

Table 1: Demographics, echocardiographic, vessel involvement and laboratory results of patients with ATAAD

	Survivors (n=281)	Nonsurvivors (n=32)	P-value
Demographics			
Age (years), mean $\pm$ SD	48 $\pm$ 10	48 $\pm$ 11	0.87
Female, n (%)	47 (15.0)	2 (0.6)	0.12
Heart rate (beats/min)	80 $\pm$ 15	87 $\pm$ 16	0.01
Systolic blood pressure (mm Hg)	135 $\pm$ 29	133 $\pm$ 26	0.61
Diastolic blood pressure (mm Hg)	72 $\pm$ 19	73 $\pm$ 12	0.68
Echocardiography			
DAA (mm), mean $\pm$ SD	47 $\pm$ 8	47 $\pm$ 5	0.94
Moderate to severe pericardial effusion	163 (58.0)	25 (78.1)	0.03
Ejection fraction (%), mean $\pm$ SD	62.7 $\pm$ 5.4	60.2 $\pm$ 6.1	0.12
Aortic regurgitation	155 (55.2)	15 (46.9)	0.37
Involvement of vessel branches			
Ascending aorta	280 (99.6)	32 (100.0)	0.9
Aortic arch	257 (91.5)	32 (100.0)	0.17
Supra-aortic vessels	160 (56.9)	26 (81.3)	<0.01
Organ ischemia			
Lower limb ischemia	16 (5.7)	11 (34.4)	<0.001
Myocardial ischemia	28 (10.0)	9 (28.1)	<0.01
Primary tear location, n (%)			
Ascending aorta	155 (55.2)	15 (46.9)	0.37
Aortic arch	71 (25.3)	5 (15.6)	0.23
Descending aorta	24 (8.5)	9 (28.1)	0.32
Unknown	31 (11.0)	3 (9.4)	0.78
Laboratory results (maximum value prior to surgery), mean $\pm$ SD			
Leukocyte (*10 <sup>9</sup> )	12.0 $\pm$ 4.1	12.7 $\pm$ 4.9	0.36
Platelets (*10 <sup>9</sup> )	168.0 $\pm$ 66.3	165.3 $\pm$ 65.1	0.83
Creatinine ( $\mu$ mol/l)	106.4 $\pm$ 79.7	125.9 $\pm$ 59.5	0.19
Neutrophil (10 <sup>3</sup> / $\mu$ l)	13.5 $\pm$ 57.9	10.9 $\pm$ 4.7	0.8
Serum creatinine (mg/dl)	3.9 $\pm$ 0.4	4.2 $\pm$ 0.5	<0.01

DAA: diameter of ascending aorta

Table 2: Procedure information

	Survivors (n=281)	Nonsurvivors (n=32)	P-value
Procedure type n (%)			
Ascending aorta replacement	147 (52.3)	21 (65.6)	0.15
Aortic valve replacement	135 (48.0)	11 (34.4)	0.14
Hemiarch replacement	10 (3.6)	0	0.58
Total arch replacement	253 (90.0)	32 (100.0)	0.12
Elephant truck procedure	247 (87.9)	32 (100.0)	0.07
CABG	30 (10.7)	9 (28.1)	0.01
Aortic sinus repair	52 (18.5)	8 (25.0)	0.38
Duration of procedure, mean $\pm$ SD			
Procedure time (h)	8.3 $\pm$ 2.1	9.8 $\pm$ 1.9	<0.001
CPB time (min)	230 $\pm$ 45	293 $\pm$ 92	0.01
Cross-clamp time (min)	125 $\pm$ 26	128 $\pm$ 26	0.66
HCA time (min)	22 $\pm$ 7	26 $\pm$ 10	0.1
Cerebral perfusion time (min)	22 $\pm$ 6	24 $\pm$ 8	0.55

CABG: coronary artery bypass graft; CPB: cardiopulmonary bypass; HCA: hypothermic circulatory arrest

Table 3: ROC curves to obtain diagnostic truncation values

Variables	Cut-off value	Sensitivity	Specificity	AUC
Duration of operation (h)	9.5	58.1	78.4	0.73
CPB time (min)	227	83.3	52.8	0.72
Heart rate (beats/min)	82	53.1	78.6	0.65
Plasma potassium (mmol/l)	3.8	92.3	39.8	0.71

Table 4: Multivariate logistic analysis of risk factors for surgery mortality in ATAAD

Variables	OR	95% CI	P-value
Operation time > 9.5(h)	4.5	1.9-10.6	0.001
CPB time > 227 (min)	5.3	2.1-13.9	0.001
Heart rate > 82 (beats/min)	1.4	0.6-3.4	0.41
Plasma potassium > 3.8 (mmol/l)	1.3	0.5-3.4	0.59
Moderate to severe pericardial effusion	3.3	1.1-9.6	0.017
Suprasternal branch involvement	4.9	1.8-13.4	0.002
Myocardial ischemia	1.3	0.4-4.2	0.65
Lower-extremity ischemia	7.6	2.6-22.2	<0.001