

## SCA 54

**RENAL FAILURE RISK FACTORS IN THORACIC AORTIC REPAIR**<sup>1</sup>Geldard P, <sup>2</sup>Shore-Lesserson L, <sup>2</sup>Bodian C, <sup>2</sup>Hossain S<sup>1</sup>Mt Sinai Hospital, South Yarra, Victoria, Australia; <sup>2</sup>Mt. Sinai Medical Center, New York, NY, USA

**Background:** The incidence of renal-impairment (RI) following thoracic aneurysm repair is 6-18%. The reported risk-factors include age, preexisting RI, aneurysm length, amount of blood transfused, long cross-clamp time and hemodynamic instability.[1,2] We sought to determine the risk factors for RI in patients undergoing descending thoracic and thoracoabdominal aneurysm repair utilizing partial-bypass techniques.

**Method:** The medical charts of all patients who underwent descending thoracic or thoracoabdominal aortic repair with distal perfusion during a three year period were reviewed. Patients who had deep hypothermic circulatory arrest or preoperative creatinine >1.7 were not analyzed. Univariate analysis of demographic and surgical variables identified the risk factors for RI. RI was defined as a doubling of preoperative creatinine. Univariate risk factors with a p<0.1 were then entered into a multivariate logistic regression analysis; p<0.05 was considered significant.

**Result:** Seventy-two patients met the inclusion criteria, 11 experienced RI. Six of these 11 patients required hemodialysis. Prolonged operative time (p=0.02) and reduced preoperative hemoglobin (p=0.04) were independent predictors of RI. Aneurysm extent below the diaphragm showed a trend (p=0.056). (Table1)

**Discussion:** Our analysis confirms prior reports that long operative time and possibly increased length of aneurysm are risk factors for RI after thoracic aneurysm repair. [3] Age and hemodynamic instability were not predictive in the current analysis. It has been demonstrated that large volumes of transfusion are associated with RI. Our finding of low preoperative hemoglobin as a significant risk factor may relate to it being a marker for intraoperative transfusions.

**References:**

1. Coselli JS: *J Card Surg.* 1994 Nov;9(6):638-47.
2. Svensson LG, et al: *J Vasc Surg.* 1993 Feb;17(2):357-68
3. Svensson LG, et al: *J Vasc Surg.* 1989 Sep;10(3):230-9

Variable	Univariate p	Multivariate	
		Odds Ratio	P value
<b>Preoperative Factors</b>			
Elective Procedure	0.11		NS
Distal Extent (Thoracic)	0.005	0.1	0.056
Preoperative Hemoglobin	0.08	0.58	0.04
Incision thoracoabdominal	<0.001		NS
<b>Operative Factors</b>			
Minimum rectal temperature	0.04		NS
Cross-clamp time	0.01		NS
Operative time	0.0003	1.009/minute	0.02
Total RBC's transfused	0.0008		**

\*\*Total RBC's transfused not selected for the multivariate model.