

Long-term Outcomes of Aortic Arch Replacement using Trifurcated Graft Technique

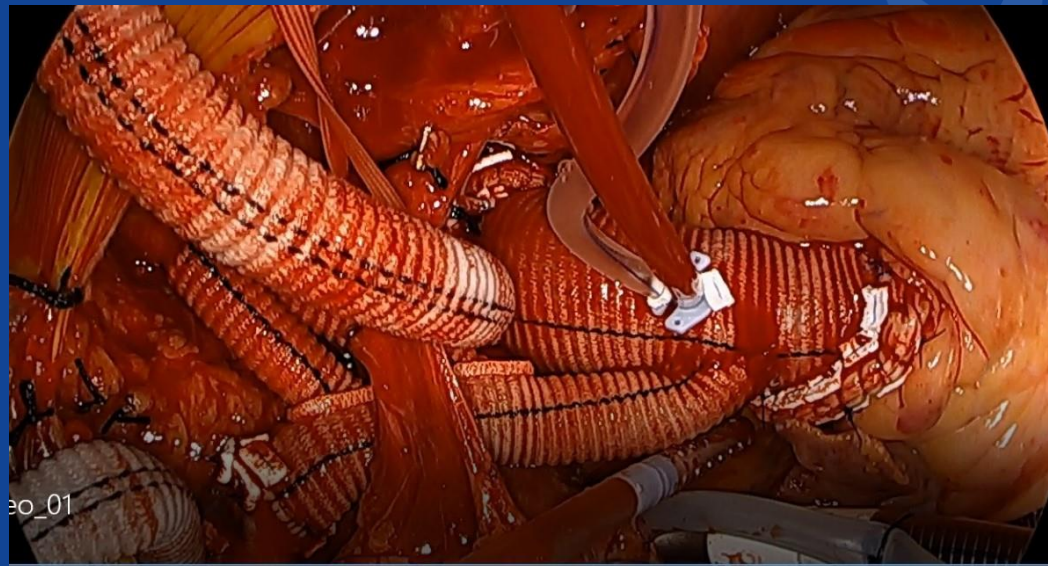
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Introduction

- **Selective antegrade cerebral perfusion using trifurcated graft technique during aortic arch replacement is associated with low rate of adverse neurologic outcomes.**
- **We describe clinical outcomes of total arch replacement using Trifurcated Graft Technique (modified Spielvogel technique).**



Methods

- Jan 2007~Sep 2022
- Non-emergent total arch replacement using trifurcated graft
- f/u duration : 63.3 ± 12.1 months

Total arch replacement
using trifurcated graft
technique (n = 177)

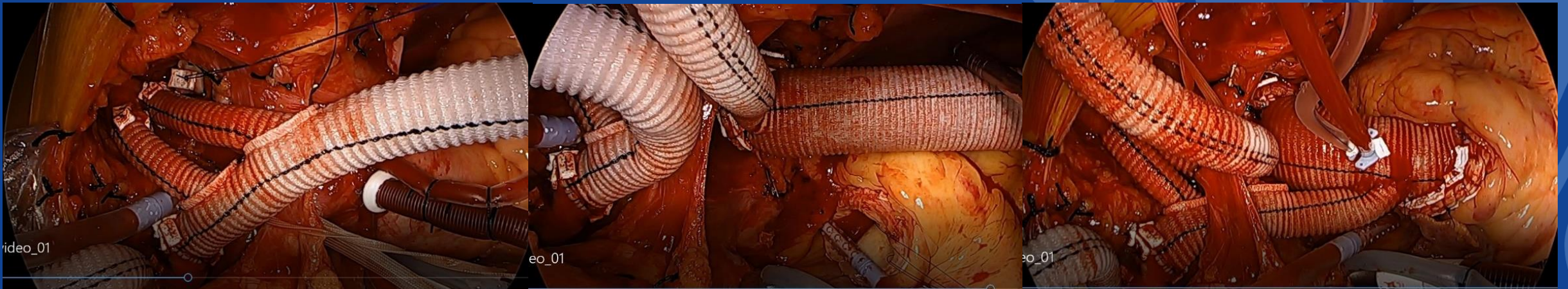


- ❖ Exclusion criteria (n = 34)
- Emergent operation
 - Aortic dissection

Non-emergent total arch
replacement using Spielvogel
technique (n = 143)

