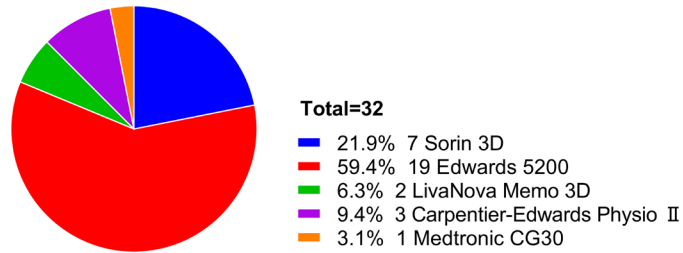
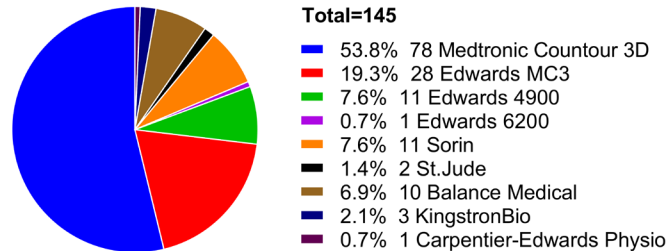


**A. Type of mitral annuloplasty ring**



**B. Type of tricuspid annuloplasty ring**



**Figure S1** The types of rings used for mitral (A) and tricuspid (B) annuloplasty.

**Table S1** Echocardiography results before discharge

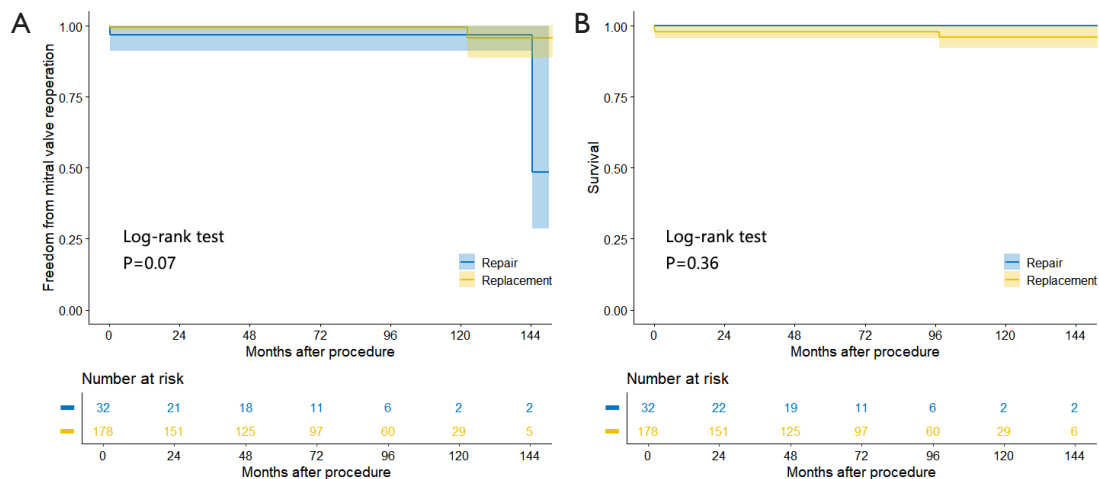
Parameters	Replacement (n=179)*	Repair (n=31)*	P value
LAAPD (mm)	42.9±8.3	39.2±5.9	0.02
LVESD (mm)	29.6±5.2	28.1±4.9	0.15
LVEDD (mm)	43.8±5.5	42.5±4.8	0.22
FS (%)	31.7±5.0	32.9±4.7	0.22
LVEF (%)	59.5±8.1	61.7±6.2	0.15
MVOA	–	2.6±0.4	–
Severity of MR			
Grade 0	–	12 (38.7)	–
Grade 1	–	19 (61.3)	–

Data are expressed as mean ± standard deviation or n (%). \*, one patient in the repair group underwent valve replacement on the sixth postoperative day due to severe mitral regurgitation. Therefore, when comparing the pre-discharge echocardiography results, this patient was categorized into the replacement group. LAAPD, left atrial anteroposterior diameter; LVEF, left ventricular ejection fraction; FS, fraction shorting; LVEDD, left ventricular end diastolic diameter; LVESD, left ventricular end systolic diameter; MVOA, mitral valve orifice area; MR, mitral regurgitation.

**Table S2** Baseline characteristics

Characteristics	With follow-up (n=187)	Lost to follow-up (n=23)	P value
Age (years)	56.8±10.2	55.4±8.0	0.52
Sex			0.94
Female	145 (77.5)	18 (78.3)	
Male	42 (22.5)	5 (21.7)	
BMI (kg/m <sup>2</sup> )	22.7±3.3	22.4±3.1	0.68
Hypertension	21 (11.2)	2 (8.7)	0.71
Diabetes	14 (7.5)	1 (4.4)	0.58
AF	99 (52.9)	12 (52.2)	0.95
LAT	22 (11.8)	2 (8.7)	0.66
Prior CI	13 (7.0)	1 (4.4)	0.64
NYHA ≥ III	84 (44.9)	6 (26.1)	0.09
LAAPD (mm)	52.3±9.4	51.5±10.0	0.69
LVEF (%)	61.3±6.3	59.1±10.3	0.14
FS (%)	32.7±4.2	31.7±6.7	0.32
LVEDD (mm)	46.9±6.0	48.8±7.1	0.17
LVESD (mm)	31.1±5.6	32.9±7.5	0.16
MVOA (cm <sup>2</sup> )	1.0±0.3	1.0±0.3	0.82
Pure MS	26 (13.9)	1 (4.4)	0.20
MR ≥2+	78 (41.7)	14 (60.9)	0.08
TR2 ≥+	98 (52.4)	10 (43.5)	0.42

Data are expressed as mean ± standard deviation or n (%). BMI, body mass index; LAT, left atrial thrombus; AF, atrial fibrillation; CI, cerebral infarction; NYHA, New York Heart Association; LAAPD, left atrial anteroposterior diameter; LVEF, left ventricular ejection fraction; FS, fraction shorting; LVEDD, left ventricular end diastolic diameter; LVESD, left ventricular end systolic diameter; MVOA, mitral valve orifice area; MS, mitral stenosis; MR, mitral regurgitation; TR, tricuspid regurgitation.



**Figure S2** The unadjusted Kaplan-Meier curves showing freedom from mitral valve reoperation (A) and overall survival (B). The P value derived from the Log-rank comparison.