SUPPLEMENTAL MATERIAL

Table S1. Frequency with which each candidate variable was selected through backwards model selection in 100 bootstrap samples drawn from each of the 100 imputed datasets, with averaged betas over the 100 selected models.

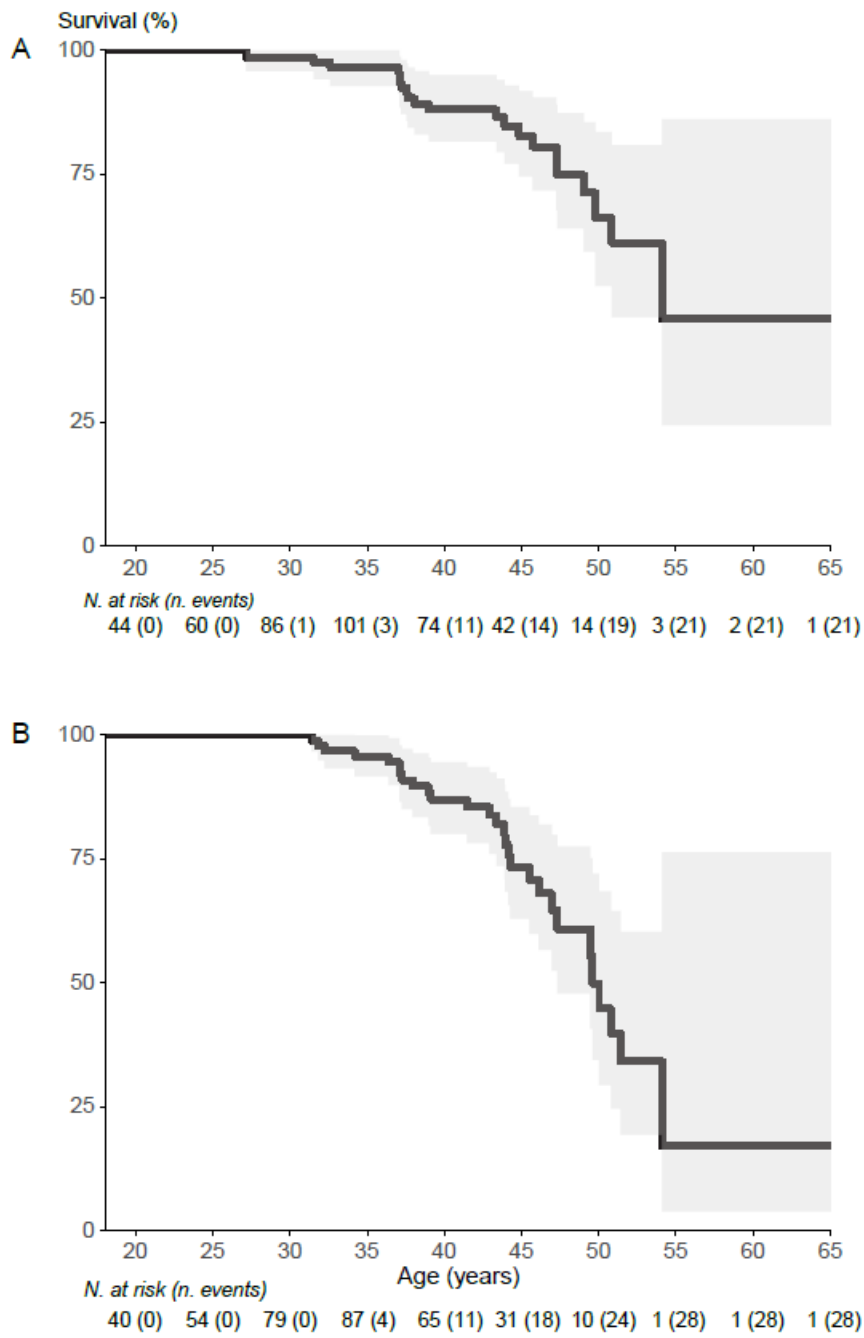| Predictors	Frequency selected	Averaged Beta	Averaged SE	P value
Age > 30	**100**	0.90	0.444	0.043
Mustard	15	0.09	0.224	0.680
Age > 1 year at AtrSO	**100**	1.48	0.528	0.005
Symptoms (NYHA ≥2)	28	0.21	0.868	0.812
Prior ventricular arrhythmia	**100**	1.11	0.433	0.011
Pacemaker	0			
Prior supraventricular arrhythmia	0			
QRS duration > 120 ms	47	0.23	0.258	0.378
Heart rate (beats/min)	1	0.00	0.018	0.921
≥ Moderate RV dysfunction	**93**	0.91	0.348	0.009
Severe tricuspid regurgitation	**99**	1.21	0.225	0.000
≥ Mild LV dysfunction	**98**	1.41	0.427	0.001

