

Appendix S1

Inclusion and exclusion criteria. The inclusion criteria for patients with aortic dissection as TAD group and coronary heart disease as control group were as follows: i) Patients with a clinically confirmed diagnosis of aortic dissection or substantial coronary artery disease based on medical imaging (such as computed tomography, MRI or echocardiography); ii) arterial dissection was performed with total aortic arch artificial vessel replacement, frozen stent elephant trunk, and mechanical aortic valve replacement. Patients with coronary heart disease as control group underwent aortic arc-coronary artery bypass grafting; iii) adult males aged 40-70 years; and iv) patients provided informed consent and were willing to participate actively in the study.

The exclusion criteria for patients with aortic dissection as TAD group and coronary heart disease as control group were as follows: i) Patients with other substantial cardiovascular conditions, such as severe valvular diseases, congenital heart defects, or severe coronary artery disease; ii) patients who had undergone previous aortic surgery or intervention; iii) patients with severe comorbidities, such as advanced kidney disease, liver disease or uncontrolled diabetes; iv) patients with known allergies or adverse reactions to medications or substances used in this study; v) patients in an unstable medical condition or those requiring emergency medical intervention at the time of enrollment; vi) patients with cognitive impairment or an inability to provide informed consent; and vii) patients currently participating in other clinical trials that may interfere with the study objectives of that study or the present study.

Table SI. Clinicopathological characteristics of the cohort.

A, Patients with thoracic aortic dissection				
Number	Sex	Age, years	Height, cm	Body weight, kg
1	Male	57	172	85
2	Male	64	158	80
3	Male	66	168	80
4	Male	64	170	82
5	Male	40	177	75
B, Control group				
Number	Sex	Age, years	Height, cm	Body weight, kg
6	Male	58	170	80
7	Male	60	171	78
8	Male	50	172	77
9	Male	52	168	55
10	Male	43	172	90