

Figure S1 Flow chart of the patient selection process. TAAD, type A aortic dissection.



Figure S2 CTA of the four levels of the aortas. With the spine as the landmark, the stented segment is located at T5 and 6 (yellow horizontal line), the distal end of the stent at T9 and 10, not exceeding the diaphragm level (blue horizontal line), the celiac trunk at T12 and L1 (green horizontal line), and below the renal artery at L3 and 4 (red horizontal line). CTA, computed tomography angiography; T, thoracic vertebra; L, lumbar vertebra.

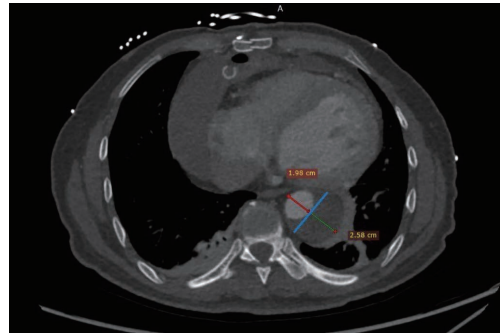


Figure S3 Measurements of the diameters of the TL, FL, and total aorta. The TL and FL diameters were measured from the inner-edge to inner-edge. The red line is the diameter of TL and the green line is the diameter of FL. The diameter of the TL and FL were measured perpendicular to the intimal flap on axial CT images (blue line). The total diameter is the sum of the red and green lines. TL, true lumen; FL, false lumen; CT, computed tomography.

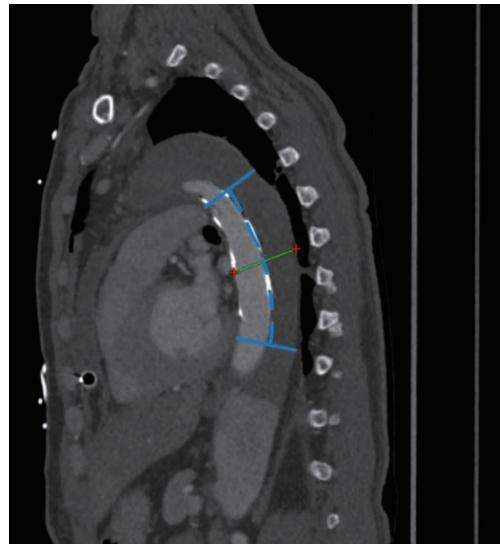


Figure S4 Measurement of the cross section. The angle of each horizontal line was adjusted and the cross section was set perpendicular to the centerline. The diameter of the TL, FL, and total aorta were measured based on the blue dotted line (center line of the aorta) and the green straight line (cross-section). TL, true lumen; FL, false lumen.

