

Supplemental Material

Table S1. Factors associated with all-cause 3-year mortality (including only preprocedural factors).

Parameter	Univariate		Multivariate	
	HR (95% CI)	P-value	HR (95% CI)	P-value
Age (per 1 year increase)	1.01 (0.99-1.03)	0.233	0.99 (0.98-1.01)	0.406
Male sex	1.27 (1.07-1.52)	0.007	1.33 (1.08-1.84)	0.008
BMI (per 1kg/m ² increase)	0.44 (0.15-1.29)	0.134		
STS (per 1% increase)	1.15 (1.12-1.19)	<0.001	1.12 (1.07-1.16)	<0.001
logES I (per 1% increase)	1.12 (1.08-1.15)	<0.001	1.02 (0.97-1.06)	0.492
NYHA III/IV	1.86 (1.45-2.37)	<0.001	1.46 (1.10-1.93)	0.009
Previous CAD	1.21 (1.01-1.46)	0.042	1.02 (0.81-1.29)	0.876
Previous MI	1.33 (1.06-1.66)	0.013	0.93 (0.70-1.22)	0.583
Previous CABG	1.32 (1.02-1.71)	0.032	1.04 (0.73-1.48)	0.838
Previous PCI	1.16 (0.93-1.45)	0.203		
Art. Hypertension	0.88 (0.63-1.22)	0.434		
Diabetes mellitus (yes/no)	1.21 (1.01-1.44)	0.036	0.93 (0.75-1.15)	0.507
Atrial fibrillation	1.56 (1.31-1.86)	<0.001	1.28 (1.04-1.57)	0.019
Previous stroke	0.76 (0.55-1.06)	0.105		
PAD	1.51 (1.18-1.93)	0.001	1.40 (1.06-1.85)	0.019
COPD	1.35 (1.09-1.68)	0.007	0.91 (0.69-1.20)	0.509
CKD stage ≥3b	1.84 (1.54-2.19)	<0.001	1.28 (1.02-1.61)	0.033
Immunosuppressive therapy	1.13 (0.82-1.55)	0.469		
LV-EF (> 50% vs. ≤50%)	1.31 (1.09-1.56)	0.004	0.97 (0.78-1.22)	0.815

SVI (low-flow vs. normal-flow)	1.46 (1.23-1.75)	<0.001	1.22 (1.00-1.50)	0.05
MPG (> 40mmHg vs. ≤40mmHg)	1.14 (0.96-1.37)	0.138		
MR grade ≥2 (baseline)	1.51 (1.18-1.94)	0.001	1.14 (0.86-1.53)	0.365
AR grade ≥2 (baseline)	1.26 (0.99-1.61)	0.059	1.22 (0.94-1.59)	0.132

AR indicates aortic regurgitation; CAD, coronary artery disease; CABG, coronary artery bypass grafting; CKD stage, chronic kidney disease stage; COPD, chronic obstructive lung disease; log ES I, logistic EuroScore I; LV-EF, left ventricular ejection fraction; MI, myocardial infarction; MPG, mean pressure gradient, MR, mitral regurgitation; NYHA class, New York Heart Association class; PAD, peripheral artery disease; PCI, percutaneous coronary intervention; STS, Society of Thoracic Surgeons score; SVI, stroke volume index.

Table S2. Factors associated with all-cause 3-year mortality (including preprocedural and periprocedural factors).

Parameter	Univariate		Multivariate	
	HR (95% CI)	P-value	HR (95% CI)	P-value
Age (per 1 year increase)	1.01 (0.99-1.03)	0.233	1.00 (0.98-1.02)	0.609
Male sex	1.27 (1.07-1.52)	0.007	1.24 (0.99-1.57)	0.067
BMI (per 1kg/m ² increase)	0.44 (0.15-1.29)	0.134		
STS (per 1% increase)	1.15 (1.12-1.19)	<0.001	1.09 (1.05-1.15)	<0.001
logES I (per 1% increase)	1.12 (1.08-1.15)	<0.001	1.00 (0.95-1.06)	0.973
NYHA III/IV	1.86 (1.45-2.37)	<0.001	1.42 (1.05-1.92)	0.024
Previous CAD	1.21 (1.01-1.46)	0.042	0.96 (0.74-1.23)	0.724
Previous MI	1.33 (1.06-1.66)	0.013	1.04 (0.75-1.44)	0.805
Previous CABG	1.32 (1.02-1.71)	0.032	1.15 (0.83-1.61)	0.396
Previous PCI	1.16 (0.93-1.45)	0.203		
Art. Hypertension	0.88 (0.63-1.22)	0.434		
Diabetes mellitus (yes/no)	1.21 (1.01-1.44)	0.036	0.97 (0.75-1.24)	0.780
Atrial fibrillation	1.56 (1.31-1.86)	<0.001	1.36 (1.08-1.71)	0.008
Previous stroke	0.76 (0.55-1.06)	0.105		
PAD	1.51 (1.18-1.93)	0.001	1.49 (1.10-2.02)	0.011
COPD	1.35 (1.09-1.68)	0.007	0.99 (0.72-1.34)	0.925
CKD stage ≥3b	1.84 (1.54-2.19)	<0.001	1.30 (1.01-1.68)	0.042
Immunosuppressive therapy	1.13 (0.82-1.55)	0.469		
LV-EF (> 50% vs. ≤50%)	1.31 (1.09-1.56)	0.004	0.95 (0.74-1.21)	0.660

