Supplementary

Table S1 Univariable and multivariable Cox proportional hazards models for all-cause mortality

Variables	Death					
	Univariable			Multivariable		
	HR	95% CI	P value	HR	95% CI	P value
Rheumatic	0.64	0.50–0.82	<0.001	0.91	0.70–1.20	0.518
Age (years)	1.07	1.06–1.09	<0.001	1.07	1.05–1.08	<0.001
Hypertension	1.68	1.31–2.15	<0.001			
Diabetes mellitus	2.10	1.57–2.80	<0.001	1.38	1.02–1.86	0.036
Congestive heart failure	2.32	1.69–3.19	<0.001	1.45	1.04–2.03	0.029
Coronary artery disease	3.27	2.46–4.33	<0.001	1.67	1.23–2.27	0.001
eGFR	98					
<30	5.88	3.41–10.14	<0.001	2.89	1.62–5.15	<0.001
30-60	1.87	1.40–2.50	<0.001	0.98	0.72–1.33	0.888
≥ 60	Ref			Ref		
Hemoglobin (g/dL)	0.78	0.73–0.83	<0.001	0.87	0.81–0.93	<0.001
Peripheral arterial disease	1.58	1.05–2.38	0.027			
NYHA functional class III or IV	1.86	1.43–2.43	<0.001			
TR ≥ moderate	1.44	1.13–1.84	0.004			
CPB time per 10 min	1.05	1.03–1.07	<0.001	1.04	1.02–1.06	<0.001
ACC time per 10 min	1.05	1.01–1.08	0.004			
Minimally invasive approach	0.44	0.32–0.60	<0.001			
Year of surgery						
2001-2005	Ref			Ref		
2006-2010	0.93	0.64–1.36	0.709	0.78	0.53–1.14	0.202
2011-2015	0.77	0.52–1.14	0.191	0.48	0.32–0.73	<0.001
2016-2020	0.45	0.29–0.70	<0.001	0.26	0.16–0.41	<0.001

Candidate variables were initially screened with univariable analyses. Significant variables with a P<0.05 in univariable models were used to build a full multivariable model. The full multivariable model was built with all variables screened from univariable analyses (MV etiology, age, sex, AF type, hypertension, diabetes mellitus, dyslipidemia, congestive heart failure, chronic lung disease, history of stroke, coronary artery disease, eGFR, hemoglobin, peripheral arterial disease, NYHA class 3 or 4, LV ejection fraction, LVEDD, LVESD, LA diameter, significant TR, LA ablation, LA size reduction, CPB time, ACC time, rhythm follow up time and early AF recurrence). Only variables with a P<0.05 in the full multivariable model were retained in the final multivariable model. AF, atrial fibrillation; CI, confidence interval; MV, mitral valve; eGFR, estimated glomerular filtration rate; LV, left ventricular; LVEDD, left ventricular end-diastolic diameter; LVESD, left ventricular end-systolic diameter; LA, left atrial; TR, tricuspid regurgitation; CPB, cardiopulmonary bypass; ACC, aortic cross-clamping.

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Table S2 Predictors of stroke: univariable and multivariable subdistribution hazard analysis

Variables	Stroke					
	Univariable			Multivariable		
	sHR	95% CI	P value	sHR	95% CI	P value
Rheumatic	1.05	0.64–1.71	0.850	1.15	0.76–1.74	0.520
BMI	0.92	0.87–0.97	0.003	0.91	0.87–0.96	<0.001
Hypertension	1.62	1.05–2.50	0.030	1.88	1.27–2.79	0.002
LA size reduction	0.57	0.37–0.89	0.013	0.54	0.35–0.81	0.003
LA diameter, mm	1.04	1.01–1.06	0.004	1.04	1.02–1.06	<0.001

Candidate variables were initially screened with univariable analyses. Significant variables with a P<0.05 in univariable models were used to build a full multivariable model. The full multivariable model was built with all variables screened from univariable analyses (MV etiology, age, sex, AF type, hypertension, diabetes mellitus, dyslipidemia, congestive heart failure, chronic lung disease, history of stroke, coronary artery disease, eGFR, hemoglobin, peripheral arterial disease, NYHA class 3 or 4, LV ejection fraction, LVEDD, LVESD, LA diameter, significant TR, LA ablation, LA size reduction, CPB time, ACC time, rhythm follow up time and early AF recurrence). Only variables with a P<0.05 in the full multivariable model were retained in the final multivariable model. AF, atrial fibrillation; CI, confidence interval; MV, Mitral valve; eGFR, estimated glomerular filtration rate; LV, Left ventricular; LVEDD, Left Ventricular End-Diastolic Diameter; LVESD, Left Ventricular End-Systolic Diameter; LA, Left atrial; TR, Tricuspid regurgitation; CPB, Cardiopulmonary bypass; ACC, Aortic cross-clamping.

Table S3 Predictors of PPM implantation: univariable and multivariable subdistribution hazard analysis

Variables	PPM					
	Univariable			Multivariable		
	sHR	95% CI	P value	sHR	95% CI	P value
Rheumatic	1.43	0.96–2.14	0.081	1.39	1.00–1.95	0.052
Age	1.03	1.01–1.05	<0.001	1.03	1.02–1.05	<0.001
TR ≥ moderate	1.53	1.06–2.21	0.025	1.69	1.21–2.36	0.002
LA size reduction	0.69	0.49–0.99	0.042	0.69	0.50–0.96	0.026
LA diameter, mm	1.03	1.01–1.04	0.006	1.03	1.02–1.05	<0.001
CPB time per 10 min	1.05	1.01–1.09	0.020	1.04	1.02–1.06	<0.001

Candidate variables were initially screened with univariable analyses. Significant variables with a P<0.05 in univariable models were used to build a full multivariable model. The full multivariable model was built with all variables screened from univariable analyses (MV etiology, age, sex, AF type, hypertension, diabetes mellitus, dyslipidemia, congestive heart failure, chronic lung disease, history of stroke, coronary artery disease, eGFR, hemoglobin, peripheral arterial disease, NYHA class 3 or 4, LV ejection fraction, LVEDD, LVESD, LA diameter, significant TR, LA ablation, LA size reduction, CPB time, ACC time, rhythm follow up time and early AF recurrence). Only variables with a P<0.05 in the full multivariable model were retained in the final multivariable model. AF, atrial fibrillation; CI, confidence interval; MV, Mitral valve; eGFR, Estimated glomerular filtration rate; LV, Left ventricular; LVEDD, Left Ventricular End-Diastolic Diameter; LVESD, Left Ventricular End-Systolic Diameter; LA, Left atrial; TR, Tricuspid regurgitation; CPB, Cardiopulmonary bypass; ACC, Aortic cross-clamping.

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