

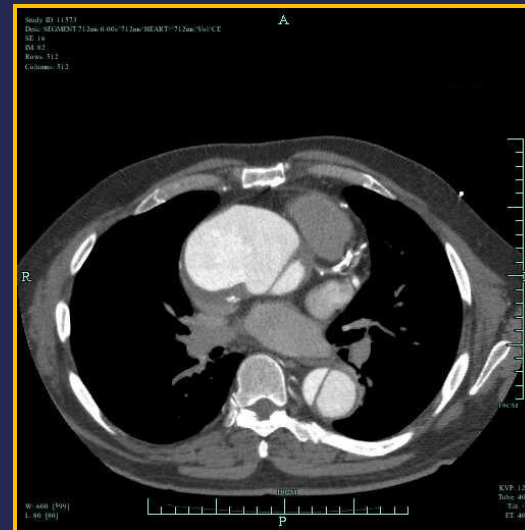
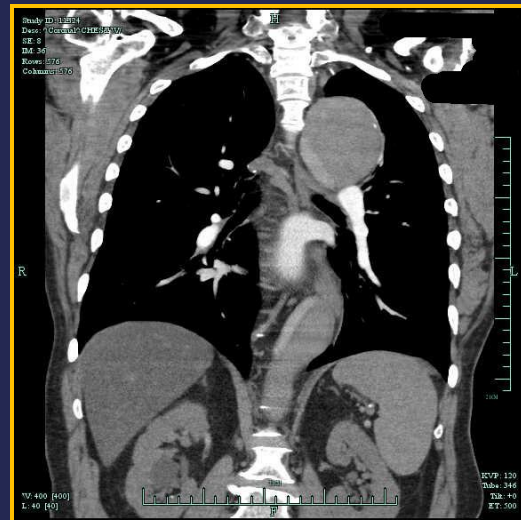
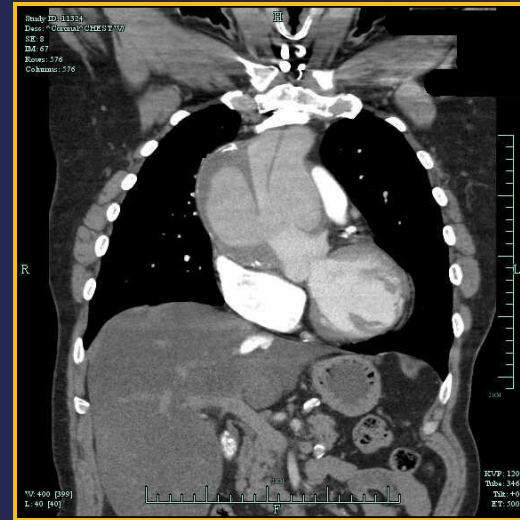
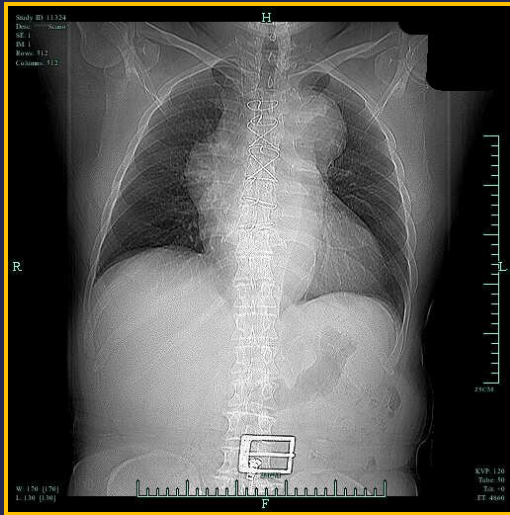
Clinical Outcomes and Rates of Aortic Growth and Reoperation Following 1-Stage Repair of Extensive Chronic Thoracic Aortic Dissection

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No disclosures

The Problem



General Approaches to the Surgical Treatment of Extensive Chronic Thoracic Aortic Dissection

“Classic” Two –
Stage Elephant
Trunk Procedure
1st Stage



2nd Stage:
Open or endovascular
repair of DTA or TAA

Stented (frozen)
Elephant Trunk
Procedure
1st Stage



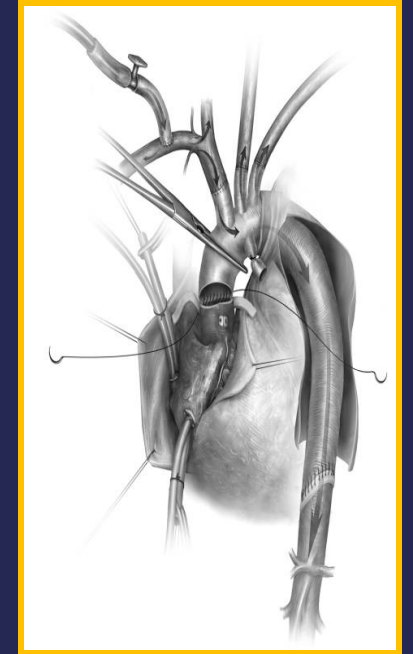
2nd Stage:
Open or endovascular
repair of DTA or TAA