SVI (low-flow vs. normal-flow)	1.46 (1.23-1.75)	<0.001	1.29 (1.03-1.62)	0.03
MPG (> 40mmHg vs. ≤40mmHg)	1.14 (0.96-1.37)	0.138		
MI ≥2 (baseline)	1.51 (1.18-1.94)	0.001	0.98 (0.70-1.38)	0.914
AI ≥2 (baseline)	1.26 (0.99-1.61)	0.059	1.25 (0.94-1.67)	0.129
Self vs. balloon expendable	1.00 (0.81-1.22)	0.965		
AI ≥2 (post-TAVI)	1.41 (0.97-2.04)	0.073	1.51 (1.03-2.22)	0.036
VARC-II MI	4.48 (2.32-8.67)	<0.001	1.45 (0.20-10.41)	0.713
VARC-II Stroke	1.88 (1.34-2.65)	<0.001	1.45 (0.92-2.27)	0.107
VARC-II Renal Failure	2.99 (2.46-3.63)	<0.001	1.81 (1.38-2.37)	<0.001
VARC-II Bleeding	1.35 (1.12-1.61)	0.001	1.04 (0.83-1.32)	0.729
VARC-II Access site complication	1.08 (0.89-1.33)	0.407		
New PPM/ICD	1.19 (0.99-1.44)	0.066	1.21 (0.96-1.52)	0.113

AR indicates aortic regurgitation; CAD, coronary artery disease; CABG, coronary artery bypass grafting; CKD stage, chronic kidney disease stage; COPD, chronic obstructive lung disease; ICD, implantable cardioverter defibrillator; log ES I, logistic EuroScore I; LV-EF, left ventricular ejection fraction; MI, myocardial infarction; MPG, mean pressure gradient, MR, mitral regurgitation; NYHA class, New York Heart Association class; PAD, peripheral artery disease; PCI, percutaneous coronary intervention; PPM, permanent pacemaker; STS, Society of Thoracic Surgeons score; SVI, stroke volume index; VARC, Valve Academic Research Consortium.

Table S3. Factors associated with cardiovascular 3-year mortality (including only preprocedural factors).

Parameter	Univariate		Multivariate	
	HR (95% CI)	p	HR (95% CI)	P
Age (per 1 year increase)	1.03 (1.01-1.05)	0.001	1.02 (1.00-1.04)	0.072
Male sex	1.19 (0.97-1.45)	0.097	1.30 (1.04-1.63)	0.021
BMI (per 1kg/m ² increase)	0.24 (0.07-0.85)	0.027	0.37 (0.09-1.50)	0.164
STS (per 1% increase)	1.18 (1.13-1.22)	<0.001	1.15 (1.10-1.20)	<0.001
logES I (per 1% increase)	1.14 (1.09-1.18)	<0.001	1.01 (0.97-1.06)	0.603
NYHA III/IV	1.79 (1.36-2.36)	<0.001	1.38 (1.02-1.87)	0.036
Previous CAD	1.19 (0.96-1.47)	0.114		
Previous MI	1.26 (0.97-1.64)	0.080	0.93 (0.69-1.26)	0.644
Previous CABG	1.18 (0.87-1.60)	0.288		
Previous PCI	1.15 (0.89-1.48)	0.292		
Art. Hypertension	0.89 (0.60-1.30)	0.533		
Diabetes mellitus (yes/no)	1.15 (0.94-1.41)	0.170		
Atrial fibrillation	1.67 (1.37-2.05)	<0.001	1.39 (1.11-1.74)	0.004
Previous stroke	0.79 (0.54-1.14)	0.209		
PAD	1.53 (1.16-2.02)	0.003	1.46 (1.04-2.04)	0.029
COPD	1.29 (1.00-1.66)	0.049	0.87 (0.65-1.17)	0.360
CKD stage ≥3b	1.93 (1.58-2.36)	<0.001	1.20 (0.94-1.53)	0.146
Immunosuppressive therapy	1.14 (0.79-1.64)	0.474		
LV-EF (> 50% vs. ≤50%)	1.32 (1.08-1.62)	0.008	0.96 (0.75-1.23)	0.755

SVI (lowflow vs. normal flow)	1.51 (1.23-1.85)	<0.001	1.28 (1.02-1.59)	0.033
MPG (> 40mmHg vs. ≤40mmHg)	1.05 (0.86-1.29)	0.641		
MI ≥2 (baseline)	1.63 (1.24-2.15)	0.001	1.22 (0.91-1.63)	0.188
AI ≥2 (baseline)	1.20 (0.90-1.59)	0.209		

