Supplemental Online Content

Thornton GD, Musa TA, Rigolli M, et al. Association of myocardial fibrosis and stroke volume by cardiovascular magnetic resonance with outcome in patients with severe aortic stenosis after valve replacement: the British Society of Cardiovascular Magnetic Resonance AS700 study. *JAMA Cardiol*. Published online April 6, 2022. doi:10.1001/jamacardio.2022.0340

This supplementary material has been provided by the authors to give readers additional information about their work.

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eTable 1. Baseline characteristics

Characteristic	N = 674[1]
Age	75 (66, 80)
Male Sex	425 (63%)
Atrial Fibrillation	84 (12%)
BMI	27.0 (24.1, 30.5)
Type 2 Diabetes	146 (22%)
Hypertension	358 (53%)
NYHA class	
I	81 (13%)
II	258 (42%)
III	248 (41%)
IV	22 (3.6%)
Bicuspid valve	149 (22%)
Coronary Artery Disease	115 (18%)
History of MI	73 (11%)
STS score	1.75 (1.09, 2.98)
Mean gradient (mmHg)	46 (38, 56)
Peak gradient (mmHg)	78 (66, 96)
Valve area (cm2/m2)	0.38 (0.30, 0.44)
LA volume (ml/m2)	53 (41, 67)
LV EDV (ml/m2)	79 (67, 96)
Stroke volume (ml/m2)	46 (40, 54)
LVEF (%)	61 (51, 68)
Max. wall thickness (mm)	14.0 (12.0, 16.0)
LV mass (g/m2)	81 (66, 97)
RVEF (%)	65 (58, 71)
LGE Present	341 (56%)
LGE pattern	
None	272 (44%)
Non-infarct	222 (36%)
Infarct	119 (19%)
LGE (g)	0.32 (0.00, 2.13)

[a] Median (IQR); n (%)

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eTable 2. Univariable analysis of all-cause mortality

Characteristic	HR[1]	95% CI[1]	p-value
Age	1.07	1.05, 1.10	**<0.001**
Male Sex	0.77	0.55, 1.07	0.11
Atrial Fibrillation	2.33	1.57, 3.45	**<0.001**
BMI	0.98	0.94, 1.01	0.16
Type 2 Diabetes	1.32	0.91, 1.90	0.14
Hypertension	1.06	0.77, 1.47	0.71
NYHA class			
I	-	-	
II	2.70	1.08, 6.79	**0.034**
III	4.16	1.66, 10.4	**0.002**
IV	8.75	3.03, 25.2	**<0.001**
Bicuspid valve	0.28	0.16, 0.50	**<0.001**
Coronary Artery Disease	1.51	1.02, 2.24	**0.037**
History of MI	0.74	0.44, 1.23	0.24
STS score	1.18	1.13, 1.23	**<0.001**
Mean gradient (mmHg)	1.01	0.99, 1.02	0.40
Peak gradient (mmHg)	1.00	1.00, 1.01	0.41
Valve area (cm2/m2)	0.30	0.05, 1.70	0.17
LA volume (ml/m2)	1.01	1.00, 1.02	**0.002**
LV EDV (ml/m2)	1.00	1.00, 1.01	0.24
Stroke volume (ml/m2)	0.97	0.95, 0.98	**<0.001**
LVEF (%)	0.98	0.97, 0.99	**<0.001**
RVEF (%)	0.98	0.96, 0.99	**0.001**
Max. wall thickness (mm)	0.93	0.88, 0.99	**0.014**
LV mass (g/m2)	1.00	0.99, 1.01	0.77
LGE Present	2.22	1.50, 3.28	**<0.001**
LGE pattern			
None	-	-	
Non-infarct	2.08	1.36, 3.17	**<0.001**
Infarct	2.49	1.55, 4.00	**<0.001**
LGE (g)	1.05	1.01, 1.08	**0.006**
AS Endotype			
HFHG	-	-	
HFLG	0.74	0.40, 1.37	0.34
LFHG	1.74	0.99, 3.03	0.052
LFLG	1.97	0.86, 4.53	0.11

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eTable 3. Univariable analysis of cardiovascular mortality

