

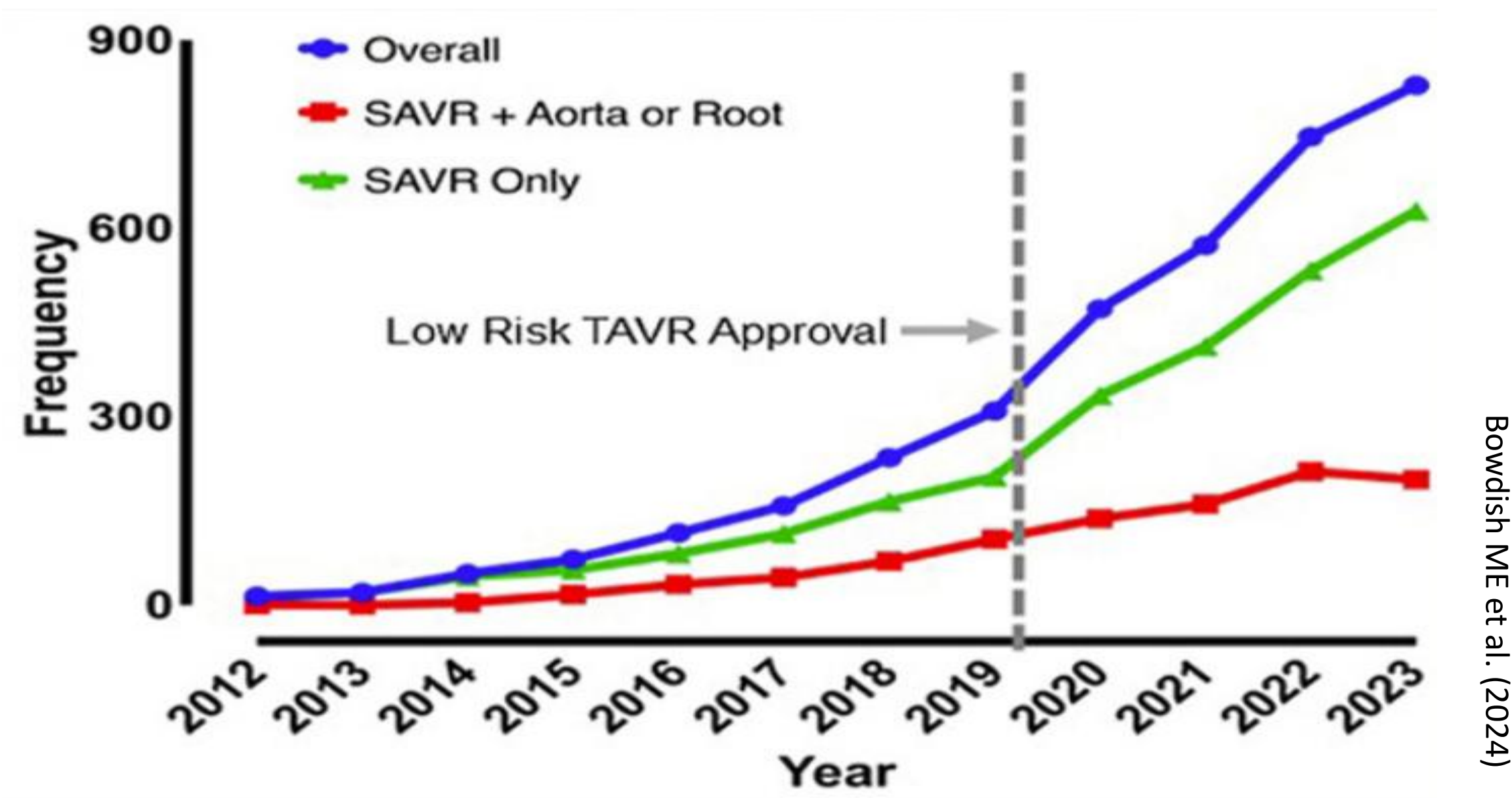
TAVR Explant to Simple Surgical Aortic Valve Replacement is Safe – But Often More!



