

STS/EACTS Latin America Cardiovascular Surgery Conference

November 15-17, 2018

Hilton Cartagena | Cartagena, Colombia



Open Repair of Acute Complicated Type B Aortic Dissection: Predictable outcomes when TEVAR is ill-advised

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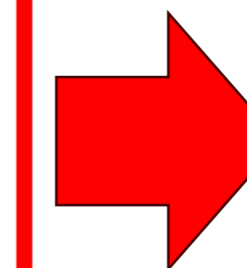
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Acute Complicated Type B Aortic Dissection (ACTBAD)

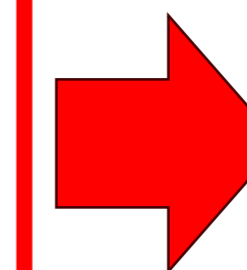
- TEVAR is now the preferred therapy for ACTBAD
 - Improves true lumen antegrade flow by covering primary tear
- Open repair is historically associated with higher mortality compared to TEVAR
 - Mortality 33.9% vs 10.6% in the IRAD database
- Anatomic complexity and limitations may sometimes discourage an endovascular approach
- We sought to analyze our experience with open repair in this high risk cohort

Preoperative Data	Acute Dissection (n=66)	Other (n=754)	P- value
Age (median, IQR)	68.50 [51.25, 73.00]	68.00 [58.00, 75.00]	0.316
Males	39 (59.1)	447 (59.3)	0.976
Smoking	50 (75.8)	574 (76.1)	0.946
Previous coronary revascularization*	7 (10.6)	156 (20.7)	0.049
Hypertension	64 (97.0)	724 (96.0)	0.703
Chronic pulmonary disease	28 (42.4)	306 (40.6)	0.770
Previous stroke	10 (15.1)	118 (15.6)	0.955
Peripheral vascular disease	18 (27.3)	193 (25.6)	0.765
Diabetes	5 (7.6)	74 (9.8)	0.578
Renal failure	20 (30.3)	222 (29.4)	0.883
Connective tissue disorder	12 (18.2)	80 (10.6)	0.211



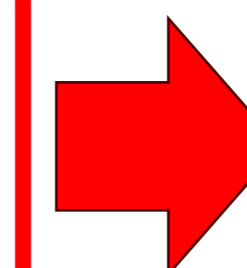
- Baseline medical comorbidities are similar

Aneurysm size, cm (median, IQR)*	6.05 [5.30, 6.88]	6.70 [6.10, 7.50]	<0.001
Descending thoracic aneurysm*	29 (43.9)	225 (29.8)	0.018
Thoracoabdominal aneurysm*	37 (56.1)	529 (70.2)	0.018
Shock*	7 (10.6)	23 (3.1)	0.002
Emergent operation*	58 (87.9)	202 (26.8)	<0.001
Preoperative spinal cord lesions*	3 (4.5)	8 (1.0)	0.016



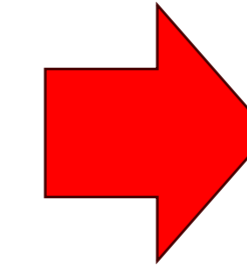
- Aneurysms are smaller
- More limited to DTA
- More shock and spinal ischemia

Intraoperative Data	Acute Dissection (n=66)	Other (n=754)	P- value
Intercostal re-implantation*	17 (25.8)	320 (42.4)	0.008
Partial bypass*	31 (47.0)	199 (26.4)	<0.001
Clamp and sew*	29 (43.9)	487 (64.6)	0.001
Circulatory arrest	6 (9.1)	62 (8.2)	0.806
Renal perfusion	8 (12.2)	164 (21.8)	0.065
Spinal drainage	56 (84.8)	639 (84.7)	0.998

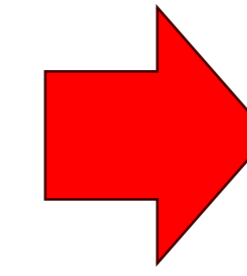


- Partial bypass is the primary technique
- Less intercostal re-implantation and renal/visceral perfusion

Postoperative Data	Acute Dissection (n=66)	Other (n=754)	P- value
Operative mortality	5 (7.6)	39 (5.2)	0.414
Myocardial infarction	1 (1.5)	4 (0.5)	0.320
Stroke	0 (0.0)	6 (0.8)	0.466
Spinal cord ischemia	1 (1.5)	19 (2.5)	0.620
Tracheostomy	5 (7.6)	53 (7.1)	0.868
Renal failure requiring dialysis	2 (3.0)	40 (5.3)	0.421
Reoperation for bleeding	3 (4.5)	17 (2.3)	0.252

