

주최·주관 대한심장혈관흉부외과학회

2024 대한심장혈관흉부외과학회

제56차 추계학술대회

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long-term fate of borderline ascending aorta aneurysm: what makes survival longer?

- ❖ Surgical treatment for ascending aorta
 - Traditionally done when diameter exceeds 5.5cm
 - Recent studies suggested the need for a “shift-to-the-left” indicating surgery at smaller diameter, diameter ≥ 5.0 cm (Iia)
- ❖ Long-term fate of borderline ascending aorta – still not fully understood
- ❖ The purpose of this study
 - To evaluate long-term fate of patients with borderline ascending aorta aneurysms
 - To analyze risk factors related to survival and adverse aortic events

❖ Patients :

- From January 2006 to December 2021
- Ascending aorta aneurysm identified by CT, $45\text{ mm} \leq \text{size} < 55\text{ mm}$ (n= 1,121)
- Exclusion criteria : History of aortic dissection, major heart or thoracic aorta surgery, connective tissue diseases, combined valvular disease (moderate or greater), other lesions requiring thoracic aorta surgery (arch aneurysm, aortic root aneurysm)
- Enrolled patient : 554 (70 in surgery group, 474 in no-surgery group)
- Mean and median aorta size : $4.77 \pm 0.24\text{ cm}$ and 4.7 (4.6– 4.92) cm

❖ Primary end point : overall survival rate and adverse aortic events

❖ Adverse aortic events (AAE) : composite outcomes of aorta increase >5 mm, aorta size>5mm, aortic dissection and sudden death

Results (1)

Overall Survival

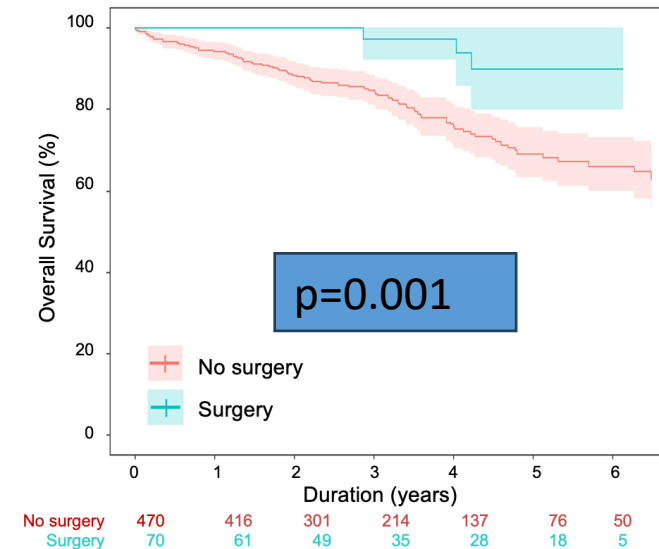
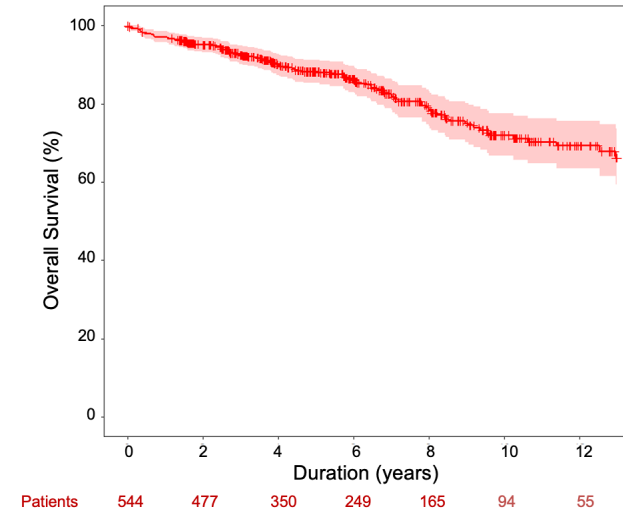
- ❖ 5- and 10- year survival : 87.9% and 71.9%
- ❖ Significant difference between groups

Risk factors for overall survival

Variables	Univariate analysis		Multivariable analysis	
	HR[95% CI]	p	HR[95% CI]	p
Group (ref : surgery)	5.431 [1.721 – 17.136]		5.105 [1.213-21.496]	0.026
Age	1.096 [1.070 – 1.122]		1.114 [1.066 – 1.164]	<0.001
Smoking	2.490 [1.531 – 4.050]		2.042 [1.125 – 3.707]	0.019
Dialysis	9.030 [4.158-19.609]		13.987 [3.581 – 54.628]	<0.001
History of cancer	2.448[1.545-3.878]		2.959 [1.555 – 5.632]	<0.001

