

TABLE S1. Stratification of dementia etiology

Dementia subtype	Number of Patients (N and %)	
	N = 108	%
Alzheimer's disease	38	31.5
Vascular dementia	34	31.5
Mixed Alzheimer's disease/ vascular dementia	26	24.1
Lewy body dementia	3	2.8
Frontotemporal dementia	2	1.9
Parkinson dementia	2	1.9
Progressive supranuclear palsy	1	0.9
Mixed Parkinson dementia/ Vascular dementia	1	0.9
Unknown	1	0.9

TABLE S2. Baseline characteristics of patients with incident Alzheimer’s dementia, Vascular dementia and mixed dementia (AD/VaD)

	Alzheimer’s Dementia (N = 38)		Vascular Dementia (N = 34)		Mixed (AD/VaD) group (N = 26)		P value
	Mean/Median/N	SD/IQR/%	Mean/Median/N	SD/IQR/%	Mean/Median/N	SD/IQR/%	
Demographics							
Age	73.2	6.9	72.6	6.9	73.4	4.6	0.89
Men	18	47.4%	22	64.7%	15	57.7%	0.33
Cognition							
More than primary education level	31	81.6%	26	76.5%	23	88.5%	0.49
MMSE score	28	26 – 29	28	26 – 29	28	26.8 – 28	0.98
Cognitive Index	-0.42	-0.92 – 0.04)	-0.70	-1.12 – -0.51)	-0.48	-0.65 – 0.07)	0.013
Vascular Risk Factors							
Hypertension	30	78.9%	30	88.2%)	21	80.8%	0.56
Diabetes	7	18.4%)	8	23.5%	2	7.7%	0.27
Hypercholesterolemia	18	47.4	21	61.8%	13	50.0%	0.44
Smoking	24	63.2%	26	76.5%	16	61.5%	0.37
MRI Characteristics							
Fazekas score (IQR)	1	1 – 2	2	1 – 3)	2	1 – 2	<0.001
WMH, ml (IQR)	4.38	1.74 – 10.50	14.85	6.14 – 37.69	15.40	5.52 – 18.84	<0.001
Presence of lacunes, N (%)	7	18.4%	23	67.6%	9	34.6%	<0.001
Presence of microbleeds ^a	4	10.5%	14	41.2%	4	15.4%	0.005
Presence of DWI+ lesions,	2	5.3%	5	14.7%	2	0.08%	0.37
PSMD of white matter 10 ⁻³ mm ² /s	0.34	0.31 – 0.38	0.44	0.34 – 0.56	0.39	0.34 – 0.42	0.001
HV, ml	6.74	0.79	6.83	0.77	6.88	0.67	0.76
TBV, ml	1015.37	61.00	989.87	69.49	999.38	79.06	0.21
GMV, ml	582.41	49.62	558.17	46.20	575.81	33.71	0.07
WMV, ml	432.96	32.75	431.70	44.58	423.57	67.16	0.72

Data represent numbers (%), means ± SD, or medians (IQR). MMSE: Mini Mental State Examination, IQR: Interquartile Range, WMH: White Matter Hyperintensities, DWI+: Diffusion-Weighted Imaging positive, PSMD: Peak width of Skeletonized Mean Diffusivity, Hippocampus Volume, GMV: Grey Matter Volume, WMV: White Matter Volume. ^a1 patient excluded because of insufficient scan quality.

TABLE S3. Association between MRI characteristics of SVD and incident Alzheimer’s disease and vascular dementia