Hybrid procedure
1st Stage



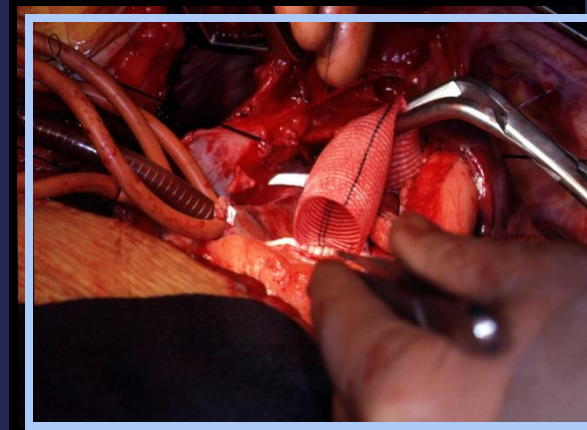
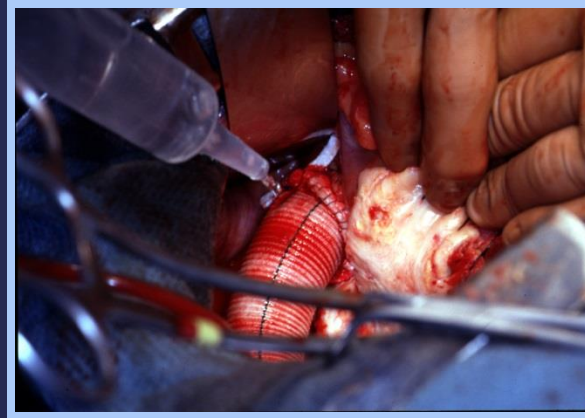
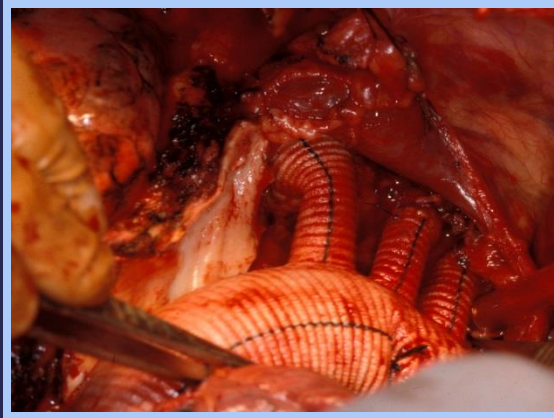
2nd Stage:
Open or endovascular
repair of DTA or TAA

One-Stage
Procedure



Rationale for Single-Stage, Arch-First Technique with Bilateral Anterior Thoracotomy

- Bilateral anterior thoracotomy permits access to:
 - Entire Thoracic Aorta



- Aortic Root and Aortic Valve
- Coronary Arteries
- Mitral and Tricuspid Valves

1-Stage Repair of Extensive Chronic Thoracic Aortic Dissection -Objectives-

- Analyze:
 - Early and late clinical outcomes
 - Rates of growth of remaining dissected aorta
 - Rates of aortic reoperation

Clinical Characteristics

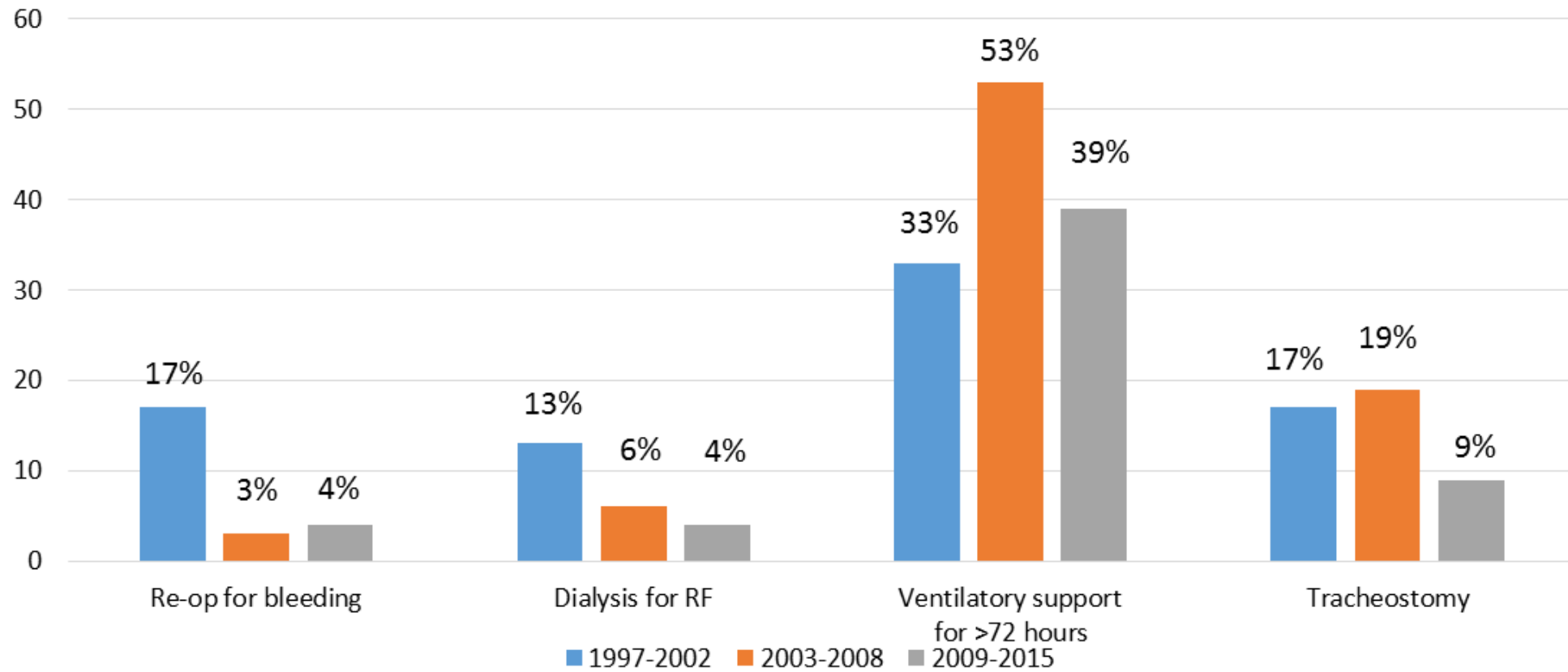
80 Patients

- Mean age: 57 years (22 - 81)
- 73 Type A, 7 type B with retrograde extension
- 89% previous sternotomy
- 15% connective tissue disorder
- 90% extension into abdominal aorta
- 78% replacement of $\frac{1}{2}$ or more of DTA