Characteristic	HR[1]	95% CI[1]	p-value
Age	1.09	1.06, 1.12	**<0.001**
Male Sex	0.55	0.35, 0.89	**0.014**
Atrial Fibrillation	3.37	2.00, 5.67	**<0.001**
BMI	0.97	0.92, 1.02	0.23
Type 2 Diabetes	1.93	1.18, 3.14	**0.009**
Hypertension	1.02	0.64, 1.63	0.94
NYHA class			
I	-	-	
II	2.83	0.66, 12.2	0.16
III	5.60	1.33, 23.5	**0.019**
IV	15.3	3.17, 73.7	**<0.001**
Bicuspid valve	0.25	0.11, 0.58	**0.001**
CAD	1.82	1.06, 3.11	**0.030**
History of MI	0.67	0.33, 1.36	0.27
STS score	1.21	1.15, 1.28	**<0.001**
Mean gradient (mmHg)	0.99	0.97, 1.01	0.51
Peak gradient (mmHg)	1.00	0.99, 1.01	0.74
Valve area (cm2/m2)	0.26	0.02, 3.32	0.30
LA volume (ml/m2)	1.02	1.01, 1.03	**<0.001**
LV EDV (ml/m2)	1.00	1.00, 1.01	0.37
Stroke volume (ml/m2)	0.96	0.93, 0.98	**<0.001**
LVEF (%)	0.97	0.95, 0.98	**<0.001**
RVEF (%)	0.96	0.95, 0.98	**<0.001**
Max. wall thickness (mm)	0.91	0.84, 0.99	**0.026**
LV mass (g/m2)	1.00	0.99, 1.01	0.81
LGE Present	3.38	1.84, 6.22	<0.001
LGE pattern			
None	-	-	
Non-infarct	2.80	1.45, 5.40	**0.002**
Infarct	4.54	2.30, 8.97	**<0.001**
LGE (g)	1.07	1.02, 1.12	**0.003**
AS Endotype			
HFHG	-	-	
HFLG	0.79	0.31, 2.06	0.64
LFHG	2.56	1.21, 5.42	**0.014**
LFLG	3.75	1.45, 9.71	**0.006**

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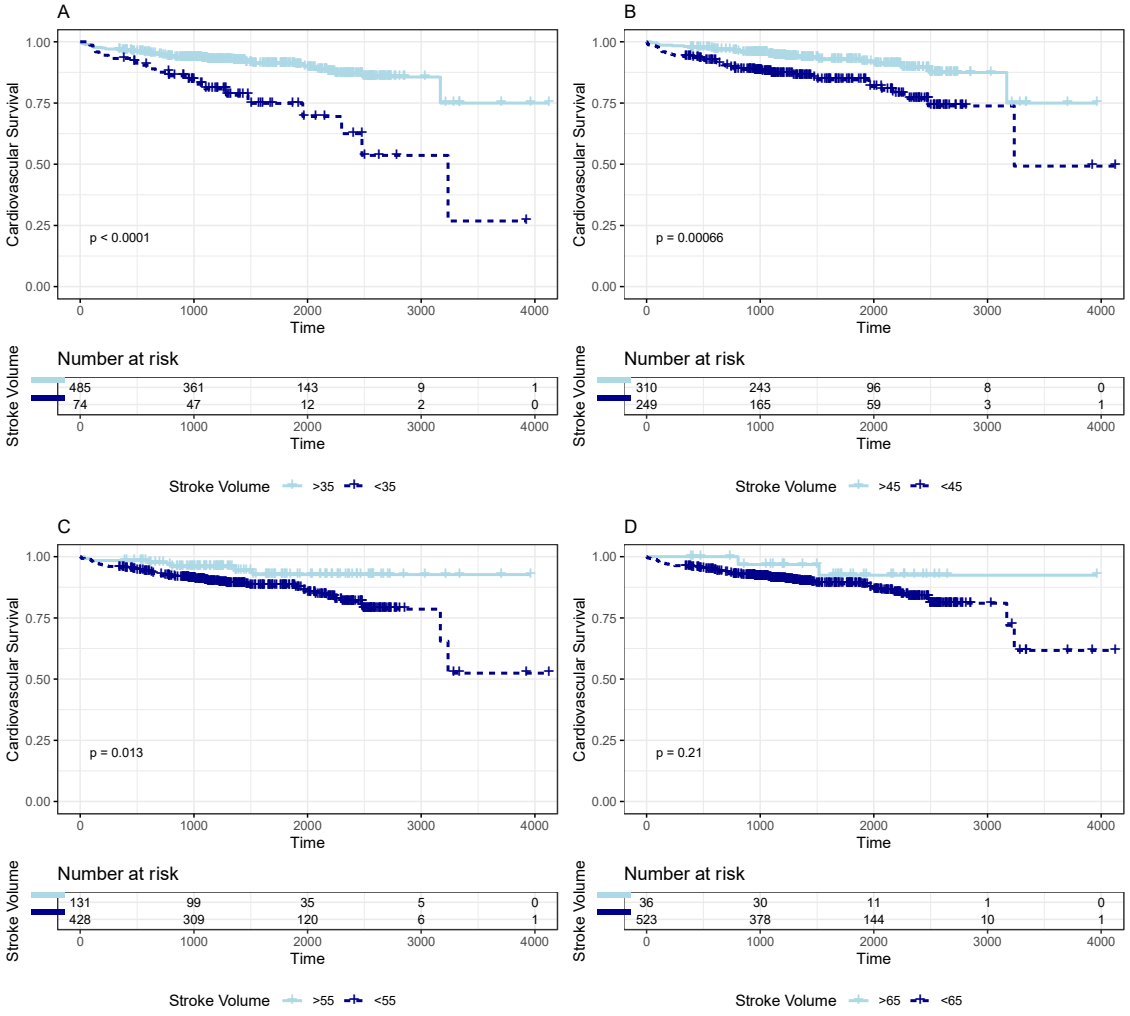
eFigure 1. Univariable cardiovascular survival by SVi_{CMR}