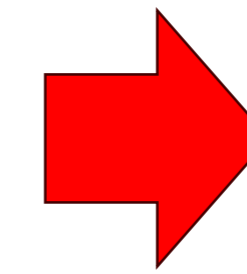


- Operative mortality similar to chronic dissection/atherosclerotic

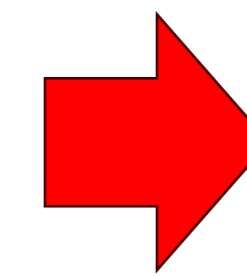


- Incidence of other MAE's was similar
- Mainly consisting of pulmonary and renal failure

Logistic Regression Analysis	OR (95% CI)	P Value
Major adverse events		
Female	1.729 (1.014-2.689)	0.05
Preoperative hemodialysis	6.695 (2.195-20.594)	0.001
Aneurysm extent I	Reference	
Aneurysm extent II	2.094 (1.009-4.465)	0.039
Urgent/emergent operation	2.831 (1.286-3.941)	0.001
FEV1 ≤ 50	2.675 (1.531-4.909)	<.001
ACTBAD	0.548 (0.247-1.306)	0.223

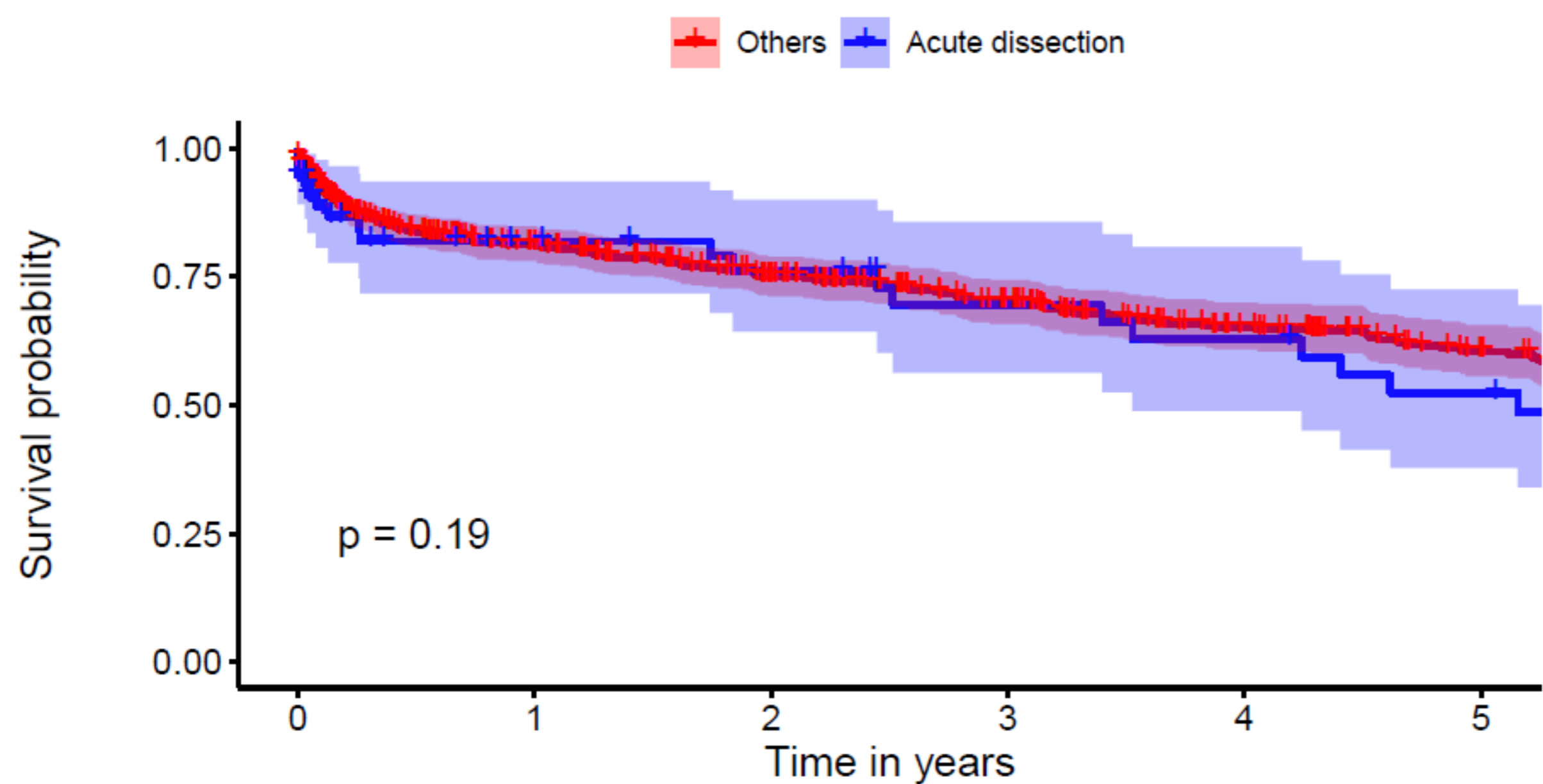


- Independent predictors of MAE were similar to prior studies