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INTRODUCTION

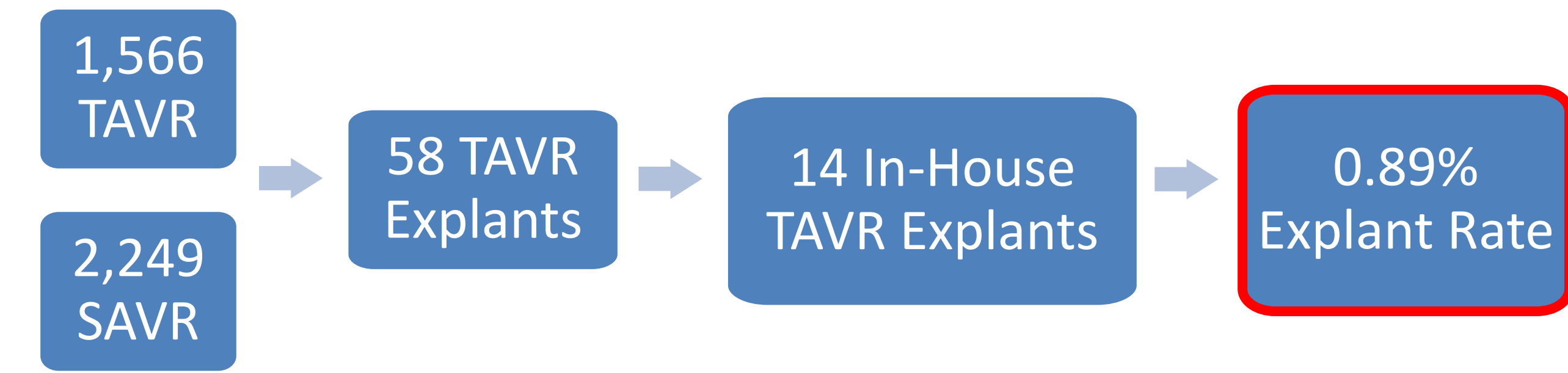
- TAVR volume has expanded rapidly, surpassing all SAVRs by 2018.
- ACC/AHA Guidelines approved TAVR for low-risk patients in 2019 increasing its use in a younger and healthier population.
- Devices may fail and require surgical explant, with high morbidity.
- STS Database — **14** explants in 2012 → **828** in 2023.



Objective: Describe patient characteristics, indications, outcomes, and complexity of TAVR explants.

METHODS

- Single center, retrospective review of TAVR explants from 2014 to 2025.