Baseline variables selected as independent predictors of event-free survival in at least 60% of bootstrap samples in at least 60% of the imputed datasets were included in the final prediction model (Table 3 in the manuscript). The provided risk score was based on the betas of the final model.

Table S2. Baseline characteristics split by risk category.

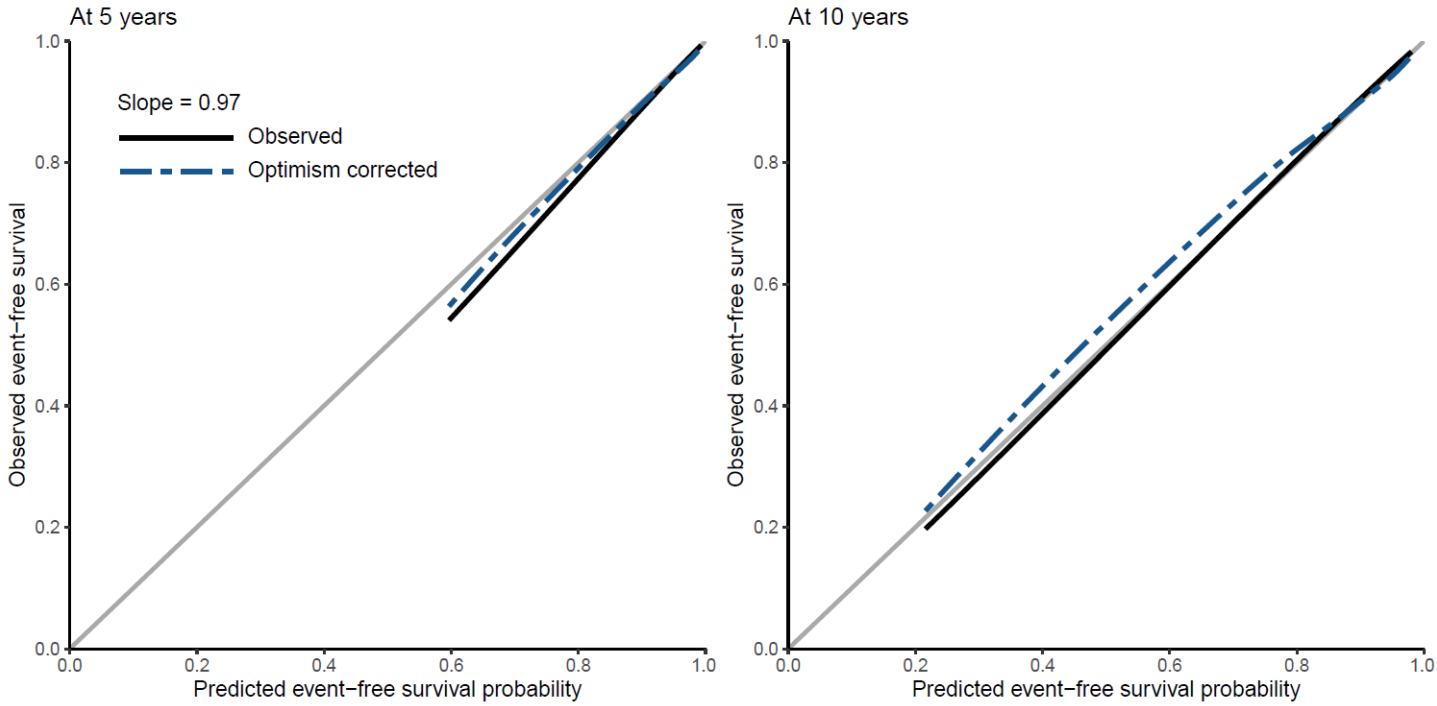| Complete, n		Low n=91	Intermediate n=62	High n=14	p
Clinical characteristics					
	Age > 30 years	10 (11)	52 (84)	12 (86)	<0.001
	Male	60 (66)	36 (58)	8 (57)	0.57
	Complex TGA	24 (26)	22 (36)	5 (36)	0.44
	Mustard	39 (43)	50 (81)	12 (86)	<0.001
	Age > 1 year at AtrSO	18 (20)	58 (94)	13 (93)	<0.001
162	Symptoms (NYHA 2+)	9 (10)	22 (36)	8 (62)	<0.001
159	Body mass index, kg/m2	23±4	24±4	27±9	0.013
160	Systolic blood pressure, mmHg	120±13	122±15	114±14	0.13
	Prior heart failure hospitalization	1 (1)	3 (5)	4 (29)	<0.001
	Prior ventricular arryhtmia	4 (4)	2 (3)	7 (50)	<0.001
	Prior baffle intervention	13 (14)	11 (18)	2 (14)	0.84
	ICD	1 (1)	1 (2)	3 (21)	<0.001
	Pacemaker	13 (14)	19 (31)	9 (64)	<0.001
	Prior supraventricular tachyarrhythmia	23 (25)	27 (44)	8 (57)	0.012
	Beta blocker	11 (12)	13 (21)	4 (29)	0.17
	ACE inhibitor	18 (20)	19 (31)	8 (57)	0.010
	Diuretics	1 (1)	8 (13)	5 (36)	<0.001