Early Outcomes

- 2.5% Hospital mortality
- 1.2% Stroke
- 1.2% Spinal cord ischemic injury (paraplegia)
- 7.5% Renal failure (dialysis)
- 7.5% Reoperation for bleeding
- 42% Ventilatory support > 72 hours
- 15% Tracheostomy

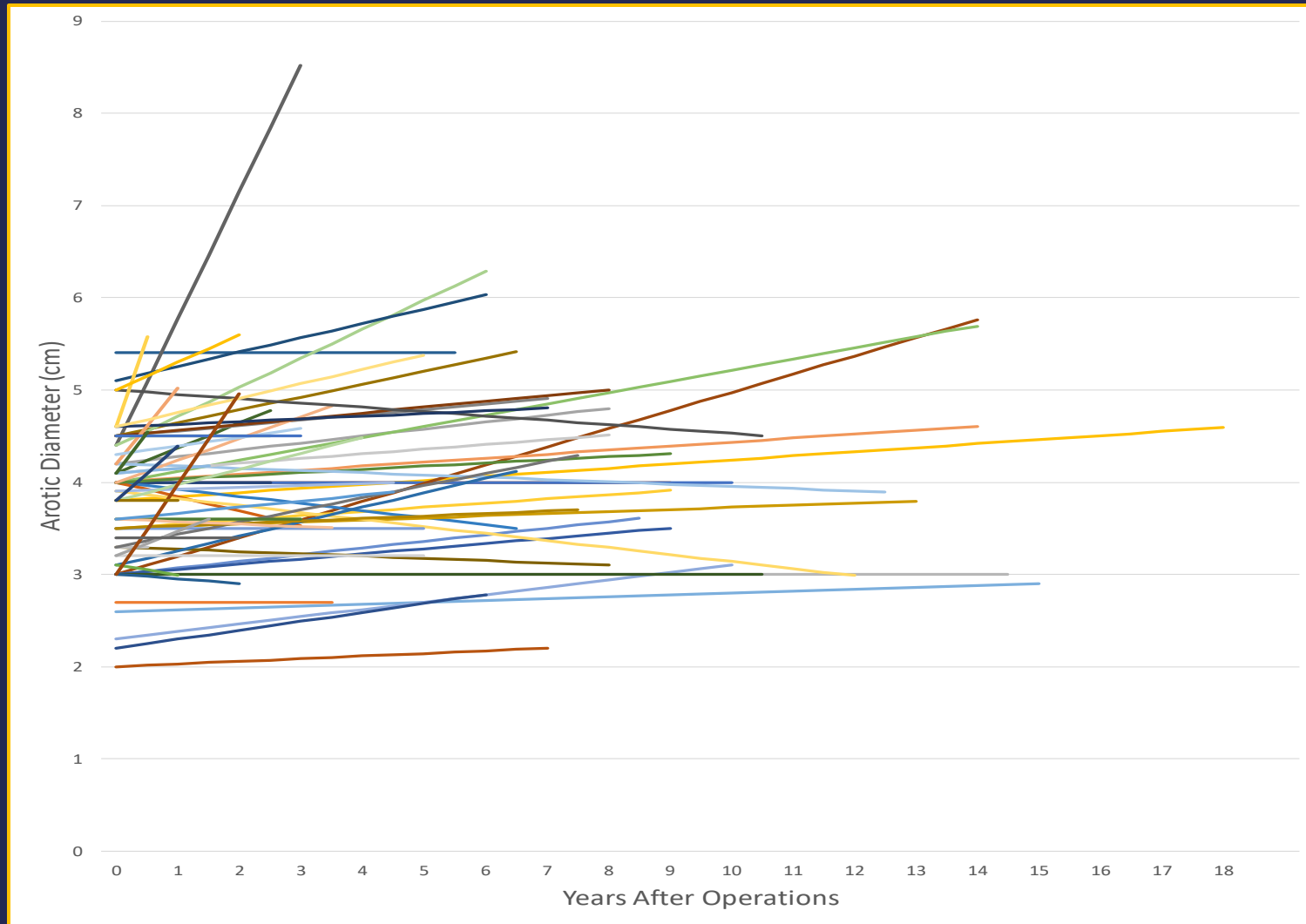
Major Complications



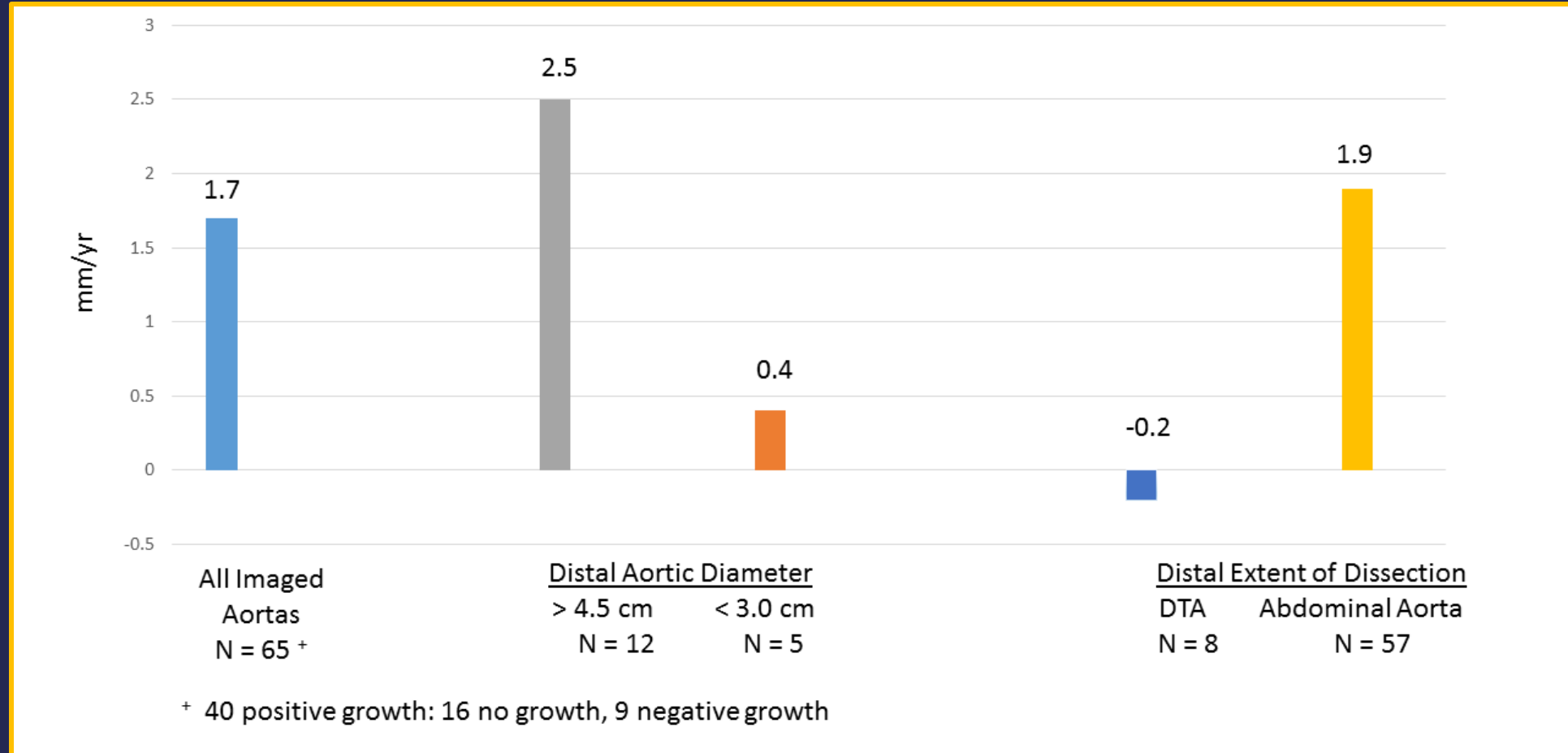