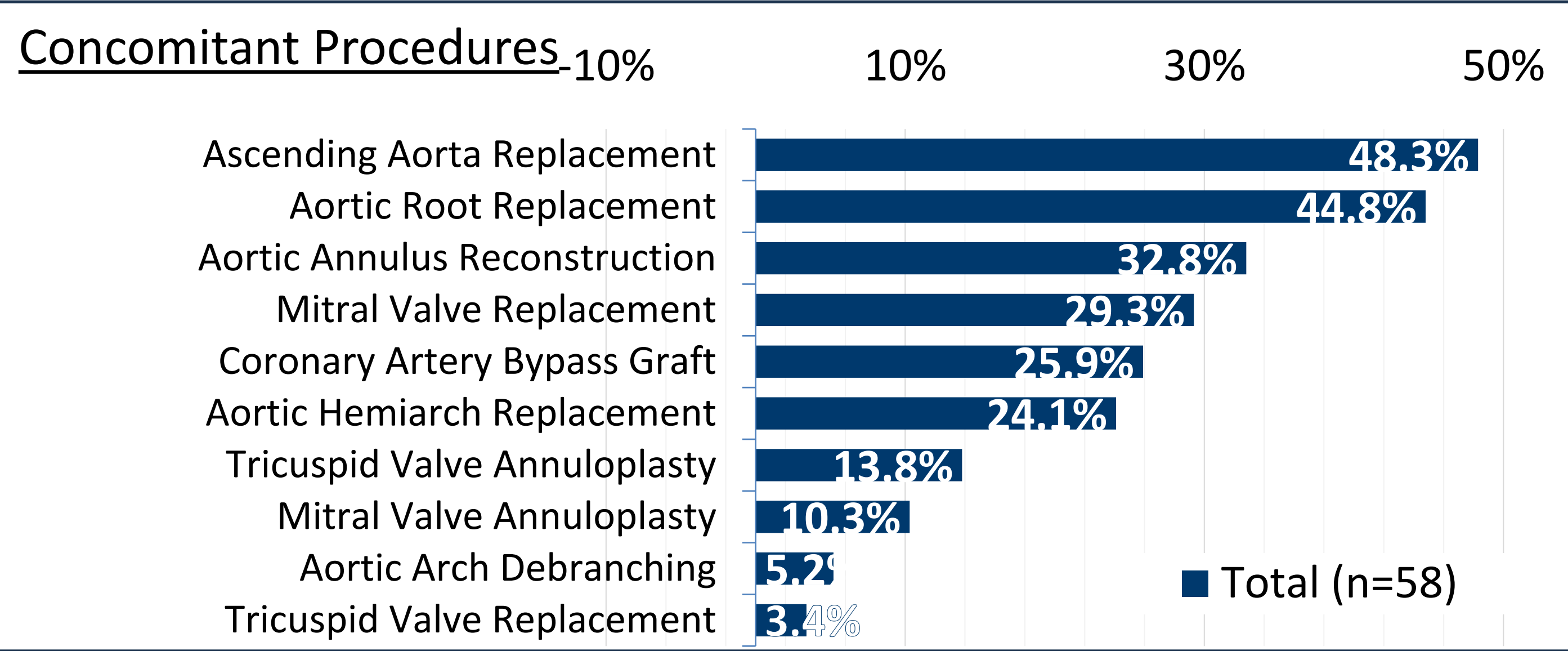
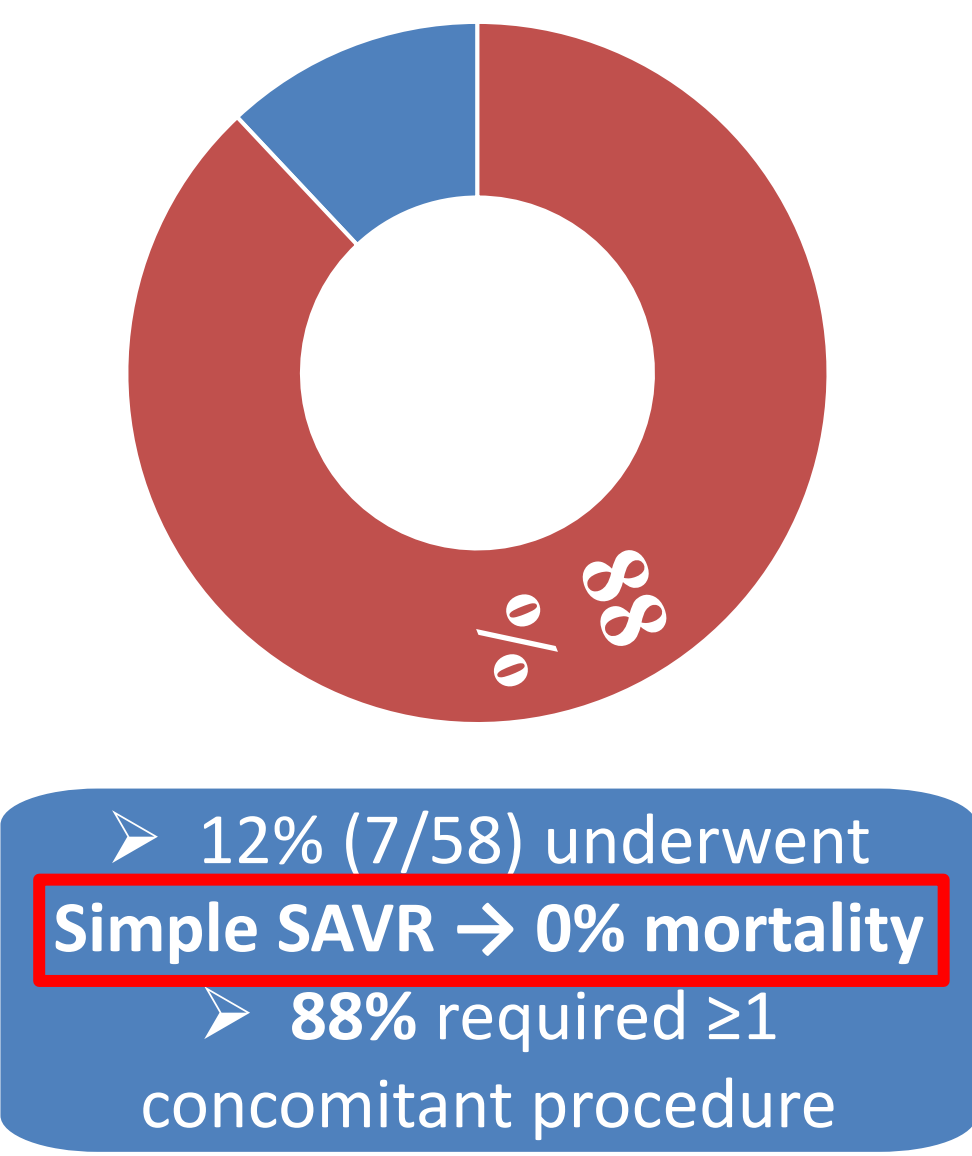
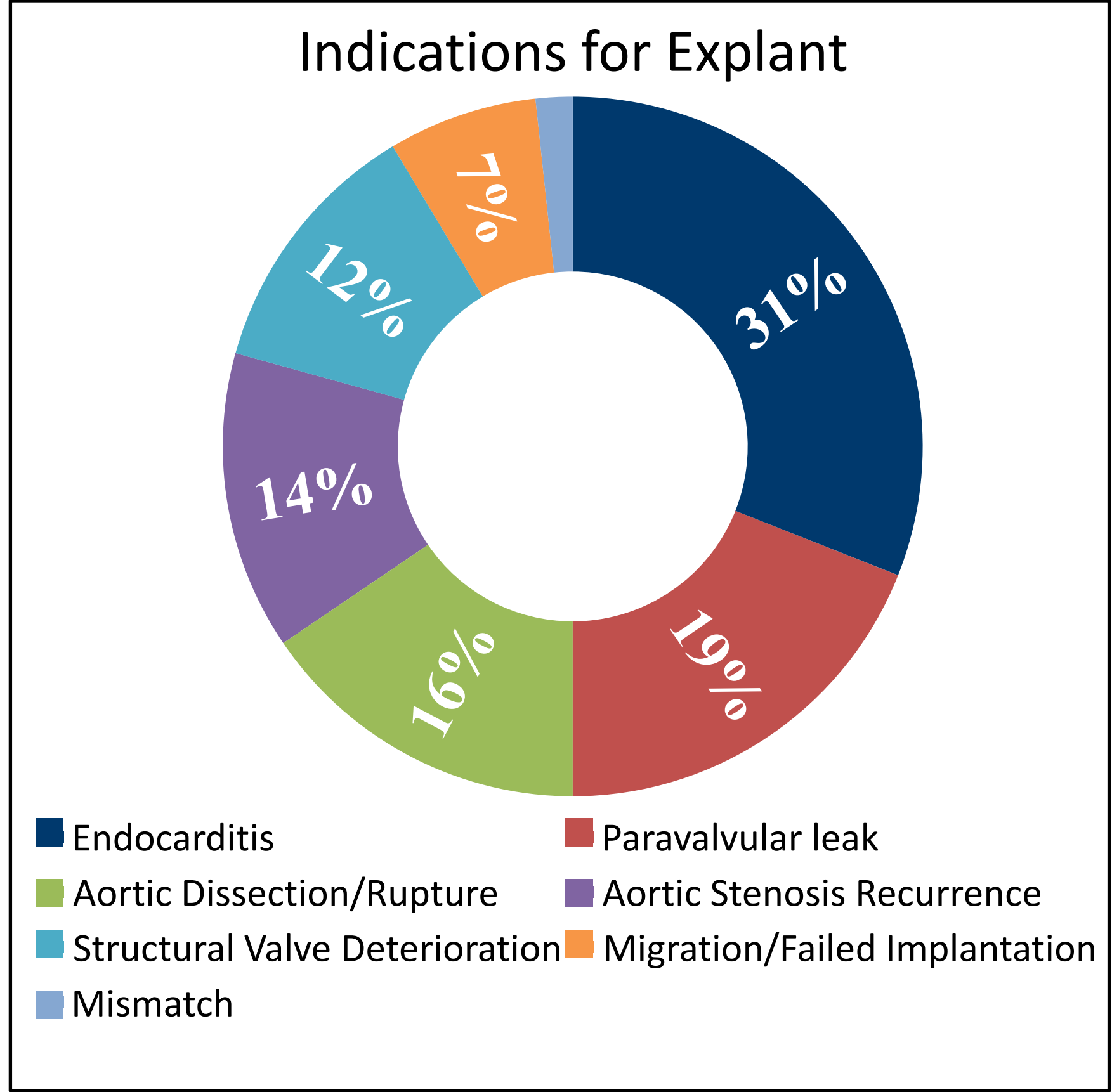
- Median time from TAVR to Explant: 2.4 years [1.0 – 5.2]
- Data:** demographics, explant indication, operative complexity, outcomes.
- Comparisons:** indication-based and THV type subgroups.
- Statistics:** descriptive analysis, subgroup comparisons, and O/E mortality.

