

000574

Hemodynamic Function of Contemporary Surgical Aortic Valves 1 Year Postimplant

THE 37TH EACTS ANNUAL MEETING | 4 – 7 OCTOBER 2023



Background / Study Objective

- Data on echocardiographic outcomes of surgical valves are needed to assess hemodynamic functioning of the prosthesis after aortic valve replacement (AVR).
- Previous publications reporting valve functioning have been limited by small sample sizes, a lack of contemporary valves, and different study designs (eg, single-center vs multicenter, use vs no use of a core lab, randomized vs single-arm).
- This study pooled data from 4 large clinical trials to evaluate hemodynamic functioning of contemporary surgical aortic valves using a common echocardiographic core lab.



Patients

- Four international clinical trials.
- 172 sites.
- 2958 patients.
- Patients underwent surgical aortic valve replacement for moderate or severe aortic stenosis or regurgitation.

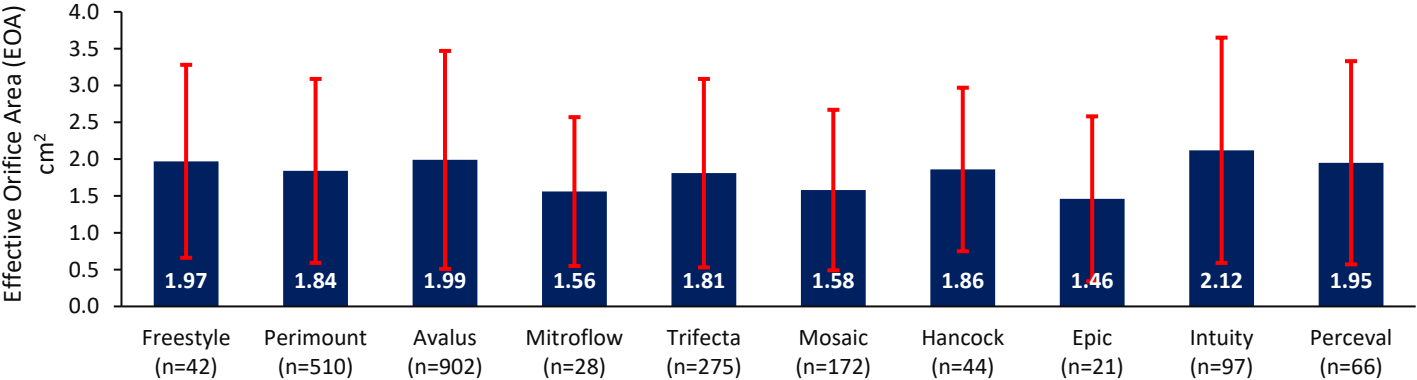
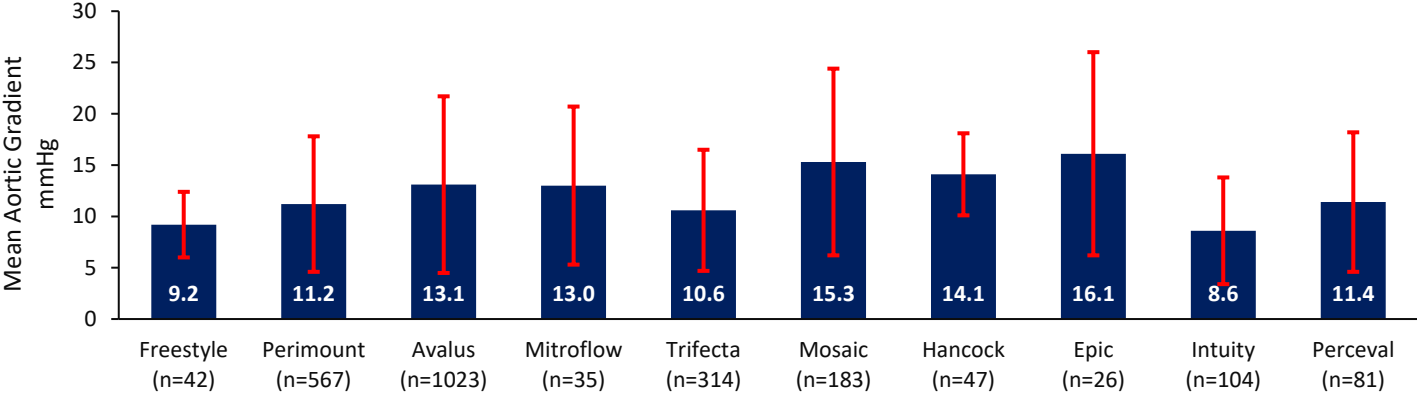