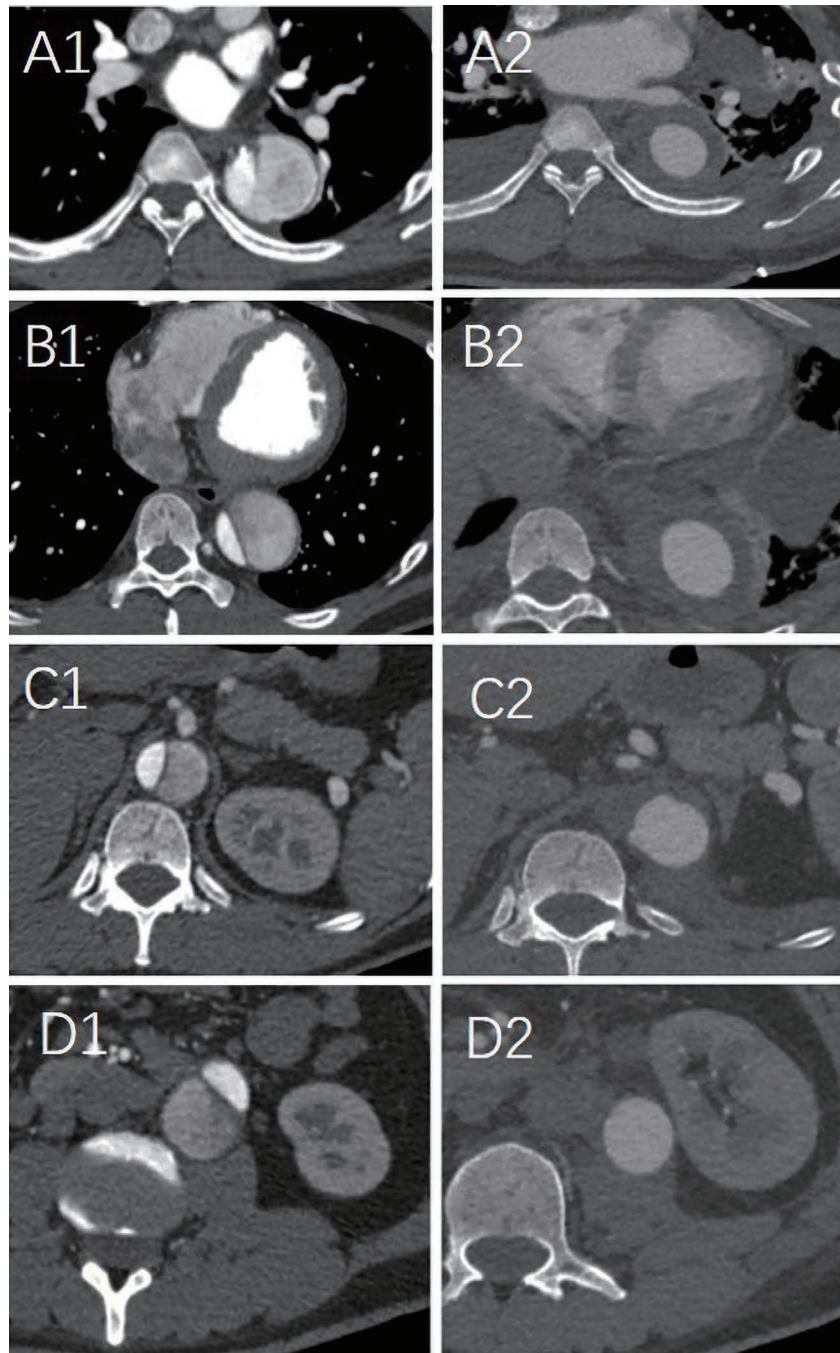


Figure S5 Representative CTA images of positive remodeling, where each level is perpendicular to the central axis of the aorta. The diameter of the FL was decreased at all four levels, while the diameter of the TL was increased. In the left four rows: A1: preoperative stent segment (T6); B1: preoperative distal end of the stent (T9); C1: preoperative celiac trunk (T12); D1: below the renal artery before surgery (L3). Similarly, in the right four rows: A2: preoperative stent segment (T6); B2: preoperative distal end of the stent (T9); C2: preoperative celiac trunk (T12); D2: below the renal artery before surgery (L3). CTA, computed tomography angiography; TL, true lumen; FL, false lumen; T, thoracic vertebra; L, lumbar vertebra.

