

Supplementary Online Content

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

eAppendix 1. International Classification of Disease 9th and 10th revisions (ICD-9 and ICD-10) codes for each endpoint

	International Classification of Disease 9th revision (ICD-9) code	International Classification of Disease 10th revision (ICD-10) code
Clinical endpoint		
Heart failure readmission	398.x, 402.x1, 404.x1, 404.x3, 428.x	I0981, I110, I130, I132, I502x, I503x, I504x, I509
Myocardial infarction	410.x1, 410.x0	I21x, I22x
Falsification endpoint		
Hip fracture	820.x, 821.x	S72***A, S72***B, S72***C
Urinary tract infection	595*	N30*, A5601
Pneumonia	480.x, 481, 482.xx, 483.xx, 485, 486, 487.0, and 488.11	J11.0x, J12.x, J13.x, J14.x, J15.x, J16.x, J18.x

eAppendix 2. List of covariates for generating propensity score

- **Baseline characteristics and demographics:** age, sex, prior coronary artery bypass grafting, prior other cardiac surgery, prior aortic valve procedure, permanent pace maker and/or intra-cardiac defibrillator, atrial fibrillation, prior stroke, transient ischemic attack, peripheral arterial disease, hypertension, diabetes, chronic lung disease, prior myocardial infarction, NYHA within 2 weeks prior to admission, 5-meter walk test before TAVR (not performed vs. walk time >10 seconds or unable to walk vs. 6 seconds < walk time ≤ 10 seconds vs. walk time ≤ 6 seconds), STS PROM score, current dialysis and body mass index
- **Laboratory data at baseline:** GFR, hemoglobin, and albumin
- **Coronary anatomical information:** triple-vessel disease and left main stenosis
- **Echocardiographic findings before TAVR:** left ventricular ejection fraction, left ventricular internal systolic diameter, and left ventricular internal diastolic diameter
- **Echocardiographic findings after TAVR:** mean gradient, moderate or severe aortic insufficiency and moderate or severe mitral insufficiency
- **Medications at discharge:** warfarin, aspirin, dabigatran, beta blocker, antiarrhythmics, P2Y12, and factor Xa inhibitor
- **In-hospital adverse event:** myocardial infarction, stroke, vascular complication, new requirement for dialysis, and acute kidney injury defined as 0.3 mg/dl absolute or 50% relative increase in serum creatinine from baseline

Abbreviations: NYHA = New York Heart Association; TAVR = transcatheter aortic valve replacement; STS PROM = Society of Thoracic Surgeons predicted risk of mortality; GFR = glomerular filtration rate

eAppendix 3. Patient-reported persistence on an RAS inhibitor at 30 days and 1 year

Variable	Level	RAS (-) (N=7948)		RAS (+) (N=7948)	
<u>Follow-up data on RAS inhibitor</u>					
RAS inhibitor prescribed or taken at 30 days after procedure	Missing	1455	18.3%	1426	17.9%
	30 day RAS (-)	5531	69.6%	1071	13.5%
	30 day RAS (+)	813	10.2%	5332	67.1%
	30 day Death	149	1.9%	119	1.5%
RAS inhibitor prescribed or taken at 1 year after procedure	Missing	2404	30.2%	2466	31.0%
	365 day RAS (-)	3352	42.2%	1193	15.0%
	365 day RAS (+)	1005	12.6%	3294	41.4%
	365 day Death	1187	14.9%	995	12.5%