Methods

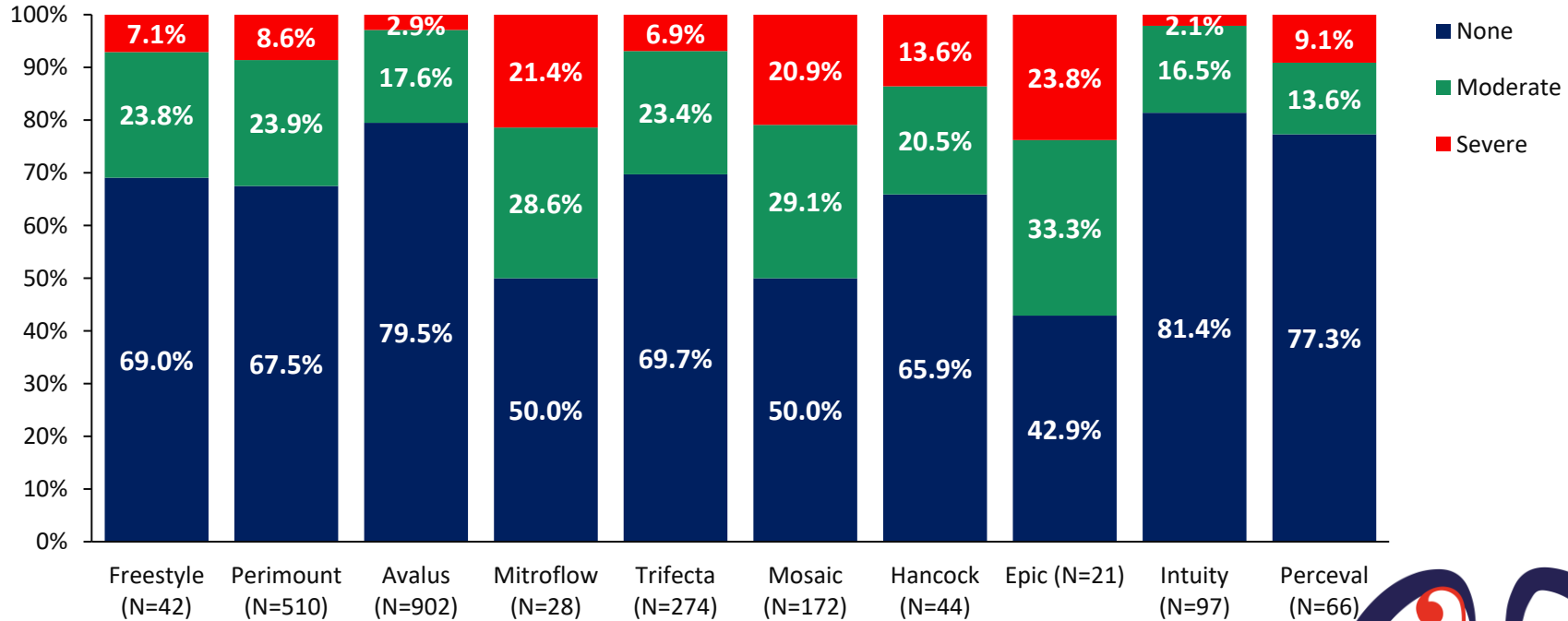
- Echocardiograms were assessed by a single core laboratory.
- Ten contemporary surgical aortic valves were included in the analysis: 1 stentless, 4 stented bovine pericardial, 3 stented porcine, 2 sutureless.
- Hemodynamic outcomes at 1 year for each valve are reported.



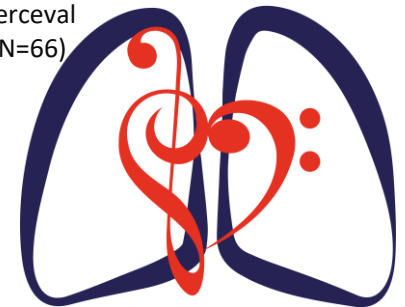
Results 1 – Hemodynamic Outcomes at 1 Year



Results 2 – Prosthesis-Patient Mismatch (PPM) at 1 Year



Prosthesis-patient mismatch was defined according to Généreux P, et al. Valve Academic Research Consortium 3: updated endpoint definitions for aortic valve research. Eur Heart J. 2021;42(19):1825-1857.



Conclusion

- Largest data set of contemporary surgical aortic valves evaluated by a single echocardiographic core lab.
- Among conventional surgical valves, stented Avalor had the lowest incidence of PPM and stentless Freestyle had the lowest mean aortic gradient with both having the highest EOA, similar to sutureless valves.
- The Avalor and Freestyle valves show comparable hemodynamic outcomes to sutureless valves.

