SUPPLEMENTAL MATERIAL

UCC Smart Study Group

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Table S1. Prevalence of arterial diseases in the study sample.

	N (%)
Cerebrovascular disease	192 (26%)
Coronary artery disease	489 (65%)
Peripheral arterial disease	151 (20%)
Abdominal aortic aneurysm	49 (7%)

Table S2. Associations between Aβ40 and Aβ42 and MRI markers of CSVD.

Plasma levels (per SD increase)	White matter hyperintensity volume, B (95% CI), p-value	Total brain volume, B (95% CI), p-value	Hippocampal volume, B (95% CI), p-value
Model 1			
Aβ40	0.12 (0.02; 0.022), *p* = 0.018	-1.88 (-4.71; 0.96), *p* = 0.194	**-0.11 (-0.17; -0.05), *p* = 0.001**
Aβ42	0.09 (-0.01; 0.18), *p* = 0.071	-3.61 (-6.26; -0.96), *p* = 0.008	-0.06 (-0.12; 0.00), *p* = 0.051
Aβ42/Aβ40*	-0.06 (-0.16; 0.03), p = 0.194	-0.45 (-3.16; 2.27), p = 0.747	0.03 (-0.03; 0.09), p =0.271
Model 2			
Aβ40	0.12 (0.01; 0.22), *p* = 0.025	-1.49 (-4.31; 1.33), *p* = 0.300	**-0.11 (-0.18; -0.05), *p* = 0.001**
Aβ42	0.08 (-0.02; 0.17), *p* = 0.102	-3.46 (-6.08; -0.83), *p* = 0.010	-0.06 (-0.12; 0.00), *p* = 0.048
Aβ42/Aβ40*	-0.07 (-0.17; 0.02), p = 0.144	-0.36 (-3.01; 2.29), p = 0.791	0.03 (-0.03; 0.09), p = 0.310

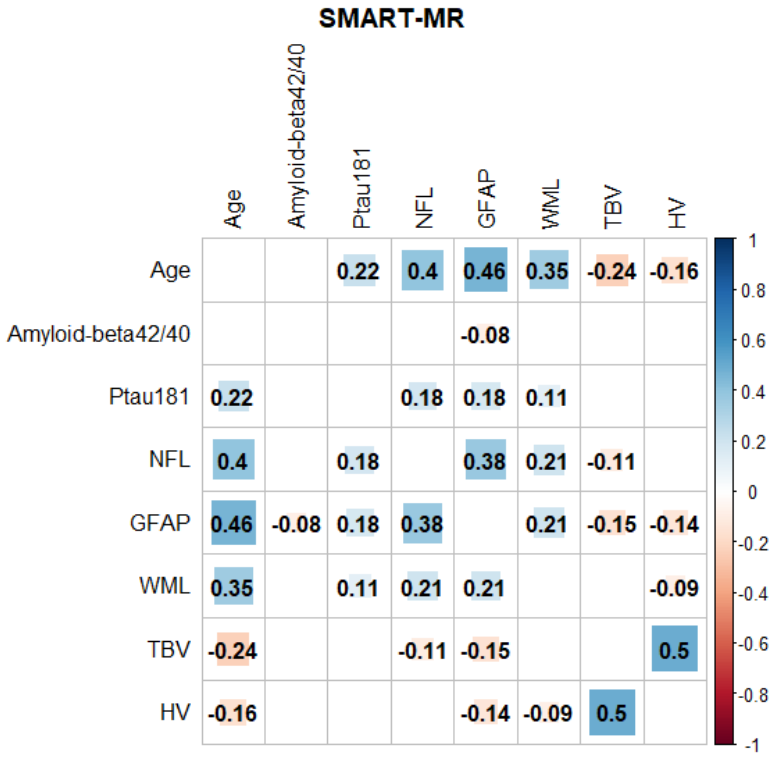
Model 1 is adjusted for age, sex, education, and intracranial volume. Model 2 adds diabetes mellitus, hypertension, smoking status, and alcohol use. White matter lesion volume is log-transformed. * = including 1/Aβ40 and Aβ42 as main effects in the model. SD = standard deviation, Aβ = amyloid-beta, CI = confidence interval.

Table S3. Associations between Aβ40 and Aβ42 and infarcts.

Plasma levels (per SD increase)	Number of infarcts, OR (95% CI), p-value	Lacunar infarcts, OR (95% CI), p-value	Cortical infarcts, OR (95% CI), p-value
Model 1			
Aβ40	1.00 (0.83; 1.20), *p* = 0.958	0.93 (0.76; 1.14), *p* = 0.492	1.16 (0.91; 1.47), *p* = 0.228
Aβ42	1.05 (0.88; 1.25), *p* = 0.620	1.05 (0.87; 1.28), *p* = 0.602	1.23 (0.98; 1.54), *p* = 0.080
Aβ42/Aβ40*	1.18 (0.84; 1.67), p = 0.344	1.32 (0.80; 2.20), p = 0.279	0.99 (0.77; 1.26), p = 0.909
Model 2			
Aβ40	0.96 (0.79; 1.16), *p* = 0.644	0.87 (0.70; 1.07), *p* = 0.185	1.12 (0.88; 1.44), *p* = 0.356
Aβ42	1.01 (0.84; 1.21), *p* = 0.933	0.99 (0.81; 1.21), *p* = 0.896	1.21 (0.95; 1.53), *p* = 0.126
Aβ42/Aβ40*	1.20 (0.79; 1.83), p = 0.384	1.39 (0.80; 2.41), p = 0.242	0.97 (0.77; 1.23), p = 0.814

Model 1 is adjusted for age, sex, and education. Model 2 adds diabetes mellitus, hypertension, smoking status, and alcohol use. White matter lesion volume is log-transformed. * = including 1/Aβ40 and Aβ42 as main effects in the model. SD = standard deviation, Aβ = amyloid-beta, OR = odds ratio, CI = confidence interval.

Figure S1. Correlation matrix between age, AD plasma markers, and MRI markers of vascular pathology.



Pearson correlation coefficients are shown. Bolded coefficients are significant at $p < 0.05$. NFL = neurofilament light, GFAP = glial fibrillary acidic protein, WML = white matter lesions, TBV = total brain volume, HV = hippocampal volume.