REFERENCES

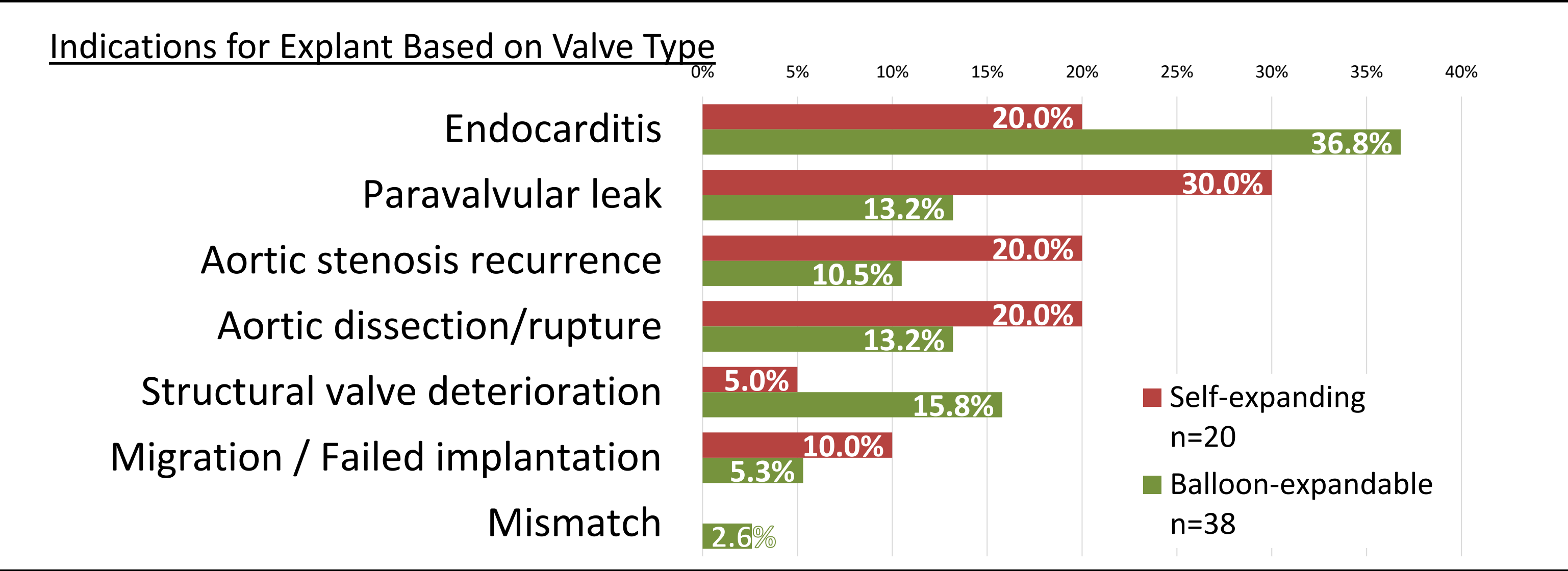
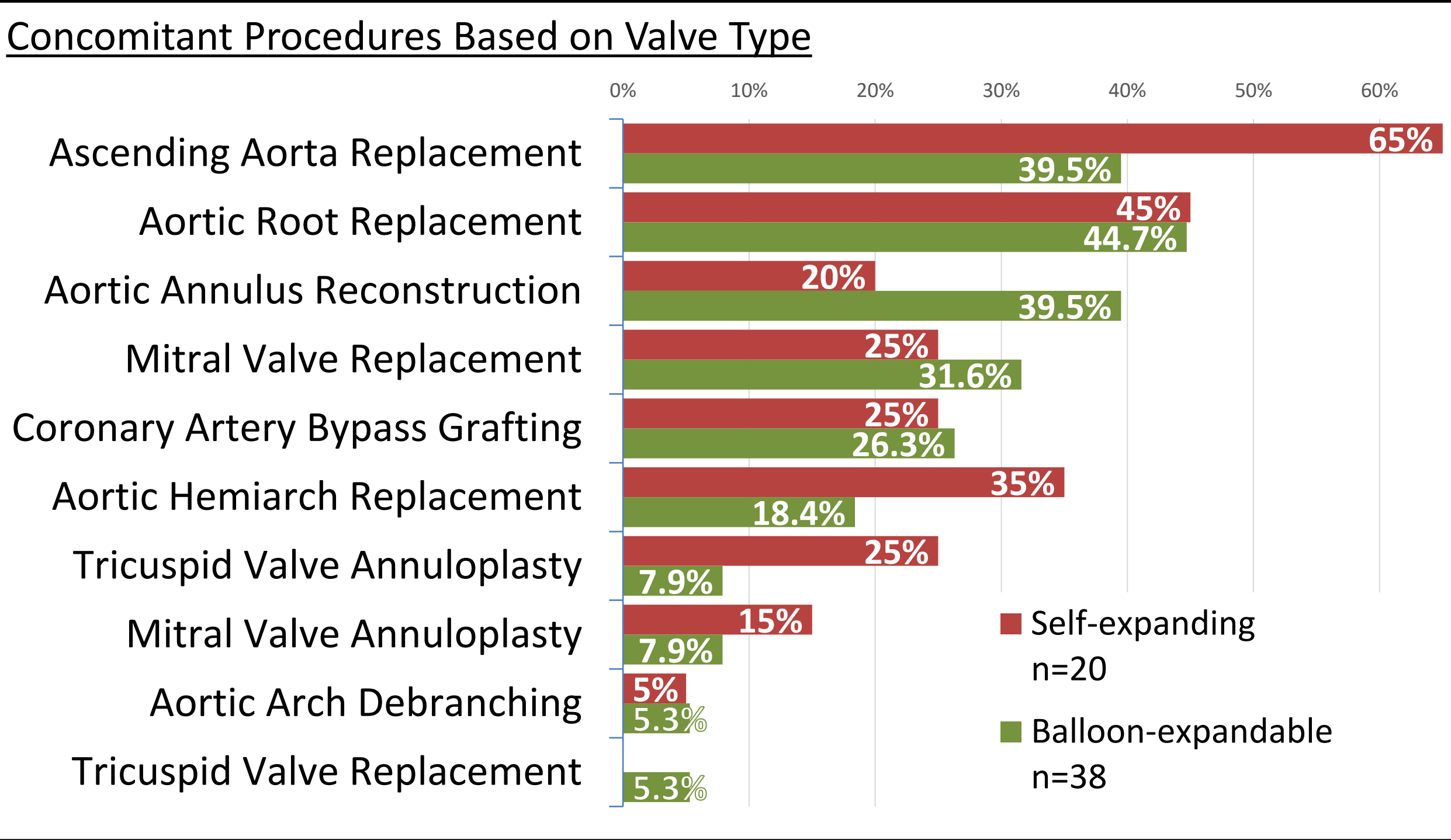
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RESULTS