Abbreviations: RAS = renin-angiotensin system

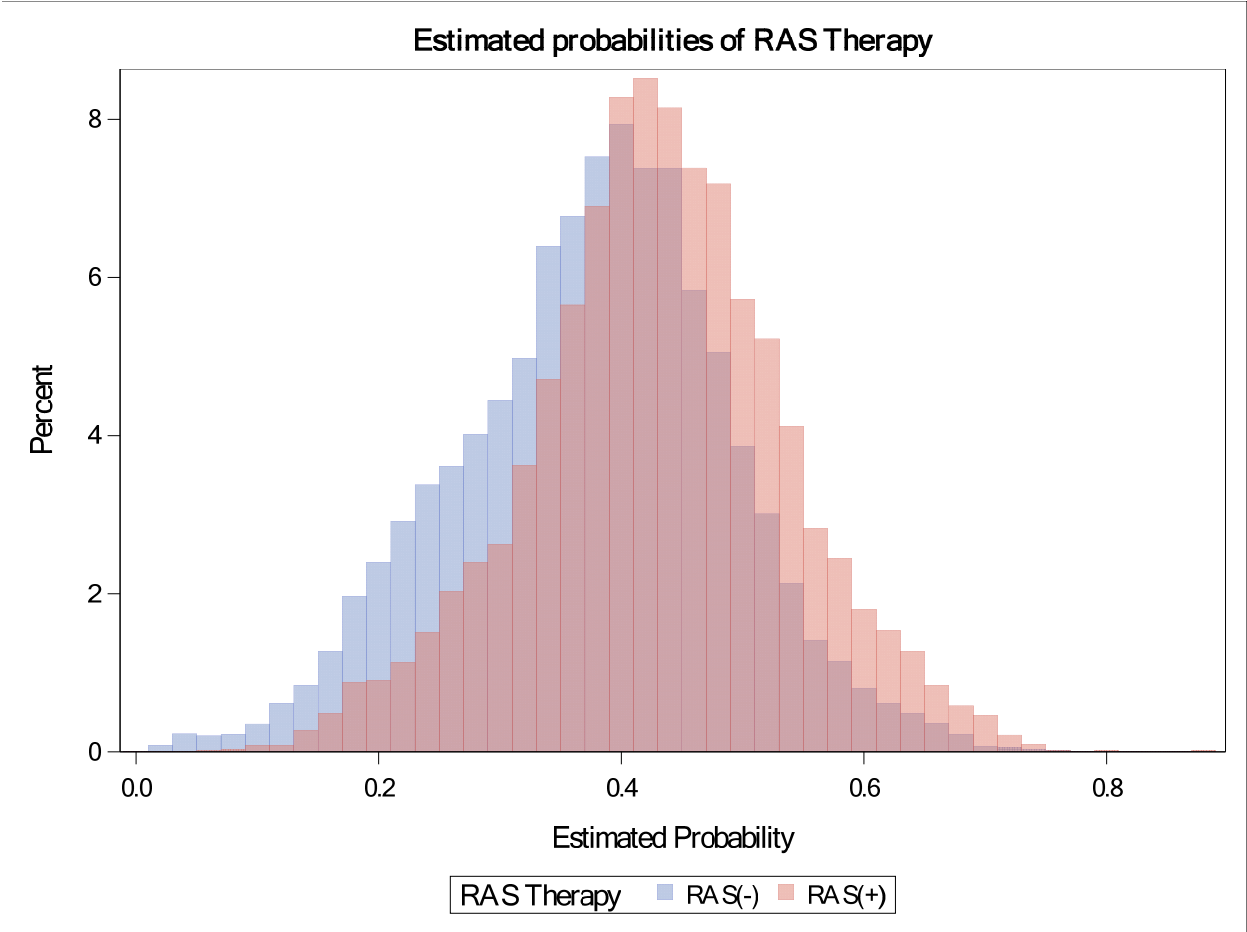
eAppendix 4. Detailed definition of vascular complication

Vascular complication was defined according to the Valve Academic Research Consortium-2 consensus document (VARC-2)¹ and as any of the followings: 1) any aortic dissection, aortic rupture, annulus rupture, left ventricle perforation, or new apical aneurysm/pseudo-aneurysm; 2) access site or access-related vascular injury leading to death, life-threatening or major bleeding, visceral ischemia, or neurological impairment; 3) distal embolization (non-cerebral) from a vascular source requiring surgery or resulting in amputation or irreversible end-organ damage; 4) the use of unplanned endovascular or surgical intervention associated with death, major bleeding, visceral ischemia or neurological impairment; 5) any new ipsilateral lower extremity ischemia documented by patient symptoms, physical exam, and/or decreased or absent blood flow on lower extremity angiogram; 6) surgery for access site-related nerve injury; or 7) permanent access site-related nerve injury.

eReference

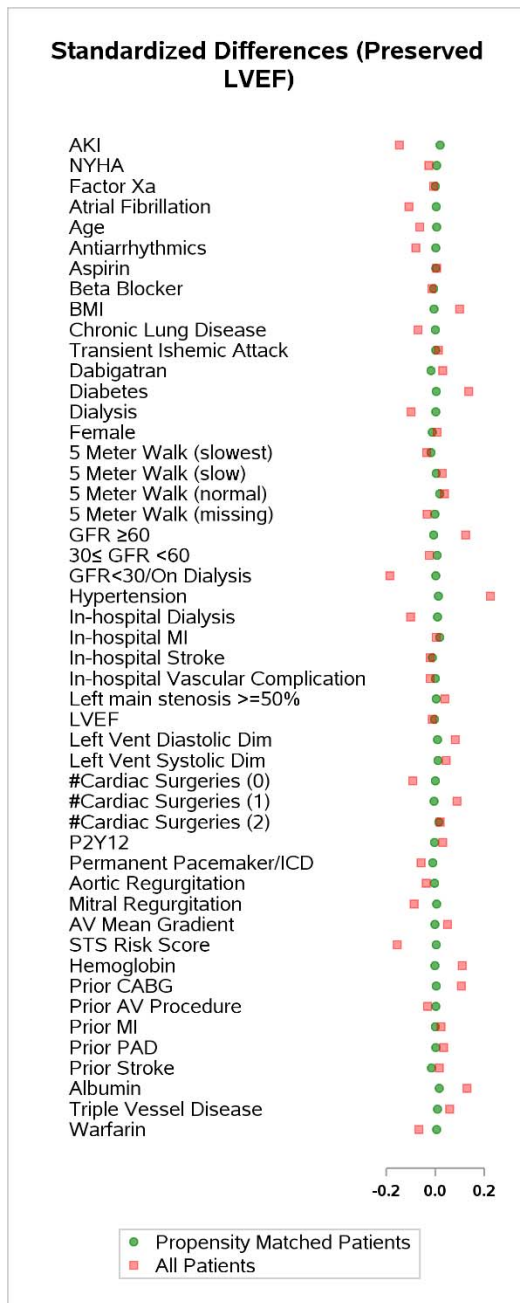
1. Kappetein AP, et al. Updated standardized endpoint definitions for transcatheter aortic valve implantation: the Valve Academic Research Consortium-2 consensus document. *Eur J Cardio Thorac Surg.* 2012;42:S45–S60

eFigure 1. Distributions of propensity scores according to RAS blockade therapy status in entire cohort



