

SUPPLEMENTARY MATERIAL

Table 1 of the supplementary material

Device Failure and Individual Contributors According to Prosthesis Oversizing

		Categories of OS						
	All patients (804)	≤ -5% (n = 85)	-4% to 0% (n = 116)	1%-5% (n = 152)	6%-10% (n = 149)	11%-15% (n = 131)	16%-20% (n = 93)	> 20% (n = 78)
<i>Device failure</i>	71 (9)	7 (8)	17 (15)	17 (11)	11 (7)	6 (5)	8 (9)	5 (6)
Procedural mortality	3 (0.4)	1 (1)	1 (1)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)
Elevated gradient*	47 (6)	3 (4)	10 (9)	14 (9)	7 (5)	5 (4)	4 (4)	4 (5)
PVL II+	14 (2)	2 (2)	4 (3)	3 (2)	4 (3)	0 (0)	0 (0)	1 (1)
Multiple valves	9 (1)	2 (2)	3 (3)	0 (0)	1 (1)	1 (1)	2 (2)	0 (0)
<i>Conversion</i>	5 (1)	1 (1)	0 (0)	0 (0)	0 (0)	1 (1)	3 (3)	0 (0)

Data are expressed as No. (%).

OS, prosthesis oversizing; PVL II+, paravalvular leakage grade II or more.

*Defined as mean transaortic gradient ≥ 20 mmHg on discharge transthoracic echocardiography.

Table 2 of the supplementary material

Multivariate Predictors of Device Failure

Variable	Adjusted OR	95%CI	<i>P</i>
OS (per each % increase)	0.997	0.971-1.024	.838
Female sex	1.037	0.515–2.088	.920
Peripheral artery disease	0.425	0.128-1.413	.163
Diabetes mellitus	0.602	0.312-1.161	.130
Preprocedural mean gradient (per each mmHg increase)	1.021	1.006-1.037	.007
Atrial fibrillation	0.723	0.354-1.478	.374
Size (per each size increase)	0.401	0.237-0.678	.001
Mean implantation depth, mm	0.955	0.819–1.115	.562

95%CI, 95% confidence interval; OR, odds ratio; OS, oversizing.

Table 3 of the supplementary material

Indication for Patients Requiring PPI

Indication	Total PPI (n = 115)
Persistent AV-block III	43 (37.4)
Transient AV-block III	22 (19.2)
Intermittent AV-block II	12 (10.4)
LBBB and AV-block I	5 (4.3)
Sick sinus syndrome	6 (5.2)
Bradycardia	27 (23.5)

The data are expressed as No. (%).

AV-block, atrioventricular block; PPI, permanent pacemaker implantation; LBBB, complete left bundle branch block.

Table 4 of the supplementary material

Multivariate Predictors of PPI at 30 days

OR	Adjusted OR	95%CI	<i>P</i>
OS (per each % increase)	1.028	1.005-1.051	.017
Age (per each year increase)	1.034	0.992-1.077	.114
Female sex	1.410	0.788-2.520	.247
Logistic EuroSCORE (per each % increase)	0.999	0.979-1.019	.935
NYHA III/IV	1.741	0.997-3.043	.051
Pulmonary artery pressure > 60mmHg	1.992	1.002-3.961	.049
Atrial fibrillation	1.715	1.073-2.742	.024
Complete right bundle branch block	6.203	3.471-11.085	<.001
Bicuspid valve	2.121	0.872-5.156	.097
Size (per each size increase)	1.166	0.794-1.710	.432
Mean implantation depth, mm	1.061	0.942-1.196	.329

95%CI, 95% confidence interval; NYHA, New York Heart Association functional class; OR, odds ratio;

OS, oversizing; PPI, permanent pacemaker implantation;

Figure 1 of the supplementary material. Example of different degrees of prosthesis oversizing by area, prosthesis parameters, and sizing recommendations for the SAPIEN 3. Examples for different degrees of oversizing (-18%, +9%, and +23%) according to the formula $\text{prosthesis outer area}/\text{patient aortic annular area}-1)*100$. For more details see methods section. OS, oversizing.

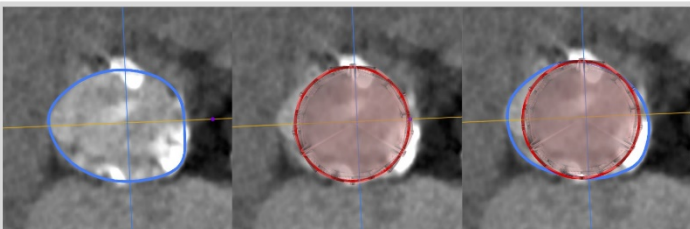
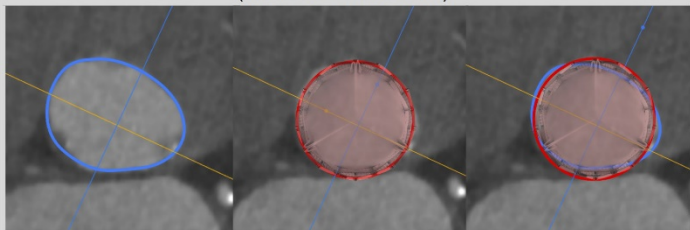
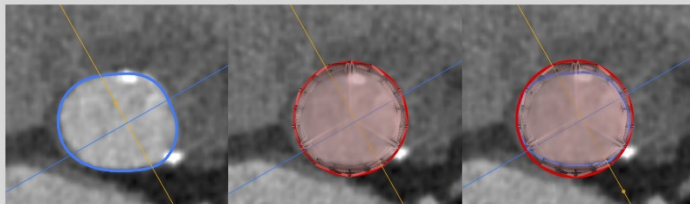
			23mm	26mm	29mm	
 Annular Area: 7.93cm ² Nominal Prosthesis Area (SAPIEN 3 29mm: 6.48cm ²) OS: - 18%			Prosthesis dimensions			
			Frame height (mm)	18	20	22.5
			Outer diameter (mm)	22.75	25.71	28.75
			Outer perimeter (mm)	71.47	80.74	90.32
			Outer area (cm ²)	4.06	5.19	6.48
 Annular Area: 5.93cm ² Nominal Prosthesis Area (SAPIEN 3 29mm: 6.48cm ²) OS: 9%			Sizing recommendations and range			
			Area (cm ²)	3.38-4.30	4.30-5.46	5.40-6.80
			Area-derived diameter (mm)	20.7-23.4	23.4-26.4	26.2-29.4
			OS (%)	-5.6% to +20.1%	-4.9% to +20.7%	-4.6% to 20.2%
			 Annular Area: 4.24cm ² Nominal Prosthesis Area (SAPIEN 3 26mm: 5.19cm ²) OS: 23%			

Figure 2 of the supplementary material. Distribution of cases among categories of OS, pre- and postdilatation and prosthesis sizes. Distribution of patients within the prosthesis oversizing categories. Median values of OS for each category are given. Pre- and postdilatation rates as well as prosthesis size used within each category are given. OS, oversizing.