Electrocardiogram					
138	Heart rate, /min	63±14	70±16	80±15	<0.001
118	QRS duration > 120 ms	7 (13)	16 (31)	8 (67)	<0.001
163	Loss of sinus rhythm	18 (20)	17 (28)	7 (50)	0.057
	Ventricular pacing	5 (6)	9 (15)	3 (21)	0.067
Echocardiography					
157	≥ Moderate RV dysfunction	10 (12)	19 (33)	9 (64)	<0.001
159	Severe tricuspid regurgitation	2 (2)	3 (5)	7 (50)	<0.001
162	≥ Mild LV dysfunction	0 (0)	2 (3)	6 (46)	<0.001
154	Signs of baffle obstruction	14 (17)	9 (15)	4 (33)	0.32
CMR/CT					
67	LVEDV, ml	136±44	149±48	122±34	0.40
65	LVESV, ml	60±27	67±24	70±22	0.54
67	LVEF, %	58±9	55±10	56±4	0.28
76	RVEDV, ml	195±67	223±59	223±81	0.17
73	RVESV, ml	110±45	130±51	140±58	0.18
76	RVEF, %	43±9	41±9	40±4	0.50
Exercise testing					
68	Peak heart rate, /min	174 [160-187]	169 [151-179]	123 [123-130]	0.077
62	Peak systolic blood pressure, mmHg	174±32	167±31	163±29	0.59

Data described as frequency(%), mean±SD, or median[IQR]. Abbreviations: ACE, angiotensin-converting enzyme; AtrSO, atrial switch operation; CMR, cardiovascular magnetic resonance; EDV, end diastolic volume; ESV, end systolic volume; EF, ejection fraction; ICD: implantable cardioverter-defibrillator; LV, left ventricle; NYHA, New York Heart Association class; RV, right ventricle; TGA, transposition of the great arteries.