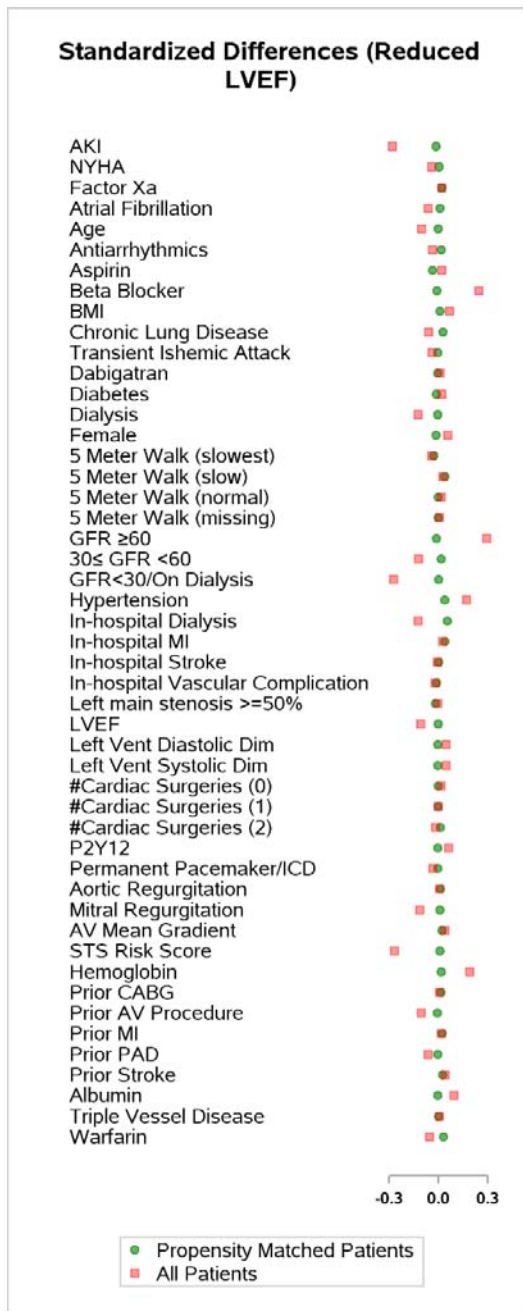
Abbreviation: RAS, renin-angiotensin system

eFigure 2. Standardized differences before and after propensity score matching in pLVEF



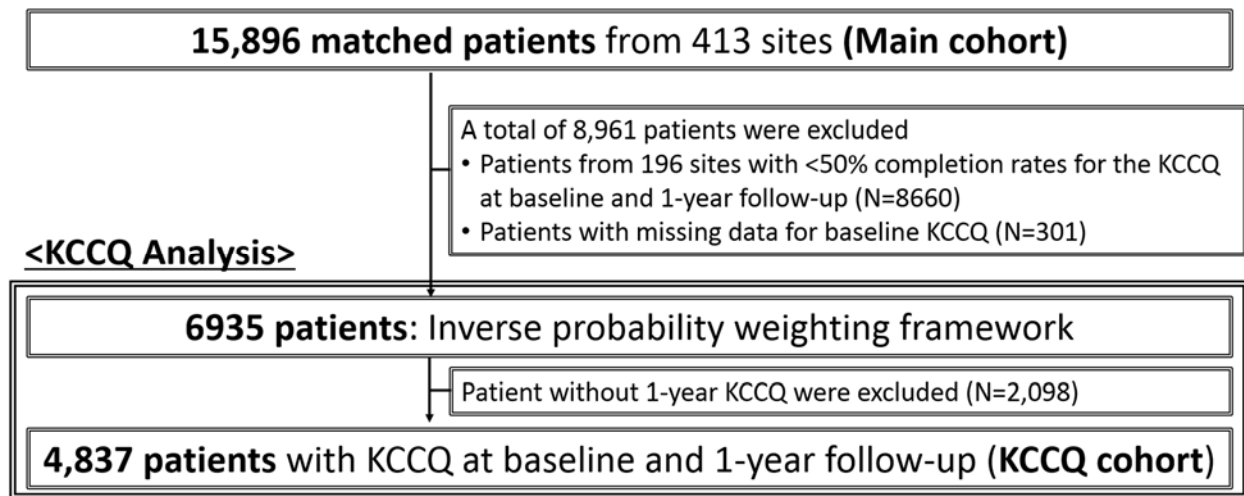
pLVEF = preserved left ventricular ejection fraction; AKI = acute kidney injury; NYHA = New York Heart Association functional class; BMI = body mass index; GFR = glomerular filtration rate; MI = myocardial infarction; LVEF = left ventricular ejection fraction; Left Vent Diastolic Dim = left ventricular diastolic diameter; Left Vent Systolic Dim = left ventricular systolic diameter; ICD = intracardiac defibrillator; STS = Society of Thoracic Surgeons; CABG = coronary artery bypass grafting; AV = aortic valve; PAD = peripheral artery disease