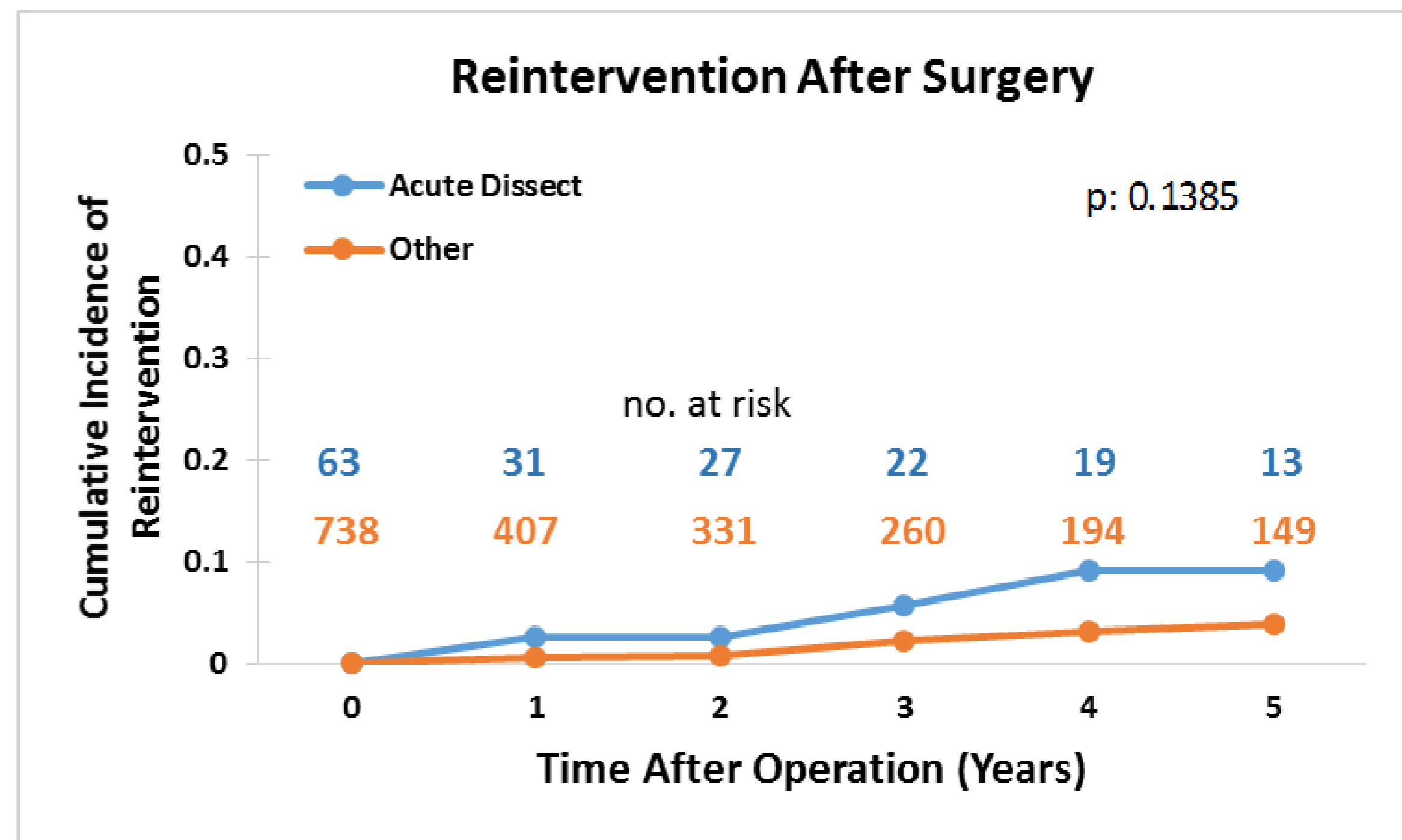
- ACTBAD was NOT a predictor of major adverse events

5-year Survival and Re-intervention Rate



Number at risk

Others	754	360	293	240	193	154
Acute dissection	66	30	26	21	19	15



Cum. Incidence	3-Year (95% CI)	5-Year (95% CI)
Acute Dissect	5.8%(0.9-17.2%)	9.1%(2.2-22.1%)
Other	2.2%(1.1-4.0%)	3.9%(2.2-6.4%)

Conclusions

- Open repair of Aortic Bypass can be performed with outcomes comparable to published endovascular series
- The need for re-intervention and late survival compare favorably with TEVAR
- In patients with anatomy unsuitable for TEVAR, surgical repair in a high-volume open repair center should be considered

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THANK YOU

