AATS Aortic Symposium

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Re-Operative Aortic Root Replacement In Patients With Prior Aortic Valve or Root Replacement: A Single-Center Experience

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Objectives

Background:

Re-operative aortic root replacement is uncommon.

Only a handful of studies that evaluates the outcomes of patients undergoing aortic root replacement after initial aortic root replacement (1-3).

Aim: Evaluate the characteristics and outcomes of patients undergoing re-operative root replacement.

Methods

Patient Selection:

- Single Center Cardiac Surgery Database
- January 2014 to June 2023
- Patient that underwent Re-Operative Root Replacement
  - Previous Surgery:
    - Aortic Valve
    - Aortic Root
    - Ascending Aortic

} Or Any Combination

Methods

Excluded:

Prior - Other Valves
Coronary Artery Bypass
Descending Thoracic Aorta
Heart Transplantation

Results

Total: 59 Patients

Median Age: 63 y/o
Gender: 61% Male

Prior Surgeries

AVR: 49%
Aortic Root: 51%

Indications for Surgery

New-Onset Aneurysm/ Pseudoaneurysm:	39%
Degeneration of Prosthetic:	34%
Endocarditis:	27%

Table 1. Preoperative characteristics

Age (IQR)	63 (56-71)
Gender Male	61%
BMI (IQR)	28 (25-32)
BSA	1.9 (1.7-2.1)
Chronic lung disease >moderate	17%
T2DM	25%
Smoking hx (current or former)	60%
Creatinine	1.0 (0.8-1.4)
Hematocrit	37 (30-41)
HTN	81%
Prior MI	20%
Ejection fraction (mean)	55 (50-60)
Indication for reop: Endocarditis (% of total)	27%
Indication for reop: aneurysm	39%
Indication for reop: Degeneration of conduit	34%
Prior AVR	49%
Prior Root Replacement	51%
Cross Clamp Time	130 (104-144)
Bypass time	171 (145-206)
Years from prior surgery (mean or median)	8 (5-14)

IQR: Interquartile Range. T2DM: Type 2 Diabetes, HTN: Hypertension, AVR: Aortic Valve Replacement

Table 2. Outcomes

Outcomes variable	
In-hospital Mortality	6.4%
POLOS	7 (6-11)
Stroke	3.4%
Bleeding	7.1%
Renal Failure	3.4%
Prolonged Vent	36%

POLOS: Post Operative Length of Stay

Results – Follow Up

FOLLOW UP:

43 patients eligible for 1 year follow up

35 (81%) had data available (median follow-up 2.5 years)

= 1 patient with late pacemaker placement

= None required cardiac Re-Operation

Conclusion

Single-Center Experience:

Acceptable early and mid-term mortality.
No patients required re-operation for ascending aorta.
Re-operative aortic conduit surgery – could be a safe procedure for select group of patients.

Future Direction:

Larger collaborative cohort study to identify risk factors for adverse operative outcomes.

References

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