eFigure 3. Standardized differences before and after propensity score matching in rLVEF



rLVEF = reduced left ventricular ejection fraction; AKI = acute kidney injury; NYHA = New York Heart Association functional class; BMI = body mass index; GFR = glomerular filtration rate; MI = myocardial infarction; LVEF = left ventricular ejection fraction; Left Vent Diastolic Dim = left ventricular diastolic diameter; Left Vent Systolic Dim = left ventricular systolic diameter; ICD = intracardiac defibrillator; STS = Society of Thoracic Surgeons; CABG = coronary artery bypass grafting; AV = aortic valve; PAD = peripheral artery disease

eFigure 4. Quality of life analysis cohort creation



KCCQ = Kansas City Cardiomyopathy Questionnaire

eTable 1. Baseline characteristics of those who were included versus excluded

	Included	Excluded	P-value
	(N=21312)	(N=16247)	
RAS blockade therapy, N (%)			<0.001
Missing	0 (0.0)	1450 (8.9)	
No	12844 (60.3)	7864 (48.4)	
Yes	8468 (39.7)	5375 (33.1)	
Contraindicated	0 (0.0)	1558 (9.6)	
Age, mean (SD), y	82.6 (6.9)	80.1 (8.4)	<.001
Body mass index, mean (SD), kg/m ²	28.0 (6.5)	28.7 (7.1)	<.001
Female, No. (%)	10070 (47.3)	7420 (45.7)	0.003
STS PROM, mean (SD), %	8.0 (5.7)	7.9 (6.3)	<.001
STS PROM category, N (%)			<.001
STS PROM ≥ 15	2044 (9.6)	1618 (10.0)	
8 ≤ STS PROM < 15	5586 (26.2)	4054 (25.0)	
4 ≤ STS PROM < 8	9084 (42.6)	6459 (39.8)	
STS PROM < 4	4598 (21.6)	4107 (25.3)	
Medical History, No. (%)			
Prior CABG	5766 (27.1)	4401 (27.1)	0.945
Prior aortic valve procedure	2778 (13.0)	2407 (14.8)	<.001
Permanent pacemaker or ICD	4023 (18.9)	2862 (17.6)	0.002
Atrial fibrillation or flutter	9015 (42.3)	6418 (39.5)	<.001
Prior stroke	2562 (12.0)	1999 (12.3)	0.406
Prior transient ischemic attack	1904 (8.9)	1402 (8.6)	0.303
Peripheral arterial disease	6392 (30.0)	4934 (30.4)	0.445
Hypertension	19239 (90.3)	14487 (89.2)	<.001
Diabetes Mellitus	7748 (36.4)	6510 (40.1)	<.001
Chronic lung disease	5606 (26.3)	4533 (27.9)	<.001
Prior myocardial infarction	5070 (23.8)	4193 (25.8)	<.001
Triple vessel disease	5574 (26.2)	4300 (26.5)	0.442
Left main disease	2091 (9.8)	1592 (9.8)	0.946
NYHA Class within 2 weeks, No (%)			<.001
Class I or II	4045 (19.0)	2772 (17.1)	
Class III or IV	17098 (80.2)	13333 (82.1)	
Five meter walk test			0.001
Slowest (>10 seconds)	6376 (35.3)	4939 (36.8)	
Slow (>6 seconds but ≤10 seconds)	7490 (41.5)	5302 (39.5)	
Normal (≤6 seconds)	4160 (23.1)	3175 (23.6)	

	Included (N=21312)	Excluded (N=16247)	P-value
Laboratory data			
GFR, mean (SD)	61.9 (25.8)	61.7 (28.5)	0.055
GFR category, N (%)			<.001
GFR \geq 60	10715 (50.3)	8029 (49.4)	
30 \leq GFR < 60	8749 (41.0)	6455 (39.7)	
On dialysis or GFR < 30	1811 (8.5)	1714 (10.5)	
Hemoglobin, mean (SD), g/dL	11.9 (1.9)	11.8 (2.0)	0.087
Albumin, mean (SD), g/dL	3.7 (0.5)	3.7 (0.5)	0.001
Pre-procedure echocardiogram			
LVEF, mean (SD), %	52.0 (11.4)	50.9 (12.3)	<.001
LV systolic diameter, mean (SD), cm	3.3 (0.9)	3.4 (1.0)	<.001
LV diastolic diameter, mean (SD), cm	4.6 (0.9)	4.7 (0.9)	<.001
Post-procedure echocardiogram			
Moderate/severe AR, N (%)	842 (4.6)	643 (4.7)	0.847
Moderate/severe MR, N (%)	3210 (17.7)	2379 (17.3)	0.468
Medication at discharge			
Beta blocker, N (%)	14633 (68.7)	10182 (62.7)	0.752
In-hospital complication			
Myocardial infarction, N (%)	43 (0.2)	71 (0.4)	<.001
Stroke, N (%)	360 (1.7)	394 (2.4)	<.001
Vascular complication, N (%)	847 (4.0)	803 (4.9)	<.001
New requirement for dialysis, N (%)	102 (0.5)	288 (1.8)	<.001

