

Table S1 Impact of different valves on outcomes

	P-value	HR	95% lower confidence limit	95% upper confidence limit
Venus A				
All-cause mortality	0.980	1.012	0.416	2.462
Stroke	0.973	0.980	0.295	3.255
Heart failure	0.779	0.830	0.227	3.039
Readmission	0.281	0.586	0.221	1.549
TaurusOne				
All-cause mortality	0.909	0.884	0.108	7.238
Stroke	0.987	0	0	–
Heart failure	0.987	0	0	–
Readmission	0.223	2.217	0.615	7.988
VitaFlow				
All-cause mortality	0.314	0.353	0.047	2.683
Stroke	0.624	1.487	0.304	7.270
Heart failure	0.987	0	0	–
Readmission	0.706	0.749	0.166	3.369
J-Valve				
All-cause mortality	0.193	1.871	0.729	4.801
Stroke	0.895	1.112	0.231	5.339
Heart failure	0.325	2.260	0.446	11.454
Readmission	0.448	0.558	0.124	2.514

\*, significant values. HR, Hazard Ratio; NYHA, New York heart association. In verifying the impact of valves on outcomes, variables enrolled in cox regression models. All-cause mortality: liver disease, bicuspid valve, NYHA  $\leq$  II, age, postoperative heart failure, postoperative stroke. Stroke: age, diabetes, myocardial infarction, stroke history, hypertension. Heart failure: age, male, smoking history, ejection fraction, BMI, NYHA  $\leq$  II, diabetes, hypertension. Readmission: age, myocardial infarction, bicuspid valve, syncope, NYHA  $\leq$  II, diabetes, smoking history.

**Table S2** Paravalvular leakage of different TAVR valves

Valves	Sapien XT (N=9)	Venus-A (N=97)	TaurusOne (N=17)	VitaFlow (N=25)	J-Valve (N=27)	Total number	P value
<b>≥mild PVL</b>							
1 week: number	9	92	17	25	25	168	
n (%)	3 (33.3)	44 (47.8)	3 (17.6)	5 (20.0)	8 (32.0)	63 (37.5)	0.029
1 month: number	8	69	12	20	19	128	
n (%)	5 (62.5)	27 (39.1)	3 (25.0)	6 (30.0)	6 (31.6)	47 (36.7)	0.473
1 year: number	8	61	14	18	16	117	
n (%)	3 (37.5)	26 (42.6)	2 (14.3)	5 (27.8)	3 (18.8)	39 (33.3)	0.174
<b>&gt;mild PVL</b>							
1 week: number	9	92	17	25	25	168	
n (%)	1 (11.1)	10 (10.9)	0	0	0	11 (6.5)	0.098
1 month: number	8	69	12	20	19	128	
n (%)	1 (12.5)	4 (5.8)	2 (16.7)	0	0	7 (5.5)	0.139
1 year: number	8	61	14	18	16	117	
n (%)	0	2 (3.3)	0	0	1 (6.3)	3 (2.6)	0.735

PVL, Paravalvular leakage.

**Table S3** Outcomes of different stages

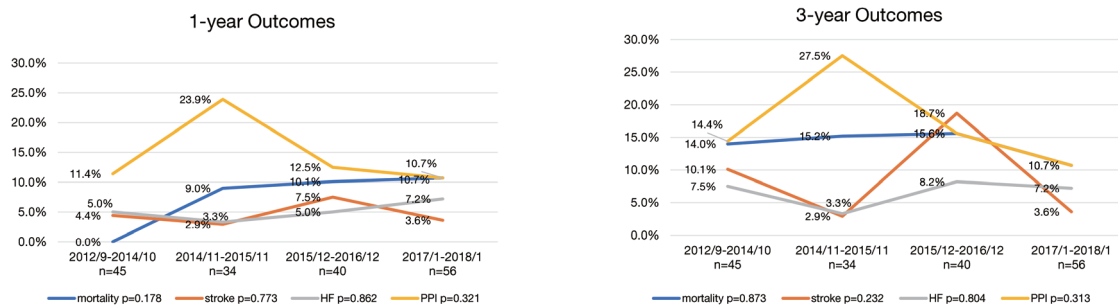
Stage	Time (year/month)	All-cause mortality, n (%)	Stroke, n (%)	HF, n (%)	PPI, n (%)
<b>1 year</b>					
Stage 1, n=45	2012/9–2014/10	0	2 (4.4)	2 (5.0)	5 (11.4)
Stage 2, n=34	2014/11–2015/11	3 (9.0)	1 (2.9)	1 (3.3)	8 (23.9)
Stage 3, n=40	2015/12–2016/12	4 (10.1)	3 (7.5)	2 (5.0)	5 (12.5)
Stage 4, n=56	2017/1–2018/1	6 (10.7)	2 (3.6)	4 (7.2)	6 (10.7)
P value		0.178	0.773	0.862	0.321
<b>3 years</b>					
Stage 1, n=45	2012/9–2014/10	6 (14.0)	4 (10.1)	3 (7.5)	6 (14.4)
Stage 2, n=34	2014/11–2015/11	5 (15.2)	1 (2.9)	1 (3.3)	9 (27.5)
Stage 3, n=40	2015/12–2016/12	6 (15.6)	5 (18.7)	3 (8.2)	6 (15.6)
Stage 4, n=56	2017/1–2018/1	6 (10.7)	2 (3.6)	4 (7.2)	6 (10.7)
P value		0.873	0.232	0.804	0.313

HF, heart failure; PPI, permanent pacemaker implantation.

**Table S4** Sensitivity analysis in TAVI

	Total (n=175)	Without aortic valve regurgitation (n=170)	HR (95% CI)	P value
<b>1 year</b>				
All-cause mortality	13 (7.5)	13 (7.7)	0.970 (0.450–2.093)	0.939
Stroke	8 (4.6)	8 (4.7)	0.971 (0.365–2.588)	0.954
MI	3 (1.8)	3 (1.2)	0.970 (0.196–4.807)	0.971
AF	17 (9.7)	16 (9.4)	1.032 (0.521–2.043)	0.928
Valve thrombosis	2 (1.2)	2 (1.2)	0.970 (0.137–6.887)	0.976
PPI	24 (13.9)	24 (14.3)	0.971 (0.551–1.709)	0.918
Heart failure	9 (5.5)	8 (5.0)	1.090 (0.421–2.826)	0.859
HAVB	23 (13.4)	23 (13.8)	0.970 (0.544–1.730)	0.919
Readmission	12 (7.6)	11 (7.2)	1.058 (0.467–2.399)	0.892
<b>3 years</b>				
All-cause mortality	23 (16.3)	23 (16.9)	0.963 (0.540–1.717)	0.899
Stroke	12 (9.8)	12 (10.2)	0.961 (0.432–2.140)	0.923
AF	18 (10.8)	17 (10.5)	1.027 (0.530–1.994)	0.936
Heart failure	11 (7.2)	10 (6.8)	1.065 (0.452–2.507)	0.886
HAVB	24 (14.1)	24 (14.5)	0.970 (0.551–1.708)	0.915
PPI	27 (17.0)	27 (17.6)	0.968 (0.568–1.650)	0.904
Readmission	21 (18.2)	20 (17.8)	1.012 (0.549–1.867)	0.969

Values are n (%). AF, atrial fibrillation; HAVB, high-grade atrioventricular block; HR, hazard ratio; MI, myocardial infarction; PPI, permanent pacemaker implantation; TAVI, transcatheter aortic valve implantation.



**Figure S1** Outcomes of Different stages. HF, heart failure; PPI, permanent pacemaker implantation.