Methods

- Primary outcome
- Overall survival
- Aortic reintervention



Results

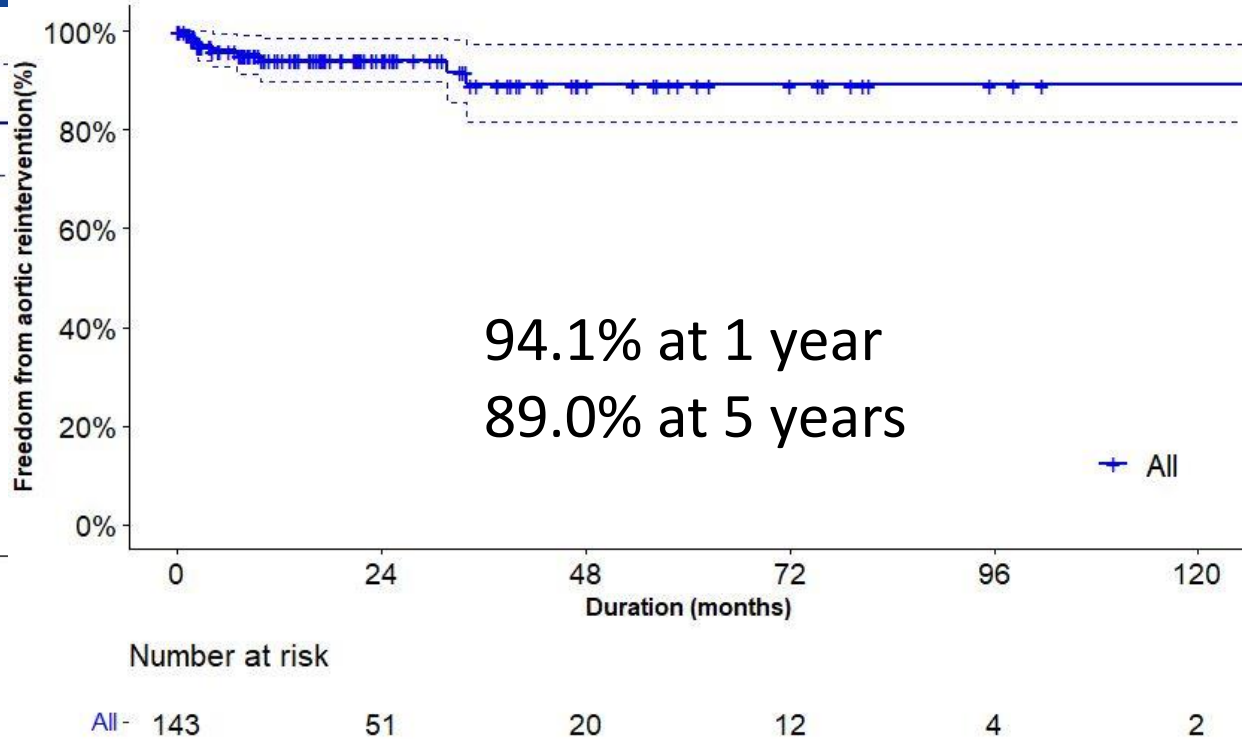
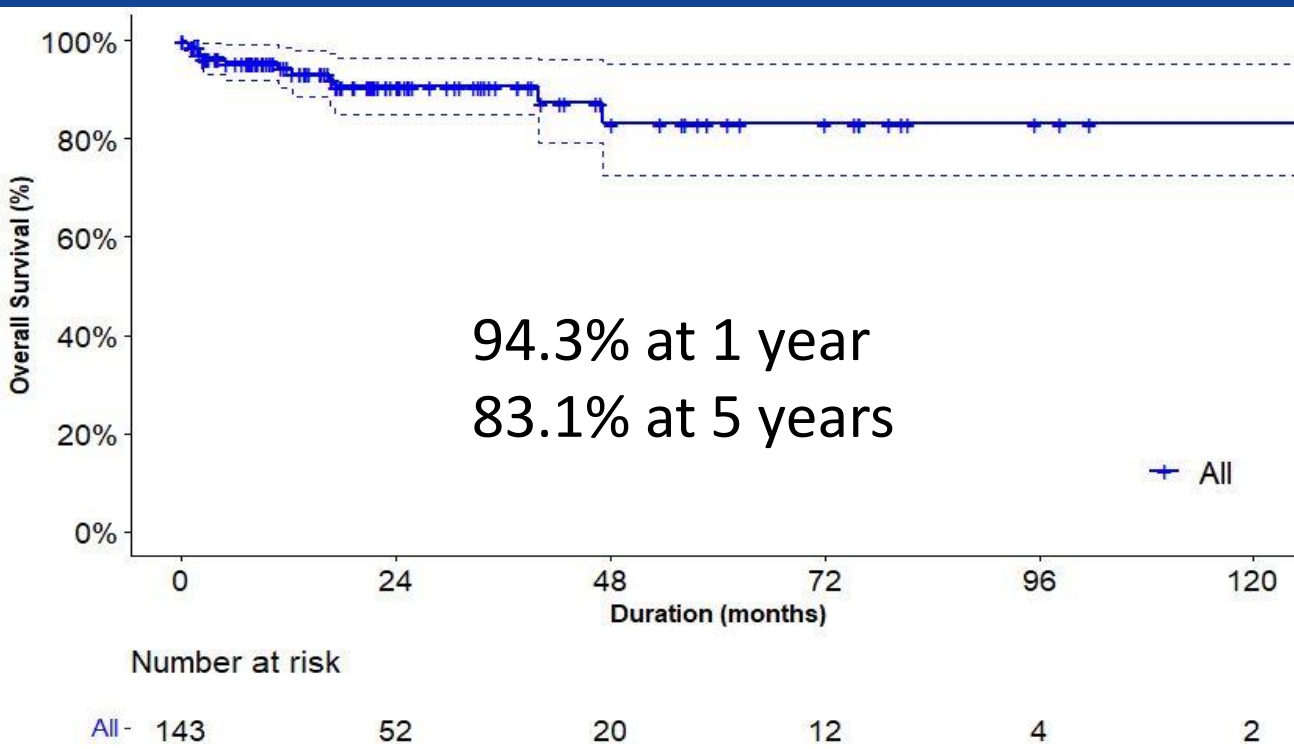
Variables	N=143
Age (y)	71.0±11.0
Male (%)	116 (81.1%)
BMI ≥ 25	61 (42.7%)
DM	24 (16.8%)
HTN	117 (81.8%)
Hx of stroke	8 (5.7%)
CAD	56 (39.2%)
CKD	21 (14.7%)
Atrial fibrillation	10 (7.0%)
COPD	9 (6.3%)
Arch only	30 (21.0%)
DTA only	20 (14.0%)
Ascending+Arch	14 (9.8%)
Arch + DTA	41 (28.7%)
Ascending+Arch+DTA	38 (26.6%)
Fusiform	76 (53.1%)
Saccular	67 (46.9%)