Abbreviations: RAS = renin-angiotensin system; SD = standard deviation; STS PROM = Society of Thoracic Surgeons predicted risk of mortality; CABG = coronary artery bypass graft surgery; ICD = intra-cardiac defibrillator; NYHA = New York Heart Association; GFR = glomerular filtration rate; LVEF = left ventricular ejection fraction; LV = left ventricular; AR = aortic regurgitation; MR = mitral regurgitation

eTable 2. Falsification endpoints

1-year outcome	RAS (-)	RAS (+)	ARD (95%CI), %	HR (95%CI)	P-value
	(N=7948)	(N=7948)			
UTI	18 (0.2%)	18 (0.2%)	0.00 (-0.15 to 0.15)	1.00 (0.50 to 2.00)	1
Hip Fracture	155 (2.0%)	139 (1.7%)	-0.20 (-0.62 to 0.22)	0.90 (0.72 to 1.12)	0.34
Pneumonia	317 (4.0%)	284 (3.6%)	-0.42 (-1.00 to 0.18)	0.89 (0.77 to 1.04)	0.15

Abbreviations: RAS = renin-angiotensin system; ARD = absolute risk difference; HR = hazard ratio; UTI = urinary tract infection

eTable 3. Baseline characteristics after propensity score matching in sub-groups by LVEF

Characteristics	Preserved LVEF		Standardized difference	Reduced LVEF		Standardized difference
	RAS (-)	RAS (+)		RAS (-)	RAS (+)	
	(N=6471)	(N=6471)		(N=1477)	(N=1477)	
Age, mean (SD), y	82.6 (6.9)	82.6 (6.7)	0.0051	81.7 (7.2)	81.7 (7.0)	-0.0029
Body mass index, mean (SD), kg/m ²	28.6 (6.7)	28.6 (6.7)	-0.0054	27.1 (5.8)	27.2 (5.9)	0.0073
Female, No. (%)	3383 (52.3)	3340 (51.6)	-0.0133	464 (31.4)	452 (30.6)	-0.0161
STS PROM, mean (SD), %	7.0 (4.6)	7.1 (4.7)	0.0031	9.4 (6.4)	9.5 (6.2)	0.0082
STS PROM category, N (%)			0.0263			0.0718
STS PROM ≥ 15	375 (5.8)	401 (6.2)		211 (14.3)	231 (15.6)	
8 ≤ STS PROM < 15	1536 (23.7)	1509 (23.3)		504 (34.1)	487 (33.0)	
4 ≤ STS PROM < 8	2936 (45.4)	2985 (46.1)		573 (38.8)	543 (36.8)	
STS PROM < 4	1624 (25.1)	1576 (24.4)		189 (12.8)	216 (14.6)	
Medical History, No. (%)						
Prior CABG	1720 (26.6)	1729 (26.7)	0.0031	549 (37.2)	557 (37.7)	0.0123
Prior aortic valve procedure	717 (11.1)	719 (11.1)	0.0009	279 (18.9)	274 (18.6)	-0.0087
Permanent pacemaker or ICD	964 (14.9)	940 (14.5)	-0.0104	479 (32.4)	475 (32.2)	-0.0055
Atrial fibrillation or flutter	2445 (37.8)	2455 (37.9)	0.0026	720 (48.7)	725 (49.1)	0.0068
Prior stroke	830 (12.8)	794 (12.3)	-0.0169	174 (11.8)	185 (12.5)	0.0228
Prior transient ischemic attack	598 (9.2)	598 (9.2)	0.0007	122 (8.3)	120 (8.1)	-0.0049
Peripheral arterial disease	1947 (30.1)	1952 (30.2)	0.0015	474 (32.1)	472 (32.0)	-0.0046
Hypertension	6084 (94.0)	6103 (94.3)	0.0122	1319 (89.3)	1336 (90.5)	0.0370
Diabetes Mellitus	2470 (38.2)	2480 (38.3)	0.0033	604 (40.9)	597 (40.4)	-0.0124
Chronic lung disease	1531 (23.7)	1532 (23.7)	-0.0011	428 (29.0)	448 (30.3)	0.0275
Prior myocardial infarction	1346 (20.8)	1345 (20.8)	0.0005	559 (37.8)	575 (38.9)	0.0214
Triple vessel disease	1603 (24.8)	1624 (25.1)	0.0083	514 (34.8)	511 (34.6)	-0.0014
Left main disease	601 (9.3)	610 (9.4)	0.0040	199 (13.5)	189 (12.8)	-0.0187
NYHA Class within 2 weeks, No (%)			0.0050			0.0012
Class I or II	1378 (21.3)	1367 (21.1)		181 (12.3)	180 (12.2)	
Class III or IV	5029 (77.7)	5060 (78.2)		1286 (87.1)	1289 (87.3)	
Five meter walk test			0.0218			0.0396