Kaplan-Meier Plots demonstrating differences in cardiovascular mortality when the cohort is divided by different SVi_{CMR} thresholds. A, SVi_{CMR} threshold of 35ml/m^2; B, SVi_{CMR} threshold of 45ml/m^2; C, SVi_{CMR} threshold of 55ml/m^2; D, SVi_{CMR} threshold of 65 ml/m^2.

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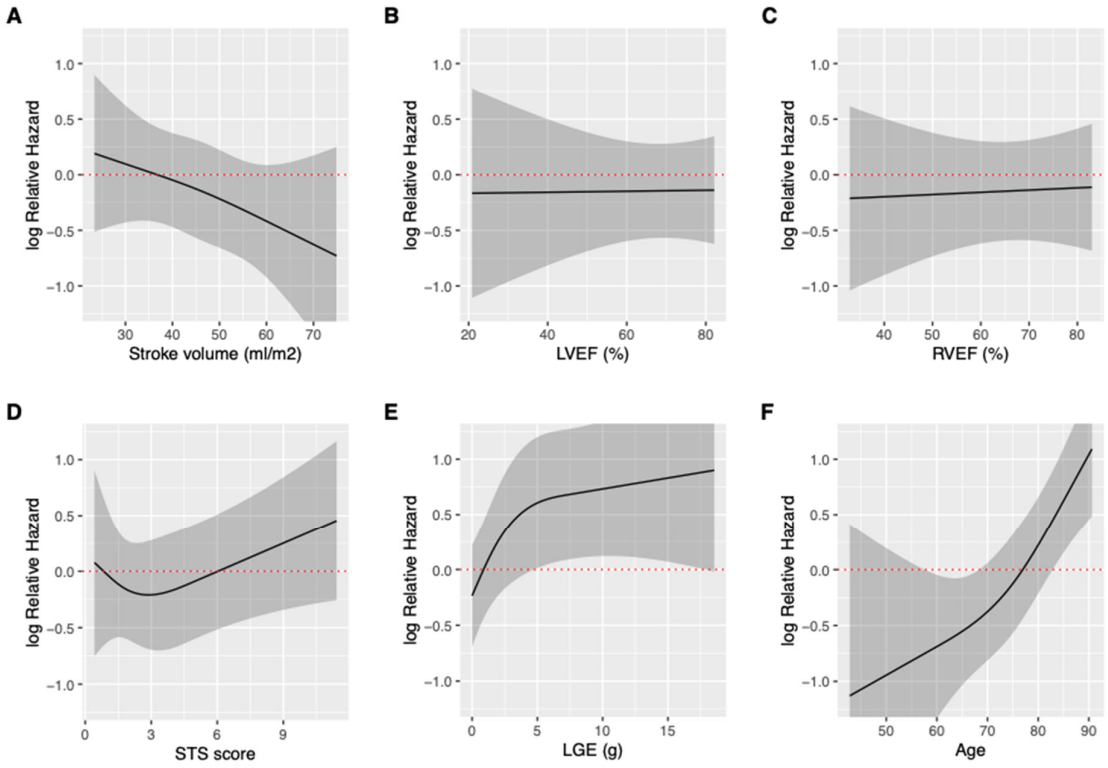
eFigure 2. Partial association plots of hazard ratio of all-cause death



Plots demonstrating the association between individual variables and cardiovascular mortality. The shaded area represents the 95% confidence interval. A, Indexed stroke volume; B Left ventricular ejection fraction; C, Right ventricular ejection fraction; D STS score; Late gadolinium enhancement; E Age.

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