

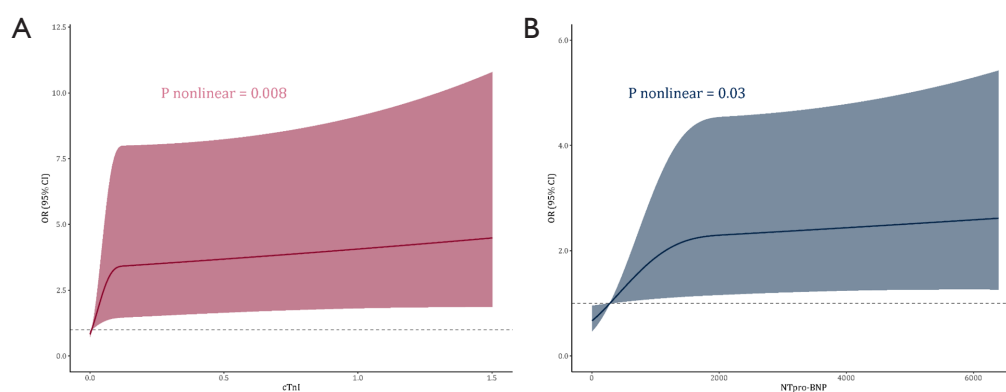


Figure S1 Restricted spline curve for association between (A) preoperative cTnI and (B) preoperative NT-proBNP and 30-day mortality in patients undergoing surgery for ATAAD.

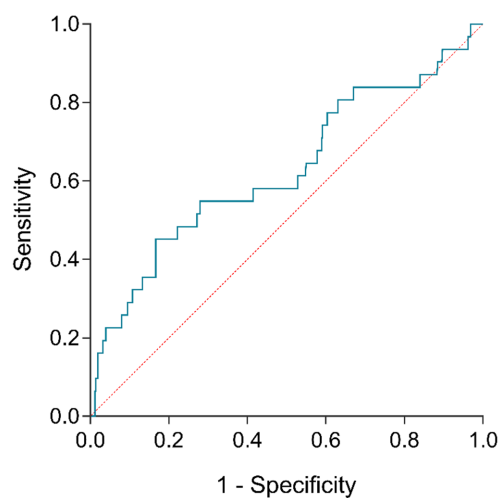


Figure S2 Receiver operating characteristic curve of NT-proBNP for predicting 30-day mortality in patients undergoing surgery for ATAAD (cut-off: 1,169.6 pg/mL, AUC: 0.628, 95% CI: 0.513–0.742, $P=0.017$, 45.2% sensitivity and 83.3% specificity).

Table S1 Univariable logistic regression analysis for 30-day mortality

Variable	OR (95% CI)	P value
Female	1.935 (0.914–4.100)	0.09
Age	1.043 (1.010–1.078)	0.01
BMI	0.992 (0.908–1.083)	0.86
Hypertension	0.821 (0.327–2.065)	0.68
Coronary artery disease	1.555 (0.695–3.476)	0.28
Diabetes	2.893 (0.804–10.407)	0.10
Marfan syndrome	0.000 (0.000–NA)	0.99
COPD	3.327 (0.377–29.382)	0.28
Smoking	0.863 (0.410–1.816)	0.70
History of cerebrovascular accident	2.577 (0.932–7.124)	0.07
History of cardiac surgery	0.000 (0.000–NA)	0.99
Positive cTnI	3.428 (1.637–7.178)	0.001
NT-proBNP $\geq 1,169.6$ pg/mL	4.118 (1.955–8.675)	<0.001
Ejection fraction	0.983 (0.910–1.063)	0.68
Aortic regurgitation (moderate/large)	1.023 (0.460–2.274)	0.96
Coronary artery involvement on CTA	2.341 (0.769–7.124)	0.13
Malperfusion	1.690 (0.810–3.522)	0.16
Cardiac malperfusion	3.157 (1.516–6.576)	0.002
Cerebral malperfusion	1.379 (0.311–6.123)	0.67
Mesenteric malperfusion	1.612 (0.721–3.608)	0.25
Renal malperfusion	1.588 (0.531–4.750)	0.42
Extremity malperfusion	0.822 (0.189–3.575)	0.79
Total arch replacement	0.454 (0.202–1.023)	0.06
Partial arch replacement	0.000 (0.000–NA)	0.99
Hybrid approach	3.340 (1.464–7.617)	0.004
Bentall procedure	1.089 (0.475–2.497)	0.84
David procedure	0.000 (0.000–NA)	0.99
CABG	2.635 (1.262–5.504)	0.01
CPB time	1.009 (1.006–1.013)	<0.001
Aortic cross-clamp time	1.007 (0.999–1.015)	0.07

Table S2 Univariable Cox proportional hazards analysis for mid-term survival

Variable	HR (95% CI)	P value
Female	1.752 (0.976–3.144)	0.06
Age	1.050 (1.023–1.079)	<0.001
BMI	0.989 (0.922–1.060)	0.75
Hypertension	1.014 (0.474–2.166)	0.97
Coronary artery disease	1.911 (1.048–3.483)	0.03
Diabetes	2.457 (0.882–6.843)	0.09
Marfan syndrome	0.616 (0.085–4.462)	0.63
COPD	6.612 (2.053–21.296)	0.002
Smoking	0.973 (0.548–1.727)	0.93
History of cerebrovascular accident	1.834 (0.780–4.314)	0.17
History of cardiac surgery	2.093 (0.508–8.628)	0.31
Positive cTnI	2.180 (1.237–3.842)	0.007
NT-proBNP $\geq 1,169.6$ pg/mL	2.994 (1.668–5.377)	<0.001
Ejection fraction	0.972 (0.917–1.030)	0.34
Aortic regurgitation (moderate/large)	1.032 (0.554–1.923)	0.92
Coronary artery involvement on CTA	2.083 (0.886–4.900)	0.09
Malperfusion	1.095 (0.621–1.930)	0.75
Cardiac malperfusion	2.100 (1.190–3.705)	0.01
Cerebral malperfusion	0.843 (0.205–3.471)	0.81
Mesenteric malperfusion	0.870 (0.421–1.797)	0.71
Renal malperfusion	1.455 (0.618–3.426)	0.39
Extremity malperfusion	0.555 (0.135–2.286)	0.42
Total arch replacement	0.410 (0.223–0.756)	0.004
Partial arch replacement	0.048 (0.000–79.071)	0.42
Hybrid approach	3.496 (1.895–6.449)	<0.001
Bentall procedure	1.052 (0.548–2.023)	0.88
David procedure	0.048 (0.000–208.177)	0.48
CABG	2.939 (1.667–5.180)	<0.001
CPB time	1.007 (1.005–1.009)	<0.001
Aortic cross-clamp time	1.006 (1.000–1.012)	0.04