	Slowest (>10 seconds)	1909 (29.5)	1859 (28.7)		478 (32.4)	457 (30.9)	
	Slow (>6 seconds but ≤10 seconds)	2342 (36.2)	2354 (36.4)		471 (31.9)	498 (33.7)	
	Normal (≤6 seconds)	1285 (19.9)	1334 (20.6)		266 (18.0)	264 (17.9)	
	Walk test not performed	918 (14.2)	917 (14.2)		260 (17.6)	257 (17.4)	
Laboratory data							
	GFR, mean (SD)	64.4 (24.9)	64.4 (24.5)	0.0021	59.8 (24.3)	60.9 (23.8)	0.0454
	GFR category, N (%)			0.0073			0.0157
	GFR ≥ 60	3542 (54.7)	3518 (54.4)		715 (48.4)	704 (47.7)	
	30 ≤ GFR < 60	2585 (39.9)	2610 (40.3)		645 (43.7)	656 (44.4)	
	On dialysis or GFR < 30	328 (5.1)	330 (5.1)		114 (7.7)	114 (7.7)	
	Hemoglobin, mean (SD), g/dL	12.0 (1.9)	12.0 (1.9)	-0.0016	11.9 (1.8)	11.9 (1.9)	0.0147
	Albumin, mean (SD), g/dL	3.8 (0.5)	3.8 (0.5)	0.0163	3.6 (0.5)	3.6 (0.5)	-0.0047

Characteristics	Preserved EF		Standardized difference	Reduced EF		Standardized difference	
	RAS (-)	RAS (+)		RAS (-)	RAS (+)		
	(N=6471)	(N=6471)		(N=1477)	(N=1477)		
Pre-procedure echocardiogram							
	LVEF, mean (SD), %	56.8 (4.7)	56.8 (4.9)	-0.0036	30.6 (7.1)	30.6 (7.1)	-0.0023
	LV systolic diameter, mean (SD), cm	3.0 (0.7)	3.0 (0.8)	0.0098	4.4 (0.9)	4.3 (0.9)	-0.0057
	LV diastolic diameter, mean (SD), cm	4.5 (0.8)	4.5 (0.8)	0.0095	5.3 (0.9)	5.3 (0.9)	-0.0045
Post-procedure echocardiogram							
	Moderate/severe AR, N (%)	219 (4.0)	220 (4.0)	-0.0030	70 (5.5)	72 (5.7)	0.0099
	Moderate/severe MR, N (%)	742 (13.4)	759 (13.8)	0.0042	321 (25.4)	337 (26.7)	0.0077
Medication at discharge							
	Beta blocker, N (%)	4341 (67.1)	4320 (66.8)	-0.0066	1161 (78.6)	1155 (78.2)	-0.0099
In-hospital complication							
	Myocardial infarction, N (%)	11 (0.2)	16 (0.2)	0.0175	0 (0.0)	1 (0.1)	0.0368
	Stroke, N (%)	115 (1.8)	104 (1.6)	-0.0129	20 (1.4)	20 (1.4)	0
	Vascular complication, N (%)	255 (3.9)	254 (3.9)	-0.0010	54 (3.7)	50 (3.4)	-0.0147
	New requirement for dialysis, N (%)	3 (0.0)	4 (0.1)	0.0079	0 (0.0)	2 (0.1)	0.0521

Abbreviations: LVEF = left ventricular ejection fraction; RAS = renin-angiotensin system; SD = standard deviation; STS PROM = Society of Thoracic Surgeons predicted risk of mortality; CABG = coronary artery bypass graft surgery; ICD = intra-cardiac defibrillator; NYHA = New York Heart Association; GFR = glomerular filtration rate; LV = left ventricular; AR = aortic regurgitation; MR = mitral regurgitation

eTable 4. Baseline characteristics of those who were included versus excluded in KCCQ cohort