MRI Characteristics	Model 1 Alzheimer’s Disease (N = 38)		Model 2 Alzheimer’s Disease (N = 38)		Model 1 Vascular Dementia (N = 34)		Model 2 Vascular Dementia (N = 34)	
	HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value
WMH (ml) per 1-SD increase ^a	0.68 (0.46 – 1.03)	0.07	0.51 (0.33 – 0.79)	0.002	3.08 (1.75 – 5.44)	0.001	3.06 (1.82 – 5.16)	0.001
Presence of lacunes	0.50 (0.21 – 1.18)	0.11	0.35 (0.15 – 0.82)	0.02	3.88 (1.74 – 8.65)	<0.001	4.22 (1.99 – 8.93)	<0.001
Presence of microbleeds	0.40 (0.15 – 1.07)	0.07	0.39 (0.13 – 1.11)	0.08	2.31 (1.12 – 4.78)	0.02	2.93 (1.43 – 5.97)	0.003
Presence of DWI ⁺ lesions	1.50 (0.35 – 6.34)	0.58	0.89 (0.21 – 3.84)	0.88	4.62 (1.48 – 14.43)	0.008	4.26 (1.58 – 11.46)	0.004
PSMD white matter 10 ⁻³ mm ² /s per 1-SD increase	0.67 (0.48 – 0.95)	0.03	0.45 (0.27 – 0.77)	0.003	2.32 (1.65 – 3.25)	<0.001	2.12 (1.59 – 2.82)	<0.001
HV (ml) per 1-SD decrease	2.50 (1.54 – 4.00)	<0.001	1.56 (1.67 – 3.85)	<0.001	1.75 (1.18 – 2.56)	0.006	1.25 (0.75 – 2.08)	0.39
TBV (ml) per 1-SD decrease	1.15 (0.84-1.52)	0.37	1.11 (0.79-1.44)	0.42	1.97 (1.24-2.89)	0.007	1.71 (0.91-1.87)	0.17
GMV (ml) per 1-SD decrease	1.03 (0.65 – 1.64)	0.88	0.72 (0.45 – 1.15)	0.17	2.08 (1.32 – 3.22)	0.001	1.85 (1.14 – 3.03)	0.01
WMV (ml) per 1-SD decrease	1.14 (0.82 – 1.56)	0.44	1.06 (0.71 – 1.59)	0.44	1.10 (0.76 – 1.61)	0.611	1.03 (0.72 – 1.47)	0.86

Cox proportional hazards analyses for studying associations between SVD-markers and Alzheimer’s disease and vascular dementia. Model 1: Adjusted for age, sex, CES-D score, education level, and vascular risk factor score. Model 2: Additionally adjusted for hippocampal volume; hippocampal volume was adjusted for PSMD. When analyzing Alzheimer’s Disease or vascular dementia, all other dementia cases were excluded from the analyses. WMH: White Matter Hyperintensities, DWI+: Diffusion-Weighted Imaging positive, PSMD: Peak width of Skeletonized Mean Diffusivity, Hippocampus Volume, TBV: Total Brain Volume, GMV: Grey Matter Volume, WMV: White Matter Volume. ^aLog-transformed.

TABLE S4. Sensitivity analysis on the association between baseline MRI characteristics and incident all-cause dementia after the first follow-up

MRI Characteristics	All-Cause Dementia (N =68)		
	HR	96%CI	p-value
WMH (ml) per 1-SD increase ^a	1.36	1.17 – 1.81	0.006
Presence of lacunes	1.30	0.86 – 1.95	0.21
Presence of microbleeds ^b	1.24	0.76 – 2.00	0.39
Presence of DWI ⁺ lesions ^c	2.19	1.09 – 4.41	0.03
PSMD white matter 10 ⁻³ mm ² /s per 1-SD increase ^c	1.30	1.08 – 1.63	<0.001
HV (ml) per 1-SD decrease	1.74	1.34 – 2.27	< 0.001
TBV (ml) per 1-SD decrease	1.31	0.95-1.56	0.13
GMV (ml) per 1-SD decrease	1.17	0.91 – 1.51	0.37
WMV (ml) per 1-SD decrease	1.23	1.03 – 1.51	0.04

Cox proportional hazards analyses for studying associations between SVD-markers and all-cause dementia. Model 1: Adjusted for age, sex, CES-D score, education level, and vascular risk factor score. Model 2: Additionally adjusted for hippocampal volume; hippocampal volume was adjusted for PSMD. HR: Hazard Ratio, WMH: White Matter Hyperintensities, DWI⁺: Diffusion-Weighted Imaging positive, PSMD: Peak width of Skeletonized Mean Diffusivity, HV: Hippocampus Volume, TBV: Total Brain Volume, GMV: Grey Matter Volume, WMV: White Matter Volume. ^aLog-transformed. ^b3 patients excluded because of insufficient scan quality; ^c4 patients excluded because of insufficient scan quality.