Surgery for ascending aorta (n=70; 12.6%)

- ❖ Mean aorta size = 50.9 mm, 49 patients (70%) underwent surgery within a year
- ❖ No operative death and stroke, bleeding reop (n=2)



Results (2)

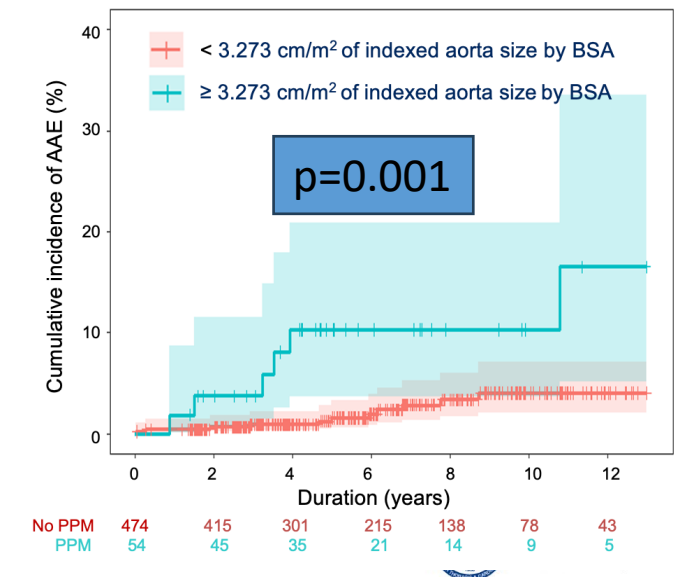
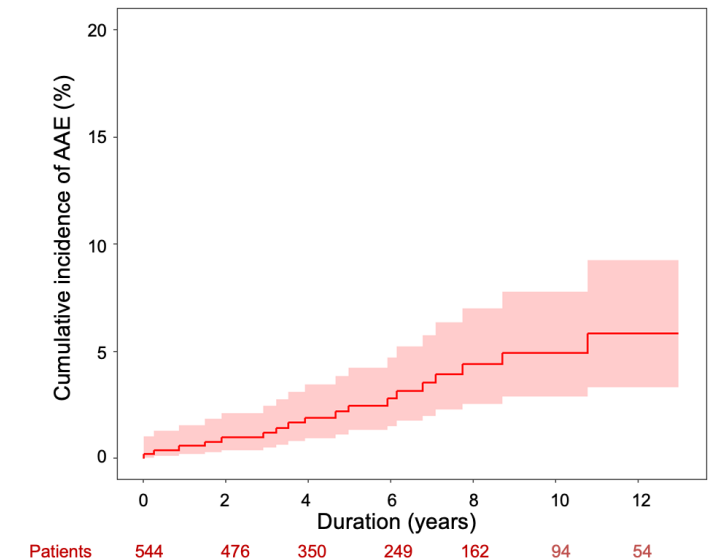
Adverse Aortic Events (n=18)

- ❖ Mean f/u duration : 67 (35-117) months
- ❖ Aorta increase >5mm (n=8), aorta size >55mm (n=2), dissection (n=5), sudden death (n=3)
- ❖ CI of AAE at 5 year and 10 year : 2.4% and 4.9%

Risk factors for AAE

Variables	Univariate analysis		Multivariable analysis	
			HR[95% CI]	p
Group (ref : surgery)	0.402 [0.143 – 1.129]	0.084		
Aorta size indexed by height	6.000 [0.783 – 45.978]	0.085		
Aorta size indexed by BSA	3.954 [1.183 – 13.218]	0.026	3.954 [1.183 – 13.218]	0.026

- ❖ Cut off value of aorta size indexed by BSA: 3.273 cm/m²
- ❖ Significant differences of CI of AAE between groups based on cut-off value



- ❖ Survival for patients with borderline ascending aorta aneurysm was affected by various factors, including whether surgery was performed and smoking status.
- ❖ Considering favorable outcomes of aortic surgery, early surgery can be considered for patients with borderline ascending aorta aneurysm. Especially with cut-off value of 3.27 cm/m^2 for indexed aorta size by BSA could be helpful tool to select patients.