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Five-year Analysis on the Outcomes of Thoracic Aneurysm Surgery

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INTRODUCTION

- Thoracic aneurysms typically arise as a result of hardening of the arteries, caused by factors such as hypertension, smoking, and high cholesterol
- The prevalence of thoracic aneurysms and their associated surgeries has been increasing substantially over the past years
- Bicuspid valve patients only have two leaflets of the aortic valve, versus the typical three, and can ultimately lead to heart failure

OBJECTIVE: [Compare the mortality rates of bicuspid valve patients to tricuspid valve patients](#)

METHODOLOGY

CLASSIFIED

- Ascending thoracic aneurysm patients within the last five years at LVHN

REVIEWED

- Medical histories and surgery records and documented them into a database

ANALYZED

- Data using statistics to determine the five-year mortality rate of all ascending thoracic aneurysm patients

RESULTS

- Bicuspid valve patients had a 0% mortality rate over a five-year span
- Overall, mortality rates for thoracic aneurysm surgery are low
- 30-day mortality rate for non-dissection patients is 4.1%

Factor	Number of events		Number of censored		Total sample
	N	%	N	%	
1	0	0%	26	100%	26
2	7	9.20%	69	90.80%	76
Overall	7	6.90%	95	93.10%	102

Factor 1 = Bicuspid

Factor 2 = Tricuspid

Table 1. Mortality Data for Thoracic Aneurysm Patients

DISCUSSION

- Out of the 102 patients
 - 69.6% were male
 - Mean age was 60.85 at time of surgery

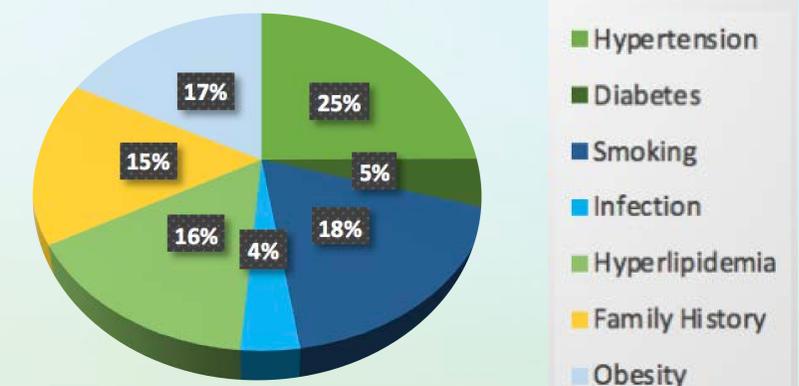


Figure 3. Risk Factors for Developing an Aneurysm

CONCLUSION/FUTURE DIRECTIONS

- Those with a tricuspid valve have a higher mortality rate than those with a bicuspid valve, who have a 0% mortality rate
- Hypertension is the main risk factor, with smoking and obesity also playing important roles
- Research into the prevention of thoracic aneurysm dissection, as well as surgical methods to deal with dissection would greatly benefit

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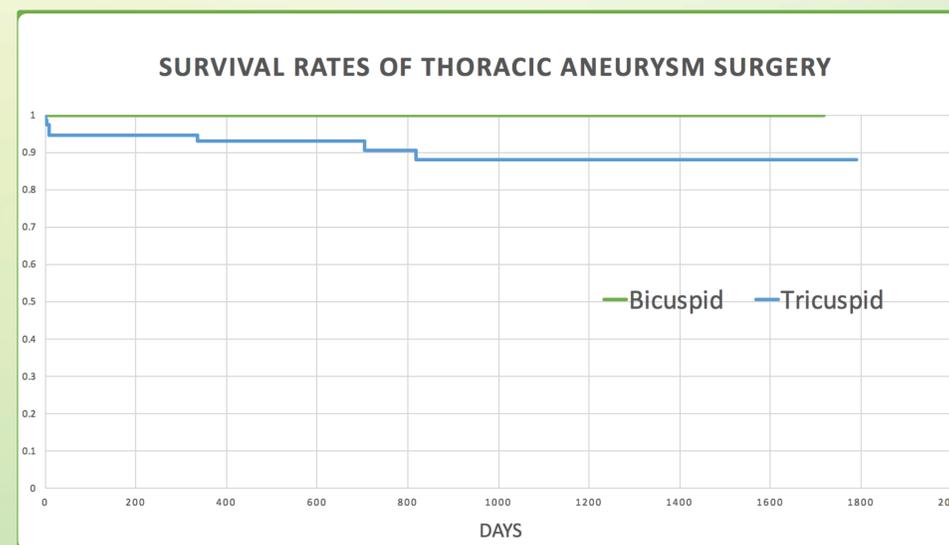


Figure 4. Kaplan Meier Curve of Thoracic Aneurysm Surgery Patients
 The tricuspid valve patients have a smoother curve, portraying a low mortality rate, while the bicuspid patients had no deaths.