Late Outcomes

- Mean duration of follow-up = 6.6 years (1-18)
- CT or MR imaging to assess growth of remaining dissected aorta available for 83% of 78 hospital survivors
- 47 patients followed > 5 years
- 21 patients followed > 10 years

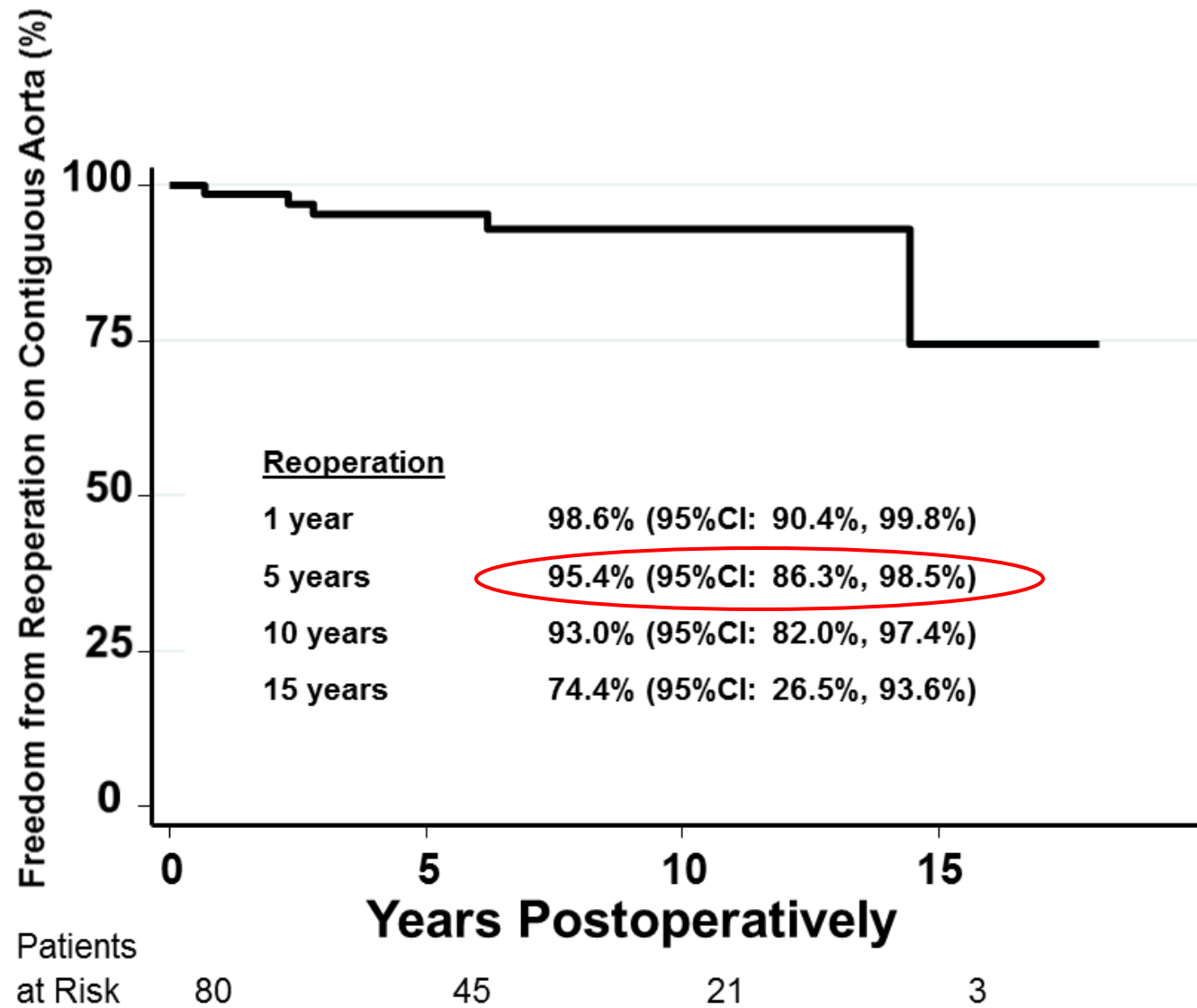
Change in Diameter of Remaining Dissected Aorta