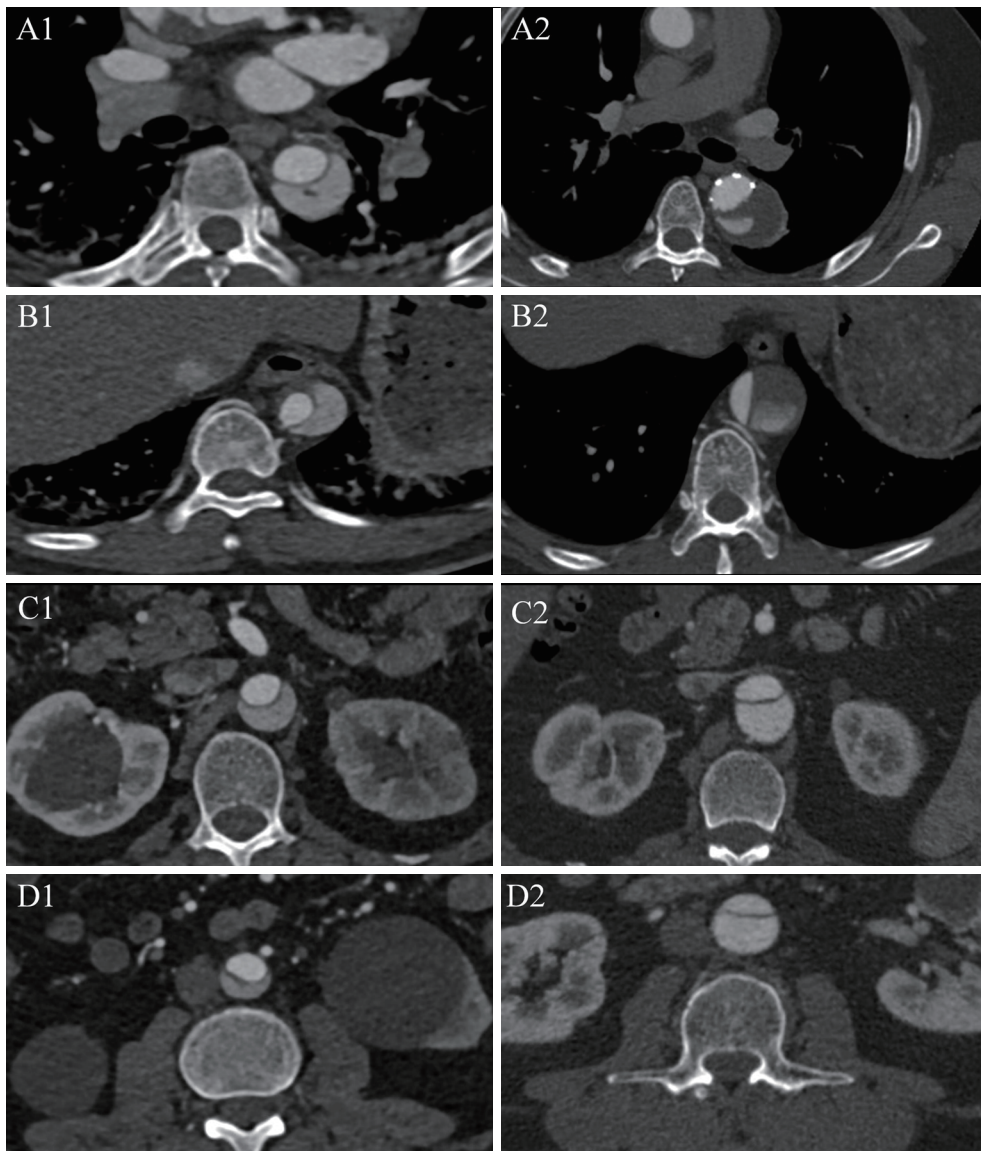


Figure S6 Representative CTA images of negative remodeling. At all four levels, the FL diameter had expanded, while the diameter of the TL had decreased. In the left four rows: A1: preoperative stent segment (T6); B1: preoperative distal end of the stent (T9); C1: preoperative celiac trunk (T12); D1: below the renal artery before surgery (L3). Similarly, in the right four rows: A2: preoperative stent segment (T6); B2: preoperative distal end of the stent (T9); C2: preoperative celiac trunk (T12); D2: below the renal artery before surgery (L3). CTA, computed tomography angiography; TL, true lumen; FL, false lumen; T, thoracic vertebra; L, lumbar vertebra.

Table S1 Changes to the diameters of the TL, FL, and total lumen (transaortic) over time at the stented thoracic aorta, distal end of the stent, celiac artery level, and below the renal artery

Variables	Preoperative	Follow-up	Change	P
Stented thoracic aorta (T5, T6)				
TL	2.38±0.36	2.69±0.33	0.31±0.33	<0.01
FL	1.30±0.85	0.59±0.95	-0.72±0.86	<0.01
Transaortic lumen	3.68±0.74	3.27±0.83	-0.41±0.73	<0.01
Distal end of the stent (T9, T10)				
TL	1.59±0.53	2.03±0.75	0.44±0.63	<0.01
FL	1.97±0.85	1.66±1.29	-0.31±1.11	<0.01
Transaortic lumen	3.57±0.70	3.69±0.90	0.13±0.77	0.035
Celiac artery branch level (T12, L1)				
TL	1.42±0.44	1.64±0.56	0.22±0.47	<0.01
FL	1.94±0.70	2.09±0.87	0.15±0.80	0.015
Transaortic lumen	3.36±0.66	3.73±0.60	0.37±0.62	<0.01
Below the renal artery (L3, L4)				
TL	1.18±0.34	1.25±0.41	0.07±0.37	0.017
FL	1.35±0.65	1.63±0.78	0.28±0.60	<0.01
Transaortic lumen	2.53±0.53	2.88±0.60	0.35±0.41	<0.01

Data are expressed as the mean ± standard deviation (cm). The maximum diameters were measured from the inner-edge to inner-edge. TL, true lumen; FL, false lumen; T, thoracic vertebra; L, lumbar vertebra.

Table S2 Changes to the aorta in the stented segment, distal end of the stent, celiac artery, and distal from the renal artery at about one year after surgery

Variable	Remodeling
Stented segment (T5, T6)	
Positive remodeling	142 (88.2%)
Negative remodeling	19 (11.8%)
Distal end of the stent (T9, T10)	
Positive remodeling	103 (64.0%)
Negative remodeling	58 (36.0%)
Celiac artery level (T12, L1)	
Positive remodeling	69 (42.9%)
Negative remodeling	92 (57.1%)
Below the renal artery (L3, L4)	
Positive remodeling	61 (37.9%)
Negative remodeling	100 (62.1%)
Total aorta	
Positive remodeling	33 (20.5%)
Negative remodeling	128 (79.5%)

All data are expressed as n (%). T: thoracic vertebra; L: lumbar vertebra.

Table S3 Type of remodeling of the TL, FL, and transaortic lumen at the stented segment, distal end of the stent, celiac artery level, and below the renal artery

Aortic segment	Positive remodeling	Negative remodeling	P
Stented segment (T5, T6)			
Preoperative TL	23.9±3.6	23.3±3.9	0.446
Preoperative FL	12.4±8.3	15.9±9.4	0.073
Preoperative transaortic lumen	36.3±7.2	39.2±8.4	0.096
Distal end of the stent (T9, T10)			
Preoperative TL	16.6±5.6	15.0±4.8	0.045
Preoperative FL	19.7±9.0	19.8±7.8	0.970
Preoperative transaortic lumen	36.3±7.1	34.8±6.7	0.144
Celiac artery level (T12, L1)			
Preoperative TL	15.3±5.5	13.7±3.8	0.048
Preoperative FL	19.6±9.4	19.3±5.7	0.847
Preoperative transaortic lumen	34.9±9.0	33.0±5.1	0.148
Below the renal artery (L3, L4)			
Preoperative TL	13.7±4.8	11.2±2.7	<0.01
Preoperative FL	11.0±9.5	14.2±5.1	0.050
Preoperative transaortic lumen	24.7±6.7	25.4±4.8	0.543

All data are expressed as the mean ± SD (mm). TL: true lumen; FL: false lumen; T: thoracic vertebra; L: lumbar vertebra.