AR indicates aortic regurgitation; CAD, coronary artery disease; CABG, coronary artery bypass grafting; CKD stage, chronic kidney disease stage; COPD, chronic obstructive lung disease; log ES I, logistic EuroScore I; LV-EF, left ventricular ejection fraction; MI, myocardial infarction; MPG, mean pressure gradient, MR, mitral regurgitation; NYHA class, New York Heart Association class; PAD, peripheral artery disease; PCI, percutaneous coronary intervention; STS, Society of Thoracic Surgeons score; SVI, stroke volume index.

Table S4. Factors associated with cardiovascular 3-year mortality (including preprocedural and periprocedural factors).

Parameter	Univariate		Multivariate	
	HR (95% CI)	p	HR (95% CI)	P
Age (per 1 year increase)	1.03 (1.01-1.05)	0.001	1.01 (0.99-1.03)	0.459
Male sex	1.19 (0.97-1.45)	0.097	1.32 (1.01-1.71)	0.039
BMI (per 1kg/m ² increase)	0.24 (0.07-0.85)	0.027	0.39 (0.08-1.95)	0.251
STS (per 1% increase)	1.18 (1.13-1.22)	<0.001	1.15 (1.10-1.21)	<0.001
logES I (per 1% increase)	1.14 (1.09-1.18)	<0.001	1.01 (0.95-1.06)	0.875
NYHA III/IV	1.79 (1.36-2.36)	<0.001	1.28 (0.91-1.79)	0.151
Previous CAD	1.19 (0.96-1.47)	0.114		
Previous MI	1.26 (0.97-1.64)	0.080	1.10 (0.80-1.52)	0.551
Previous CABG	1.18 (0.87-1.60)	0.288		
Previous PCI	1.15 (0.89-1.48)	0.292		
Art. Hypertension	0.89 (0.60-1.30)	0.533		
Diabetes mellitus (yes/no)	1.15 (0.94-1.41)	0.170		
Atrial fibrillation	1.67 (1.37-2.05)	<0.001	1.56 (1.21-2.02)	0.001
Previous stroke	0.79 (0.54-1.14)	0.209		
PAD	1.53 (1.16-2.02)	0.003	1.46 (1.04-2.04)	0.029
COPD	1.29 (1.00-1.66)	0.049	0.98 (0.70-1.38)	0.912
CKD stage ≥3b	1.93 (1.58-2.36)	<0.001	1.20 (0.90-1.59)	0.207
Immunosuppressive therapy	1.14 (0.79-1.64)	0.474		
LV-EF (> 50% vs. ≤50%)	1.32 (1.08-1.62)	0.008	0.93 (0.70-1.22)	0.580

SVI (lowflow vs. normal flow)	1.51 (1.23-1.85)	<0.001	1.37 (1.06-1.77)	0.016
MPG (> 40mmHg vs. ≤40mmHg)	1.05 (0.86-1.29)	0.641		
MI ≥2 (baseline)	1.63 (1.24-2.15)	0.001	1.09 (0.76-1.55)	0.643
AI ≥2 (baseline)	1.20 (0.90-1.59)	0.209		
Self vs. balloon expendable	1.10 (0.88-1.38)	0.409		
AI ≥2 (post-TAVI)	1.68 (1.12-2.51)	0.012	1.54 (1.02-2.33)	0.042
VARC-II MI	5.74 (2.96-11.12)	<0.001	2.37 (0.33-17.07)	0.393
VARC-II Stroke	1.89 (1.29-2.78)	0.001	1.84 (1.17-2.90)	0.008
VARC-II Renal Failure	3.19 (2.56-3.97)	<0.001	1.83 (1.36-2.47)	<0.001
VARC-II Bleeding	1.50 (1.22-1.84)	<0.001	1.06 (0.80-1.40)	0.684
VARC-II Access site complication	1.21 (0.97-1.52)	0.091	1.11 (0.84-1.46)	0.475
New PPM/ICD	1.13 (0.91-1.41)	0.254		

AR indicates aortic regurgitation; CAD, coronary artery disease; CABG, coronary artery bypass grafting; CKD stage, chronic kidney disease stage; COPD, chronic obstructive lung disease; ICD, implantable cardioverter defibrillator; log ES I, logistic EuroScore I; LV-EF, left ventricular ejection fraction; MI, myocardial infarction; MPG, mean pressure gradient, MR, mitral regurgitation; NYHA class, New York Heart Association class; PAD, peripheral artery disease; PCI, percutaneous coronary intervention; PPM, permanent pacemaker; STS, Society of Thoracic Surgeons score; SVI, stroke volume index; VARC, Valve Academic Research Consortium.

Figure S1. Receiver operating curve for stroke volume index.