	Not Included in KCCQ Cohort	Included in KCCQ Cohort	P-value
	(N=11059)	(N=4837)	
KCCQ Score			<0.001
1-year KCCQ Overall Score, mean (SD)	75.2 (22.2)	77.0 (21.2)	
Baseline KCCQ Overall Score, mean (SD)	42.5 (23.8)	44.7 (23.7)	
Age, mean (SD), y	82.4 (6.9)	82.5 (6.7)	0.47
Body mass index, mean (SD), kg/m ²	28.2 (6.6)	28.6 (6.4)	<.001
Female, No. (%)	5247 (47.4)	2392 (49.5)	0.02
Male, No. (%)	5810 (52.5)	2444 (50.5)	
STS PROM, mean (SD), %	7.7 (5.3)	6.9 (4.4)	<.001
STS PROM category, N (%)			<.001
STS PROM ≥ 15 (prohibitive risk)	938 (8.5)	280 (5.8)	
8 ≤ STS PROM < 15 (high risk)	2942 (26.6)	1094 (22.6)	
4 ≤ STS PROM < 8 (intermediate risk)	4802 (43.4)	2235 (46.2)	
STS PROM < 4 (low risk)	2377 (21.5)	1228 (25.4)	
Medical History, No. (%)			
Prior CABG	3143 (28.4)	1412 (29.2)	0.32
Prior aortic valve procedure	1445 (13.1)	544 (11.2)	0.001
Permanent pacemaker or ICD	2043 (18.5)	815 (16.8)	0.01
Atrial fibrillation or flutter	4552 (41.2)	1793 (37.1)	<.001
Prior stroke	1410 (12.7)	573 (11.8)	0.11
Prior transient ischemic attack	971 (8.8)	467 (9.7)	0.08
Peripheral arterial disease	3460 (31.3)	1385 (28.6)	<.001
Hypertension	10318 (93.3)	4524 (93.5)	0.62
Diabetes Mellitus	4285 (38.7)	1866 (38.6)	0.82
Chronic lung disease	2838 (25.7)	1101 (22.8)	<.001
Prior myocardial infarction	2667 (24.1)	1158 (23.9)	0.77
Triple vessel disease	2945 (26.6)	1307 (27.0)	0.63
Left main disease	1106 (10.0)	493 (10.2)	0.77

	Not Included	Included	P-value
	(N=11059)	(N=4837)	

NYHA Class within 2 weeks, No (%)			<.001
Class I or II (mild limitation)	1994 (18.0)	1112 (23.0)	
Class III or IV (severe limitation)	8964 (81.1)	3700 (76.5)	
Five meter walk test			<.001
Slowest (>10 seconds)	3364 (30.4)	1339 (27.7)	
Slow (>6 seconds but ≤10 seconds)	3636 (32.9)	2029 (41.9)	
Normal (≤6 seconds)	1960 (17.7)	1189 (24.6)	
Laboratory data			
GFR, mean (SD)	63.1 (24.9)	64.9 (24.1)	<.001
GFR category, N (%)			<.001
GFR ≥ 60	5768 (52.2)	2711 (56.0)	
30 ≤ GFR < 60	4586 (41.5)	1910 (39.5)	
On dialysis or GFR < 30	676 (6.1)	210 (4.3)	
Hemoglobin, mean (SD), g/dL	11.9 (1.9)	12.1 (1.8)	<.001
Albumin, mean (SD), g/dL	3.7 (0.5)	3.7 (0.5)	0.13
Pre-procedure echocardiogram			
LVEF, mean (SD), %	51.7 (11.7)	52.5 (11.0)	0.01
LV systolic diameter, mean (SD), cm	3.3 (0.9)	3.2 (0.9)	<.001
LV diastolic diameter, mean (SD), cm	4.7 (0.9)	4.6 (0.8)	<.001
Post-procedure echocardiogram			
Moderate/severe AR, N (%)	432 (4.6)	149 (3.5)	0.004
Moderate/severe MR, N (%)	1518 (16.2)	641 (15.3)	0.11
Medication at discharge			
Beta blocker, N (%)	7575 (68.5)	3402 (70.3)	0.02
In-hospital complication			
Myocardial infarction, N (%)	19 (0.2)	9 (0.2)	0.85
Stroke, N (%)	217 (2.0)	42 (0.9)	<.001
Vascular complication, N (%)	440 (4.0)	173 (3.6)	0.22
New requirement for dialysis, N (%)	8 (0.1)	1 (0)	0.21

Abbreviations: KCCQ = Kansas City Cardiomyopathy Questionnaire; SD = standard deviation; STS PROM = Society of Thoracic Surgeons predicted risk of mortality; CABG = coronary artery bypass graft surgery; ICD = intra-cardiac defibrillator; NYHA = New York Heart Association;

GFR = glomerular filtration rate; LVEF = left ventricular ejection fraction; LV = left ventricular;
AR = aortic regurgitation; MR = mitral regurgitation

eTable 5. Association between the prescription of an RAS inhibitor at discharge and clinical outcomes by the type of an RAS inhibitor

	Event Rate, %		ARD (95% CI), %	HR (95% CI)	P-value
	ACE-I or ARB (+)	RAS inhibitor (-)			
	N=5249 for ACE-I	N=7948			
	N=2820 for ARB				
<u>ACE-I (+) vs. RAS inhibitor (-)^a</u>					
Mortality	13.1%	14.9%	-1.88 (-3.09 to -0.68)	0.86 (0.78 to 0.95)	0.002
HF Readmission	12.0%	13.8%	-1.83 (-3.00 to -0.66)	0.86 (0.78 to 0.95)	0.004
<u>ARB (+) vs. RAS inhibitor (-)^a</u>					
Mortality ^b	11.5%	14.9%	-3.48 (-4.89 to -2.07)	0.78 (0.69 to 0.88)	<.001
HF Readmission ^b	12.4%	13.8%	-1.43 (-2.87 to 0.01)	0.93 (0.82 to 1.05)	0.226