Baseline Characteristics	Total (n = 58)
Age at explant, years	71 [63 – 76.3]
Sex, male	40 (69%)
BMI	29.8 [25.8 – 36.2]
Transferred from OSH	31 (53.4%)
Hypertension	48 (82.8%)
Diabetes	21 (36.2%)
Congestive Heart Failure	36 (62.1%)
Prior Sternotomy	37 (63.8%)
CAD or PAD	31 (53.4%)
Atrial fibrillation	30 (51.7%)
CKD	15 (25.9%)
COPD	14 (24.1%)
Pulmonary Hypertension	8 (13.8%)
Prior Stroke	11 (19%)
Cardiogenic / Septic Shock	10 (17.5%)
Preoperative Resuscitation	4 (6.9%)
Urgent / Emergent Status	49 (84.5%)



Outcomes	Total (n = 58)
CPB time, min	223 [152 – 290]
Cross clamp time, min	166 [106 – 220]
ICU LOS, days	9.1 [5.0 – 12.5]
Hospital LOS, days	14.8 [10.8 – 24.5]
Tracheostomy	8 (13.8%)
New PPM	13 (22.4%)
Stroke	1 (1.7%)
Dialysis	14 (24.1%)
Reoperation	4 (6.9%)
Readmission	9 (15.5%)



OBSERVED-TO-EXPECTED (O/E) MORTALITY RATIO
OVERALL COHORT: **0.73** | SELF-EXPANDING: **1.21** | BALLOON-EXPANDABLE: **0.64**

Variable	Total (n = 58)	Self-expanding (n=20)	Balloon-expandable (n=38)	p-value
30-day mortality	7 (12%)	2 (10%)	5 (13.2%)	1.000
1-year mortality	11 (18.9%)	4 (20%)	7 (18.4%)	1.000
STS Predicted Mortality	16.5% [8.7% – 33.3%]	8.3% [6.4% – 34.1%]	20.7% [8.8% – 39.4%]	0.038*
STS Predicted Morbidity and Mortality	53.9% [34.5% – 73.4%]	36.6% [31.5% – 64%]	26.8% [35.8% – 75.4%]	0.048*

DISCUSSION

- TAVR explants are complex with high morbidity. This may be related to main indications for explant often presenting acutely.
- Anatomy complexity may also contribute, with leaflet fusion to the THV and adhesion to the annulus, LVOT, or aortic wall.
- PVL predominance in self-expanding valves may reflect inherent design and sealing characteristics.
- More frequent ascending aorta replacement in self-expanding valves may reflect valve height.

CONCLUSION

- Low explant rate at 0.89%.
- Zero mortality in simple explants (n = 7).
- Better O/E mortality in balloon-expandable valves in this single-center experience.
- Most cases are complex: 88% concomitant procedures, 84.5% urgent/emergent status.
- Acceptable overall O/E mortality ratio (0.73)