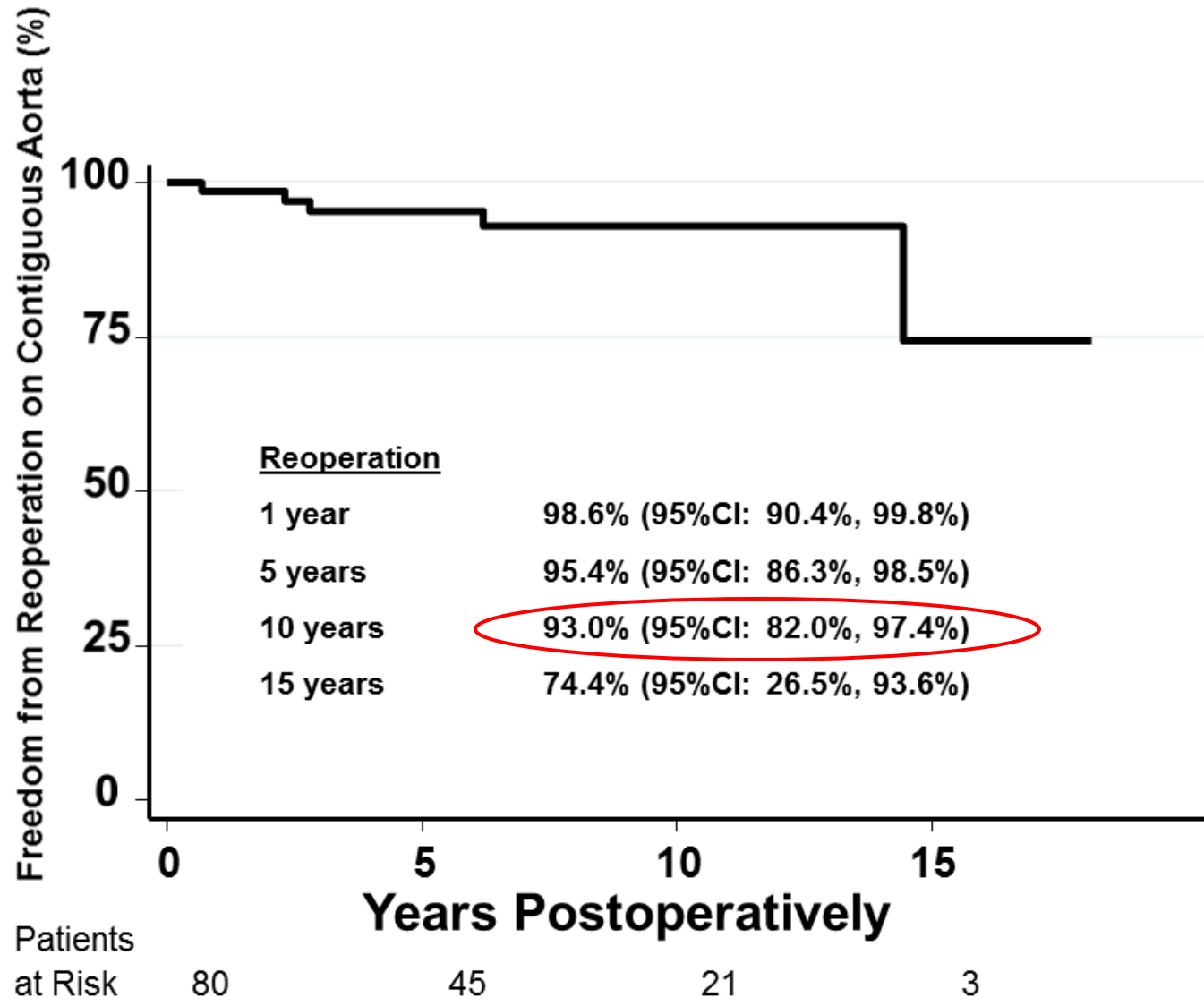
Growth Rates of the Contiguous Distal Aorta



