Table 1 of the supplementary material

Device Failure and Individual Contributors According to Prosthesis Oversizing

	All patients (804)	Categories of OS						
		≤ -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)
Device failure	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)
Conversion	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	*P*
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.
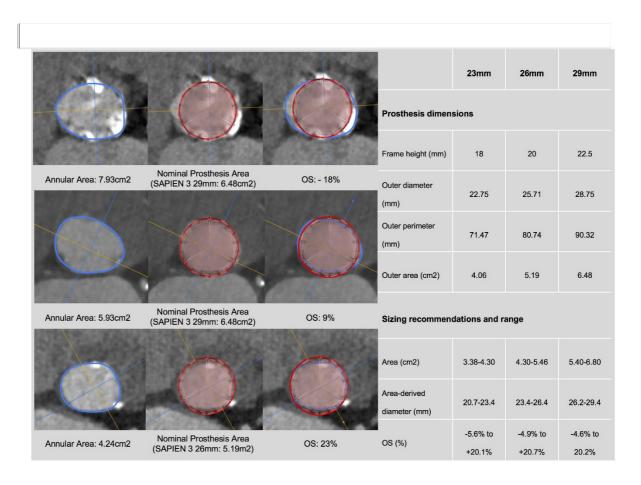
Table 4 of the supplementary material

Multivariate Predictors of PPI at 30 days

OR	Adjusted OR	95%CI	*P*
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 prosthesis outer area/patient aortic annular area-1)*100. For more details see methods section. OS, oversizing.

	23mm	26mm	29mm
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 (cm2)	4.06	5.19	6.48
Sizing recommendations and range			
Area (cm2)	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%

Left column image annotations:
- Annular Area: 7.93cm2 | Nominal Prosthesis Area (SAPIEN 3 29mm: 6.48cm2) | OS: - 18%
- Annular Area: 5.93cm2 | Nominal Prosthesis Area (SAPIEN 3 29mm: 6.48cm2) | OS: 9%
- Annular Area: 4.24cm2 | Nominal Prosthesis Area (SAPIEN 3 26mm: 5.19m2) | 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.

Oversizing	-5% and under	-4% to 0%	+1% to +5%	+6% to +10%	+11% to +15%	+16% to +20%	over +20%
Median OS	-7%	-2%	+3%	+8%	+13%	+18%	+24%
Pre-dilatation#	71 (84)	96 (83)	113 (74)	107 (72)	103 (79)	61 (66)	51 (65)
Post-dilation#	30 (35)	50 (43)	34 (22)	29 (20)	22 (17)	11 (12)	9 (12)
23mm size	40 (47)	52 (45)	58 (38)	48 (32)	27 (21)	21 (23)	30 (39)
26mm size	24 (28)	44 (38)	56 (37)	56 (38)	54 (41)	46 (50)	28 (36)
29mm size	21 (25)	20 (17)	38 (25)	45 (30)	50 (38)	26 (28)	20 (26)