Abbreviations: RAS, renin-angiotensin system; ACE-I, angiotensin-converting enzyme inhibitor; ARB, angiotensin-receptor blockers; ARD, absolute risk difference; HR, hazard ratio; HF, heart failure

a. Among 15896 matched patients, 5249 patients were on ACE-I, 2820 were on ARB, and 121 were on both.

b. Adjusted for variables with >0.1 of standardized difference (left ventricular ejection fraction, left ventricular systolic dimension, and sex)

eTable 6. The comparison of baseline characteristics between matched and unmatched patients

	Not Included in Matched Cohort	Included in Matched cohort	P-value
	(N=5416)	(N=15896)	
Age, mean (SD), y	83.2 (7.0)	82.4 (6.8)	<.001
Body mass index, mean (SD), kg/m ²	27.2 (6.1)	28.3 (6.6)	<.001
Female, No. (%)	2431 (44.9)	7639 (48.1)	<.001
Male, No. (%)	2985 (55.1)	8254 (51.9)	
STS PROM, mean (SD), %	9.4 (7.2)	7.5 (5.1)	<.001
STS PROM category, N (%)			<.001
STS PROM ≥ 15 (prohibitive risk)	826 (15.3)	1218 (7.7)	
8 ≤ STS PROM < 15 (high risk)	1550 (28.6)	4036 (25.4)	
4 ≤ STS PROM < 8 (intermediate risk)	2047 (37.8)	7037 (44.3)	
STS PROM < 4 (low risk)	993 (18.3)	3605 (22.7)	
Medical History, No. (%)			
Prior CABG	1211 (22.4)	4555 (28.7)	<.001
Prior aortic valve procedure	789 (14.6)	1989 (12.5)	<.001
Permanent pacemaker or ICD	1165 (21.5)	2858 (18.0)	<.001
Atrial fibrillation or flutter	2670 (49.3)	6345 (39.9)	<.001
Prior stroke	579 (10.7)	1983 (12.5)	<.001
Prior transient ischemic attack	466 (8.6)	1438 (9.0)	0.33
Peripheral arterial disease	1547 (28.6)	4845 (30.5)	0.01
Hypertension	4397 (81.2)	14842 (93.4)	<.001
Diabetes Mellitus	637 (39.9)	2082 (33.8)	<.001
Chronic lung disease	1667 (30.8)	3939 (24.8)	<.001

Prior myocardial infarction	1245 (23.0)	3825 (24.1)	0.11
Triple vessel disease	1322 (24.4)	4252 (26.7)	<.001
Left main disease	492 (9.1)	1599 (10.1)	0.04
NYHA Class within 2 weeks, No (%)			<.001
Class I or II (mild limitation)	939 (17.3)	3106 (19.5)	
Class III or IV (severe limitation)	4434 (81.9)	12664 (79.7)	

	Not Included in Matched Cohort	Included in Matched cohort	P-value
	(N=5416)	(N=15896)	
Five meter walk test			<.001
Slowest (>10 seconds)	1673 (30.9)	4703 (29.6)	
Slow (>6 seconds but ≤10 seconds)	1825 (33.7)	5665 (35.6)	
Normal (≤6 seconds)	1011 (18.7)	3149 (19.8)	
Laboratory data			
GFR, mean (SD)	56.9 (28.4)	63.7 (24.6)	<.001
GFR category, N (%)			<.001
GFR ≥ 60	2236 (41.3)	8479 (53.3)	
30 ≤ GFR < 60	2253 (41.6)	6496 (40.9)	
On dialysis or GFR < 30	925 (17.1)	886 (5.6)	
Hemoglobin, mean (SD), g/dL	11.6 (2.0)	12.0 (1.9)	<.001
Albumin, mean (SD), g/dL	3.6 (0.5)	3.7 (0.5)	<.001
Pre-procedure echocardiogram			
LVEF, mean (SD), %	52.3 (11.1)	51.9 (11.5)	<.001
LV systolic diameter, mean (SD), cm	3.2 (0.9)	3.3 (0.9)	<.001
LV diastolic diameter, mean (SD), cm	4.5 (0.9)	4.6 (0.9)	<.001

Post-procedure echocardiogram			
Moderate/severe AR, N (%)	261 (5.6)	581 (4.3)	<.001
Moderate/severe MR, N (%)	1051 (22.7)	2159 (15.9)	<.001
Medication at discharge			
Beta blocker, N (%)	3656 (67.5)	10977 (69.1)	0.03
In-hospital complication			
Myocardial infarction, N (%)	15 (0.3)	28 (0.2)	0.15
Stroke, N (%)	101 (1.9)	259 (1.6)	0.25
Vascular complication, N (%)	234 (4.3)	613 (3.9)	0.13
New requirement for dialysis, N (%)	93 (1.7)	9 (0.1)	<.001

Abbreviations: SD = standard deviation; STS PROM = Society of Thoracic Surgeons predicted risk of mortality; CABG = coronary artery bypass graft surgery; ICD = intra-cardiac defibrillator; NYHA = New York Heart Association; GFR = glomerular filtration rate; LVEF = left ventricular ejection fraction; LV = left ventricular; AR = aortic regurgitation; MR = mitral regurgitation