Supplementary

Table S1 Details of postoperative adverse events

Case number	Age, years	Sex	Duration (day)	Cause of death
1	32	F	101	Out-of-hospital deaths: sudden death
2	48	M	1	In-hospital deaths: rupture of the posterior wall of the left ventricle, ventricular fibrillation
3	29	M	695	Out-of-hospital deaths: heart failure
4	55	M	77	In-hospital deaths: septic shock, severe hypoproteinemia, thrombocytopenia
5	41	M	106	Out-of-hospital deaths: renal failure, dialysis
6	57	M	103	Out-of-hospital deaths: postoperative myocardial infarction, heart failure
7	66	F	20	In-hospital deaths: multiple organ failure, electrolyte disorder, anemia
8	27	F	3	In-hospital deaths: cardiogenic shock, ventricular fibrillation
9	51	F	658	Out-of-hospital deaths: heart failure
10	29	F	2	In-hospital deaths: distal dissection rupture, tachycardia.
11	66	M	249	Out-of-hospital deaths: postoperative paraplegia, renal failure, dialysis
12	51	M	1,143	Out-of-hospital deaths: sudden death
13	55	M	28	In-hospital deaths: severe pulmonary, respiratory failure, liver dysfunction, anemia
14	51	F	1,345	Out-of-hospital deaths: renal failure, dialysis

Table S2 Cox proportional hazards regression analysis for risk factors of mortality

Exposure	Univariate		Multivariate	
	HR (95% CI)	P value	HR (95% CI)	P value
LVEF, %				
Q1 (41–54)	1.0		1.0	
Q2 (55–58)	0.27 (0.06, 1.29)	0.10	0.27 (0.06, 1.3)	0.10
Q3 (59–62)	0.32 (0.08, 1.25)	0.10	0.54 (0.13, 2.32)	0.41
Q4 (63–78)	0.17 (0.04, 0.84)	0.03*	0.19 (0.04, 0.94)	0.04*
Aortic regurgitation				
No	Ref		Ref	
Mild	1.37 (0.23, 8.19)	0.73	1.44 (0.24, 8.76)	0.69
Moderate	†		†	
Severe	4.88 (1.05, 22.58)	0.04*	3.33 (0.68, 16.27)	0.14
Cardiopulmonary bypass time, min	1.01 (1.003, 1.02)	<0.01*	1.01(1.001, 1.02)	0.047*

†, the result failed because of the small sample size; *, P<0.05. CI, confidence interval; HR, hazard ratio; BMI, body mass index; LVEF, left ventricular ejection fraction.

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Table S3 Baseline characteristics of participants

Patient demographics	Total N=136	N=122	N=14	P value
Age	47.8±11.0	47.9±10.7	47.0±13.3	0.77
BMI	25.4±3.9	25.5±3.9	24.2±3.1	0.24
Sex (male)	106 (77.9%)	98 (80.3%)	8 (57.1%)	<0.01*
Time of onset, day	30.0 (20.0–90.0)	30.0 (20.0–90.0)	45.0 (30.0–90.0)	0.72
Hypertension	84 (61.8%)	75 (61.5%)	9 (64.3%)	0.84
Smoking	70 (51.5%)	65 (53.3%)	5 (35.7%)	0.21
Diabetes	8 (5.9%)	7 (5.7%)	1 (7.1%)	0.83
History of cerebrovascular disease	5 (3.7%)	5 (4.1%)	0 (0.0%)	0.44
Marfan syndrome	3 (2.2%)	3 (2.5%)	0 (0.0%)	0.55
History of cardiovascular disease	28 (20.6%)	25 (20.5%)	3 (21.4%)	0.94
History of cardiac surgery	12 (8.8%)	11 (9.0%)	1 (7.1%)	0.82
History of TEVAR	8 (5.9%)	8 (6.6%)	0 (0.0%)	0.32
Coronary artery disease	10 (7.4%)	8 (6.6%)	2 (14.3%)	0.29
LVEF, %	59.4±6.9	59.9±6.6	54.4±7.1	<0.01*
Left ventricular end diastolic diameter, mm	54.4±9.6	53.5±8.7	62.0±13.5	<0.01*
Left ventricular end systolic diameter, mm	37.5±9.4	36.2±7.7	48.3±14.8	<0.01*
Aortic sinus diameter, mm	46.2±11.4	45.6±11.1	51.5±13.4	0.07
Ascending aorta diameter, mm	52.5±12.3	51.5±11.6	60.5±15.0	<0.01*
Aortic regurgitation				0.02*
Mild	43 (31.6%)	40 (32.8%)	3 (21.4%)	
Moderate	14 (10.3%)	14 (11.5%)	0 (0.0%)	
Severe	39 (28.7%)	30 (24.6%)	9 (64.3%)	
Mitral regurgitation				0.24
Mild	50 (36.8%)	43 (35.2%)	7 (50.0%)	
Moderate	5 (3.7%)	4 (3.3%)	1 (7.1%)	
Severe	3 (2.2%)	2 (1.6%)	1 (7.1%)	

Results are expressed as n (%) or mean ± standard deviation or median interquartile range. *, P<0.05. BMI, body mass index; TEVAR, thoracic endovascular aortic repair; LVEF, left ventricular ejection fraction.

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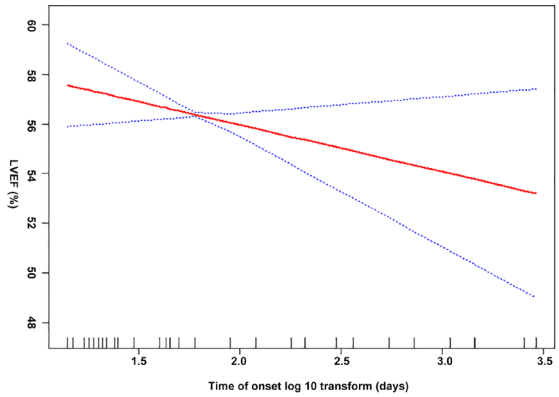

Figure S1 The linear relationship between onset time and LVEF in subacute/chronic TAAD patients with severe aortic regurgitation (P<0.05). The red line indicates LVEF, and the blue dotted lines represent pointwise 95% CI. LVEF, left ventricular ejection fraction; TAAD, type A aortic dissection.

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