischemic lesion volumes ($\times 10^{-3}$)[§]	7.9 ± 10.7	14.2 ± 15.5	.045[‖]	0.01	.202	0.04	.070
No. of patients with cortical infarctions	0 (0)	2 (6.1)	.023[‖]	…	…	…	…

Note.—Numbers in parentheses are percentages.

* *P* value for the comparison between patients with normal cognition and those with abnormal cognition, controlled for age.

[†] *P* value for the correlation between lesion volumes and global cognitive performance, controlled for age.

[‡] *P* value for the correlation between lesion volumes and fluency, controlled for age.

[§] Data are means ± standard deviations.

[‖] Statistically significant (*P* < .05).

Table E2. Severity of Tissue Damage and Global Cognitive Performance in Patients without MTA

Parameter	Normal Cognition (*n* = 52)	Abnormal Cognition (*n* = 33)	*P* Value *	Correlation with Global Cognition		Correlation with Fluency	
				R^2 Value	*P* Value[†]	R^2 Value	*P* Value[‡]
Chronic subcortical ischemic lesion mean diffusivity ($\times 10^{-9}$ m^2/sec)[§]	0.99 ± 0.11	1.03 ± 0.09	.086	0.04	.061	0.02	.211
NAWM mean diffusivity ($\times 10^{-9}$ m^2/sec)[§]	0.75 ± 0.03	0.77 ± 0.04	.047[‖]	0.10	.004[‖]	0.04	.076
Main skeleton mean diffusivity ($\times 10^{-9}$ m^2/sec)[§]	0.78 ± 0.03	0.83 ± 0.05	<.001[‖]	0.30	<.001[‖]	0.20	<.001[‖]

* *P* value for the comparison between patients with normal cognition and those with abnormal cognition, controlled for age.

[†] *P* value for the age-independent correlation between mean diffusivity of chronic subcortical ischemic lesions, NAWM, WMT skeleton, and global cognitive performance.

[‡] *P* value for the age-independent correlation between mean diffusivity of chronic subcortical ischemic lesions, NAWM, WMT skeleton, and global cognitive performance in subjects without MTA.

[§] Data are means ± standard deviations.

[‖] Statistically significant (*P* < .05).

Table E3. Predictive Value of Each Imaging Marker in Global Cognition

Parameter	Exp(β) Value	95% CI for Exp(β) Value	*P* Value
Normalized volume of chronic subcortical ischemic lesions	0.991	0.945, 1.039	.707
Mean diffusivity of chronic subcortical ischemic lesions	1.023	0.597, 1.751	.935
NAWM mean diffusivity	0.431	0.053, 3.491	.430
Skeleton mean diffusivity	38.880	4.207, 359.336	.001*
MTA score	6.074	1.426, 25.867	.015*

* Statistically significant (*P* < .05).