

Table 1. Baseline Characteristics – MVr vs. MVR

	MVr N=263	MVR N=81	P-value	Standardized Differences†
Age, median (IQR)	70 (62-78)	72 (63-80)	0.281	0.14
Age>70	133 (50.57)	45 (55.56)	0.432	0.10
Gender(male)	157 (59.70)	44 (54.32)	0.390	0.11
LVEF, median (IQR)	37 (28-50)	45 (35-55)	0.004*	0.38
LVEDD, median (IQR)	5.7 (5.1-6.2)	5.5 (5-6)	0.173	0.23
NYHA-Class>3	151 (57.41)	52 (64.20)	0.278	0.14
MR>3	141 (53.61)	55 (67.90)	0.023*	0.30
TR>3	15 (5.70)	14 (17.28)	0.001*	0.37
AI>3	27 (10.27)	3 (3.70)	0.047*	0.26
Medical/Surgical History, n(%)				
CAD	184 (69.96)	57 (70.37)	0.944	0.01
MI	105 (39.92)	31 (38.27)	0.790	0.03
DM	93 (35.36)	21 (25.93)	0.115	0.21
CKD	22 (8.37)	14 (17.28)	0.022*	0.27
ESRD	10 (3.80)	4 (4.94)	0.747	0.06
COPD	29 (11.03)	7 (8.64)	0.539	0.08
HTN	193 (73.38)	57 (70.37)	0.595	0.07
AFib	99 (37.64)	27 (33.33)	0.482	0.09
Stroke	15 (5.70)	3 (3.70)	0.581	0.09
PAD	31 (11.79)	9 (11.11)	0.868	0.02
Cirrhosis	7 (2.66)	3 (3.70)	0.705	0.06
Previous Cardiac Surgery	59 (22.43)	22 (27.16)	0.381	0.11
Concomitant-Procedure, n(%)				
CABG	132 (50.19)	45 (55.56)	0.398	0.11
AVR	78 (29.66)	17 (20.99)	0.127	0.20

TVR	26 (9.89)	14 (17.28)	0.069	0.22
Other	38 (14.45)	19 (23.46)	0.057	0.23
STS-Scores, median(IQR)				
Risk-of-mortality	3.50 (1.85-5.74)	6.29 (3.22-11.11)	<.0001*	0.62
Morbidity-or-mortality	25.36 (18.17-34.28)	34.69 (25.67-51.42)	<.0001*	0.66
Long-length-of-stay	12.31 (7.27-17.63)	17.38 (12.44-27.73)	<.0001*	0.66
Short-length-of-stay	18.09 (11.30-29.58)	11.43 (5.63-18.31)	<.0001*	0.65
Permanent-stroke	2.26 (1.67-2.91)	2.54 (1.69-3.70)	0.086	0.23
Prolonged-ventilation	16.81 (10.70-25.46)	25.91 (16.96-36.81)	<0.0001*	0.62
DSW-infection	0.37 (0.23-0.58)	0.38 (0.24-0.54)	0.956	0.01
Reoperation	9.62 (7.59-12.15)	13.36 (10.52-16.84)	<.0001*	0.82

Data are presented as frequencies and percentages (%) or median (interquartile range: IQR).

\*Significant differences between MVr and MVR groups.

†Standardized difference = difference in mean or proportions divided by the standard error; imbalance between groups was defined as absolute value greater than 0.10 (corresponding to a small effect size).

LVEF indicates left ventricular ejection fraction; LVEDD, left ventricular end diastolic diameter; NYHA, New York Heart Association; MR, mitral regurgitation; TR, tricuspid regurgitation; AI, aortic insufficiency; CAD, coronary artery disease; DM, diabetes mellitus; MI, myocardial infarction; CKD, chronic kidney disease; ESRD, end stage renal disease; COPD, chronic obstructive pulmonary disease; HTN, hypertension; AFib, atrial fibrillation; PAD, peripheral artery disease; CABG, coronary artery bypass graft; AVR, aortic valve repair/replacement; TVR, tricuspid valve repair/replacement; Other, cardiac procedure (non mitral, aortic valve, tricuspid valve, or CABG); STS, Society of Thoracic Surgeons; DSW, deep sternal wound; IQR, interquartile range.

Table 2. Cox Regression Analysis for Overall Survival (OS)

	HR	95% CI	P-value
Unadjusted Analysis			
MVR vs MVr	1.58	(1.10, 2.27)	0.013*
Inverse Probability Weighting <sup>†</sup>			
MVR vs MVr	1.68	(1.22, 2.30)	0.001*
Covariate Propensity score			
MVR vs MVr	1.56	(0.874, 2.778)	0.133
Prob	1.24	(0.221, 6.908)	0.810
Adjusted/Multivariable Analysis <sup>§</sup>			
MVR vs MVr	1.82	(1.05, 3.16)	0.034*
Hx of DM	2.23	(1.32, 3.77)	0.003*
Hx of CKD	2.50	(1.24, 5.05)	0.010*
CABG	2.57	(1.39, 4.73)	0.003*
AVR	4.28	(2.36, 7.76)	<.0001*
TVR_r	3.72	(1.75, 7.92)	0.001*
Other_cardiac_proced	2.56	(1.48, 4.45)	0.001*

\*Significant differences between MVr and MVR groups.

<sup>†</sup>Inverse probability of treatment weighting (IPTW) using the propensity score method.

<sup>§</sup>Adjusted analysis used stepwise variable selection.

Table 3. Cox Regression Analysis for All-Cause Hospital Readmission

	HR	95% CI	P-value
Unadjusted Analysis			
MVR vs MVr	0.79	(0.54, 1.16)	0.229
Inverse Probability Weighting <sup>†</sup>			
MVR vs MVr	0.78	(0.60, 1.02)	0.066*
Covariate Propensity score			
MVR vs MVr	0.676	(0.388, 1.179)	0.168
Prob	0.750	(0.169, 3.336)	0.706
Adjusted/Multivariable Analysis <sup>§</sup>			
MVR vs MVr	0.71	(0.43, 1.19)	0.199
LVEDD	1.45	(1.15, 1.82)	0.002*
HX of DM	1.62	(1.07, 2.44)	0.022*
HX of CKD Cr 2	2.24	(1.32, 3.80)	0.003*
CABG	0.47	(0.31, 0.72)	0.004*
TVR_r	0.50	(0.25, 0.99)	0.047*

\*Significant differences between MVr and MVR groups.

<sup>†</sup>Inverse probability of treatment weighting (IPTW) using the propensity score method.

<sup>§</sup>Adjusted analysis used stepwise variable selection.

Table 4. Cox Regression Analysis for Heart Failure (HF) Hospital Readmission

	HR	95% CI	P-value
Unadjusted Analysis			
MVR vs MVr	0.67	(0.40 ,1.13)	0.131
Inverse Probability Weighting <sup>†</sup>			
MVR vs MVr	0.61	(0.42, 0.88)	0.008*
Covariate Propensity score			
MVR vs MVr	0.615	(0.293, 1.290)	0.199
Prob	0.310	(0.043, 2.210)	0.243
Adjusted/Multivariable Analysis <sup>§</sup>			
MVR vs MVr	0.52	(0.26, 1.05)	0.069
LVEDD	1.61	(1.23, 2.11)	0.001*
HX of CKD Cr 2	1.98	(1.06, 3.72)	0.033*

\*Significant differences between MVr and MVR groups.

<sup>†</sup>Inverse probability of treatment weighting (IPTW) using the propensity score method.

<sup>§</sup>Adjusted analysis used stepwise variable selection.