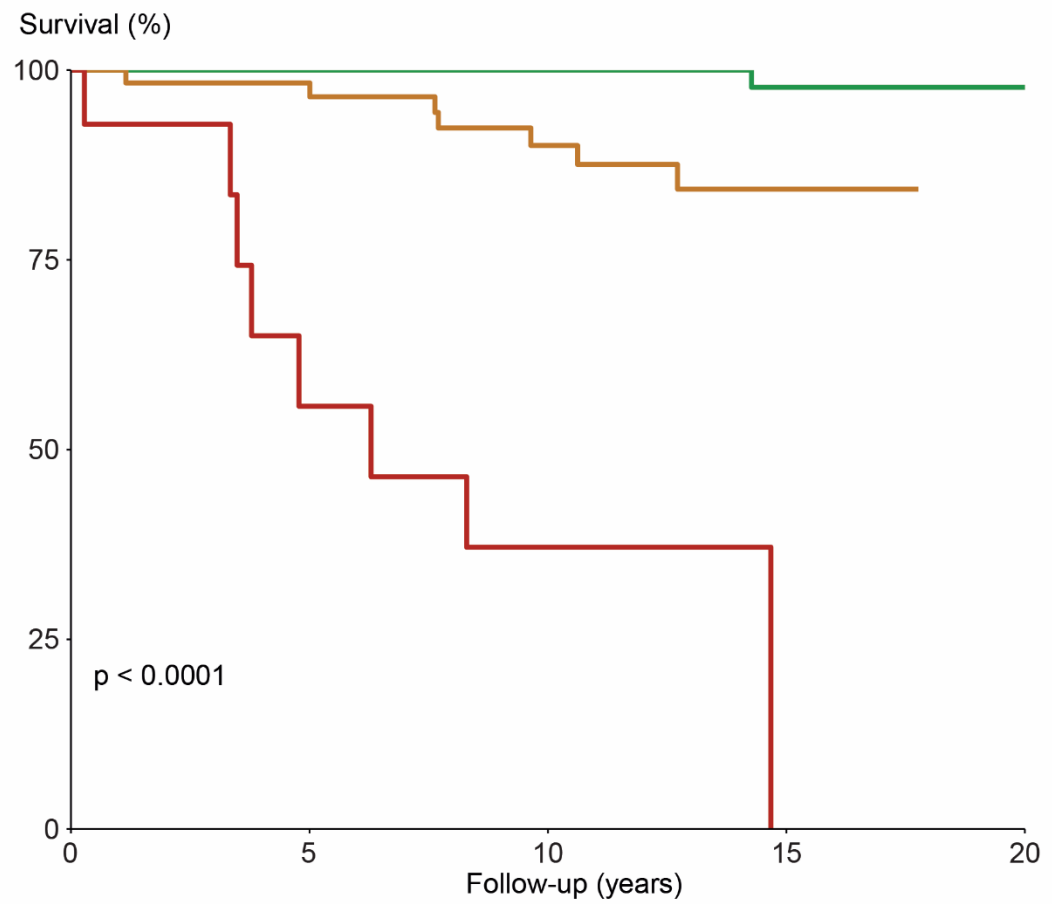**Figure S1. Kaplan Meier survival curves.**

Panel A: Survival to death/transplant/ventricular assist device in all patients. Panel B: event-free survival in event-naïve patients.

Figure S2. Risk score model calibration.

Predicted event-free survival according to the risk score versus observed event-free survival at 5 years of follow-up (left panel) and 10 years of follow-up (right panel).

Figure S3. Kaplan Meier for all-cause mortality by risk group.

Low risk	91 (0)	84 (0)	72 (0)	35 (1)	1 (1)
Intermediate risk	62 (0)	54 (1)	37 (5)	12 (7)	0 (7)
High risk	14 (0)	6 (5)	3 (7)	0 (8)	0 (8)

Observed survival of patients with predicted low (<5% in 5 years), intermediate (5-20% in 5 years) and high risk of events (>20% in 5 years).