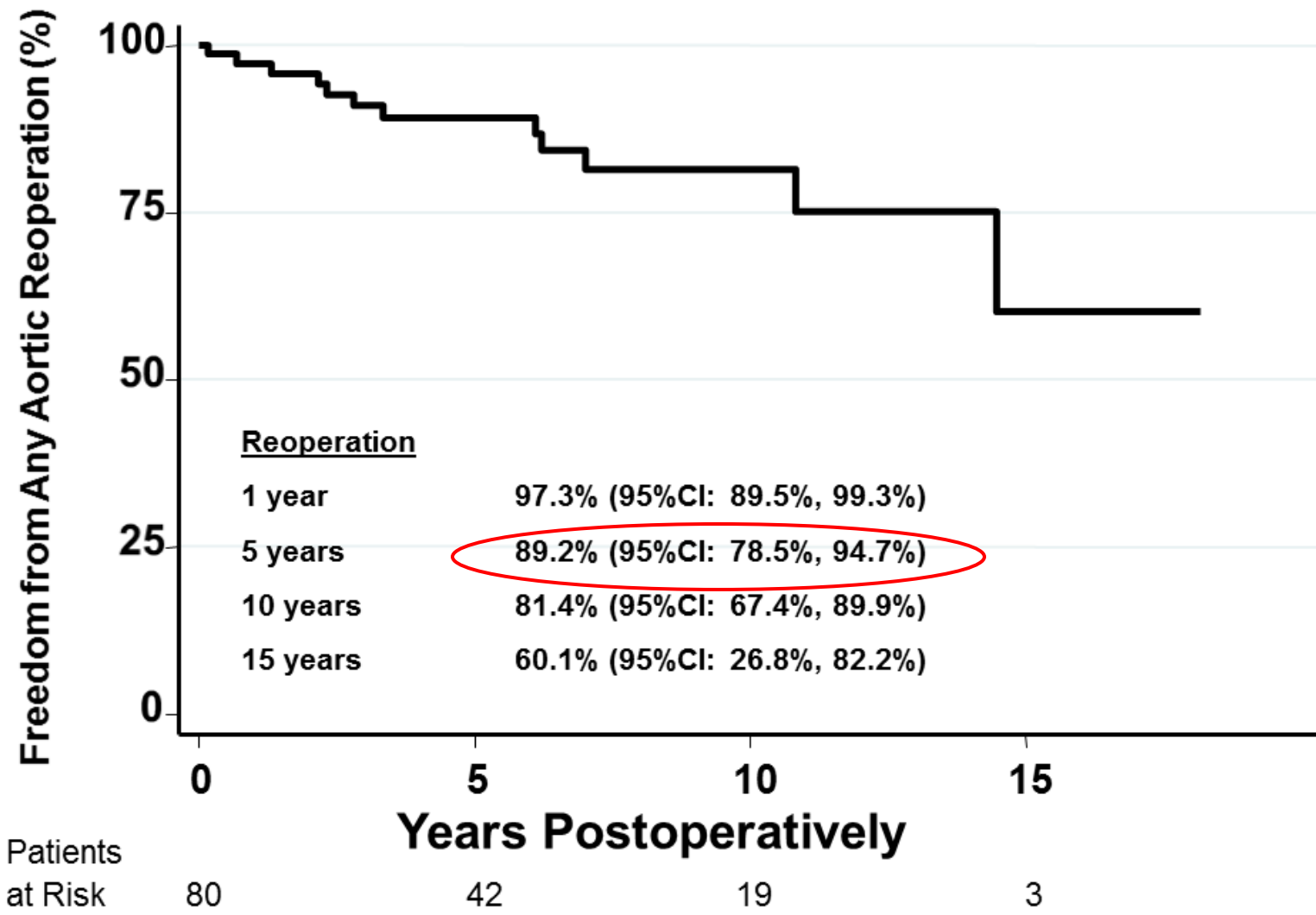
1-Stage Repair

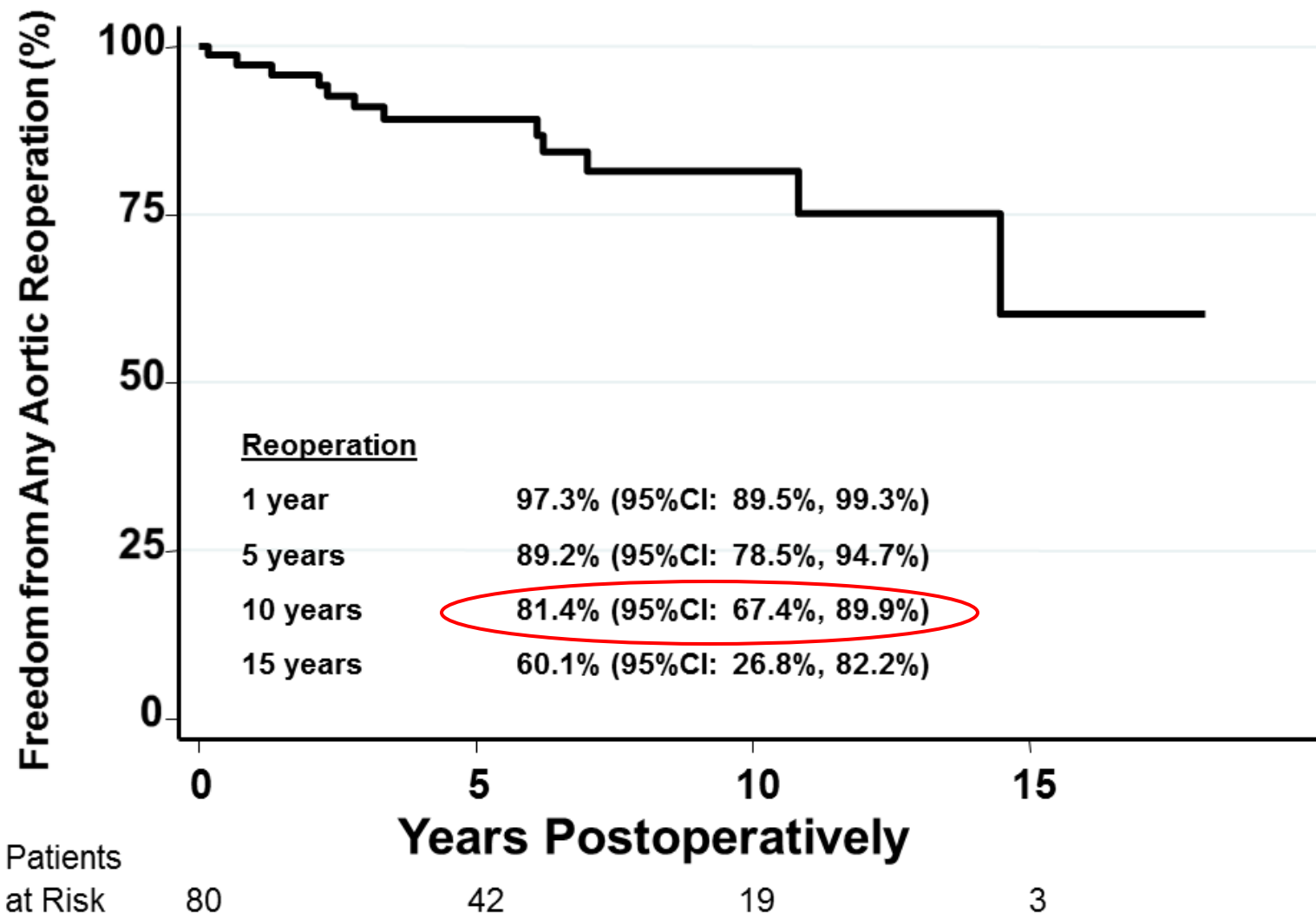


1-Stage Repair

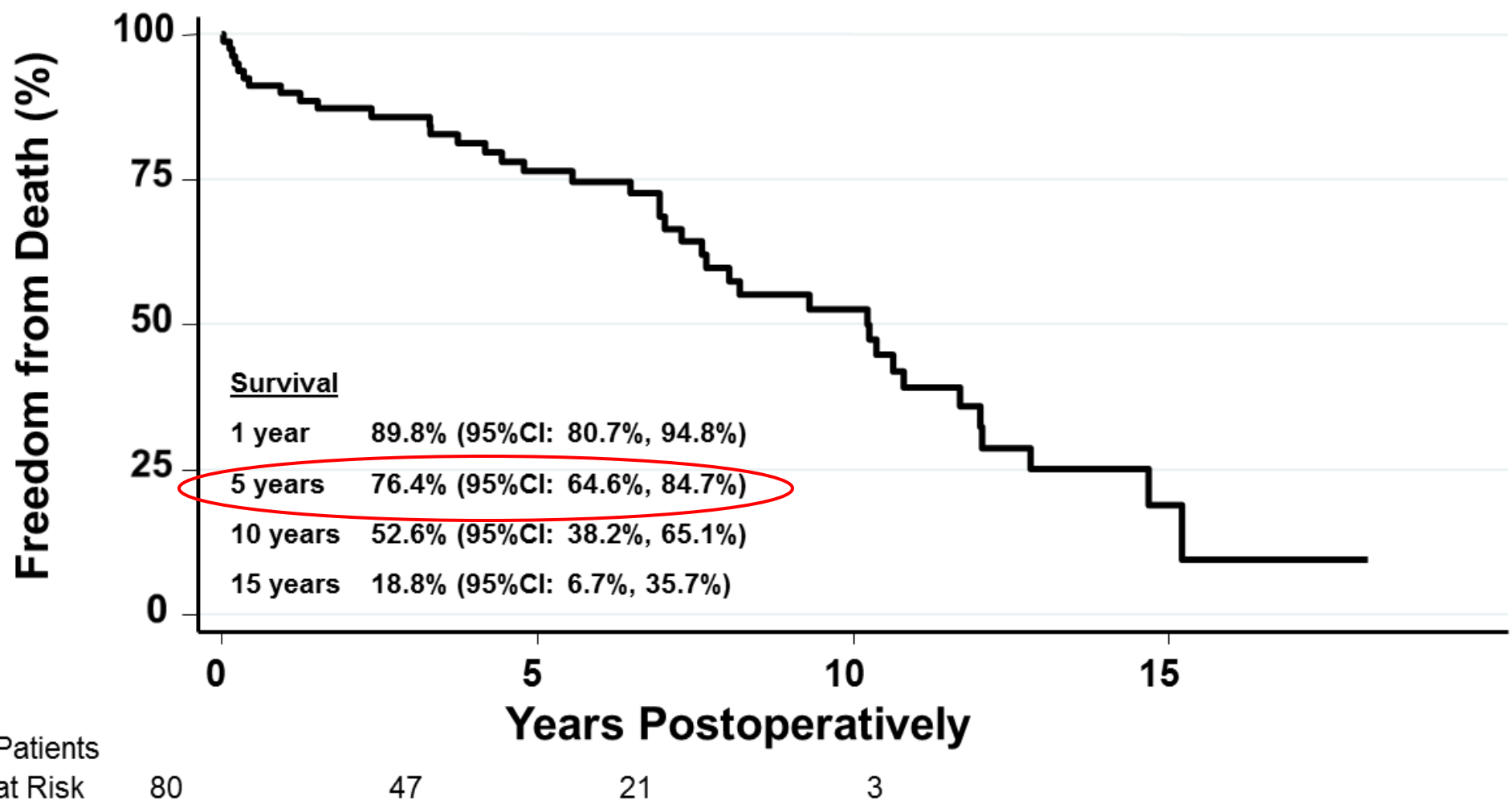


1-Stage Repair

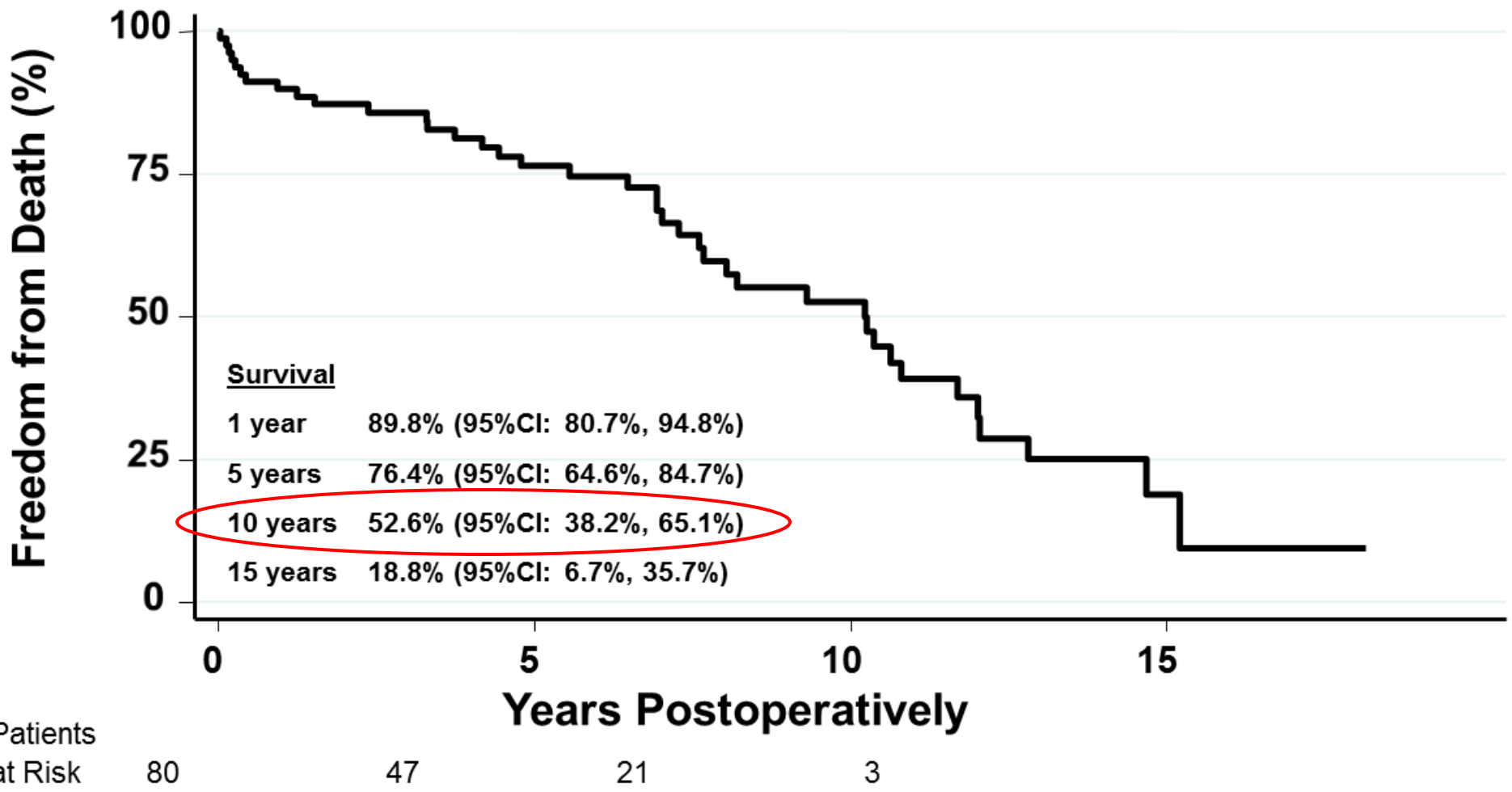




1-Stage Repair



1-Stage Repair



Conclusions

- 1-Stage procedure is a safe and suitable alternative to the 2-stage, frozen elephant trunk, and hybrid procedures
- Mortality and major morbidity rates do not exceed those for the first stage of the 2-stage, frozen elephant trunk, and hybrid procedures
- Prevalence of spinal cord ischemic injury is less than that for the frozen elephant trunk procedure (2% - 11%)
- Freedom from reoperation on the contiguous aorta (93% at 10 years) is substantially higher than for the 2-stage, frozen elephant trunk, and hybrid procedures
- Because of variable growth rates of the remaining dissected aorta, life-long surveillance is required