Variables	N=143
Concomitant procedure	
Root replacement	2 (1.7%)
CABG	18 (12.6%)
AVR	5 (3.5%)
Cox-Maze procedure	5 (3.5%)
Elephant trunk procedure	3 (37.5%)
Stent in DTA	27 (18.9%)
CPB time (min)	228.0±56.9
ACC time (min)	154.5±41.8

Variables	N=143
Op. mortality	10 (7.0%)
Complications	
LCOS	5 (3.5%)
Vocal cord palsy	40 (28.0%)
Prolonged intubation (>48h)	22 (15.4%)
Respiratory complication	33 (23.1%)
AKI requiring HD	8 (5.7%)
Bleeding reop	13 (9.1%)
Transient neurological dysfunction	39 (27.3%)
Seizure	5 (3.5%)
Stroke *	8 (5.6%)
Graft infection	0 (0.0%)
Mediastinitis	1 (0.7%)

***Disabling stroke: 1 (0.7%)**

Kaplan-meier curve for overall survival & freedom from aortic reintervention



No case of graft occlusion during f/u

Conclusion

- **Use of a trifurcation graft to the brachiocephalic vessels with modified Spielvogel technique is a reliable and safe method for aortic arch replacement, yielding acceptable postoperative and long-term outcomes.**
- **A follow-up study is necessary to assess long-term clinical outcomes further.**