Reoperative surgical aortic valve vs transcatheter aortic valve replacement in patients with prior coronary artery bypass grafting – A Multicenter, National Analysis of 10,544 patients.

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Disclosure of Relevant Financial Relationships

I DO NOT have any financial relationships to disclose.

Faculty disclosure information can be found on the app.

Background

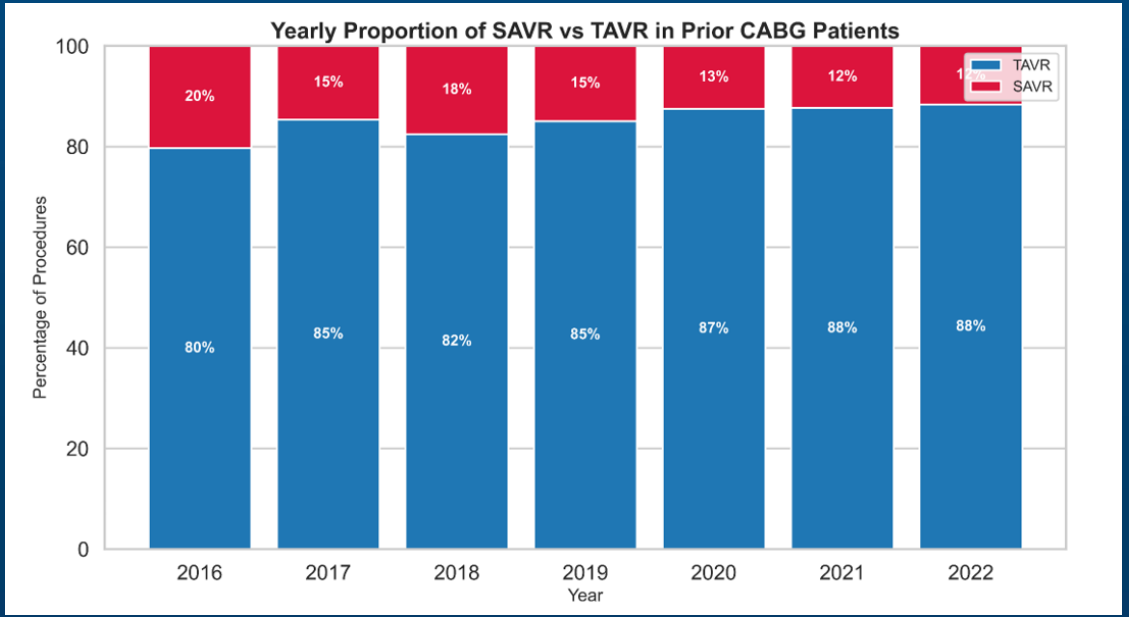
- Patients with prior coronary artery bypass grafting (CABG) procedures represent a high-risk cohort for reoperative sternotomy for cardiac surgery.
- We compare the clinical effectiveness of Transcatheter aortic valve replacement (TAVR) versus surgical aortic valve replacement (SAVR) in this patient population.

Methods

- The National Readmission Database (2016-2022) was queried for patients who underwent SAVR or TAVR after previous CABG.
- We performed a robust 1:1 overlap propensity score-matched analysis.
- Exclusion criteria included endocarditis, and need for other concomitant cardiac surgical procedures during the same procedure.

Results

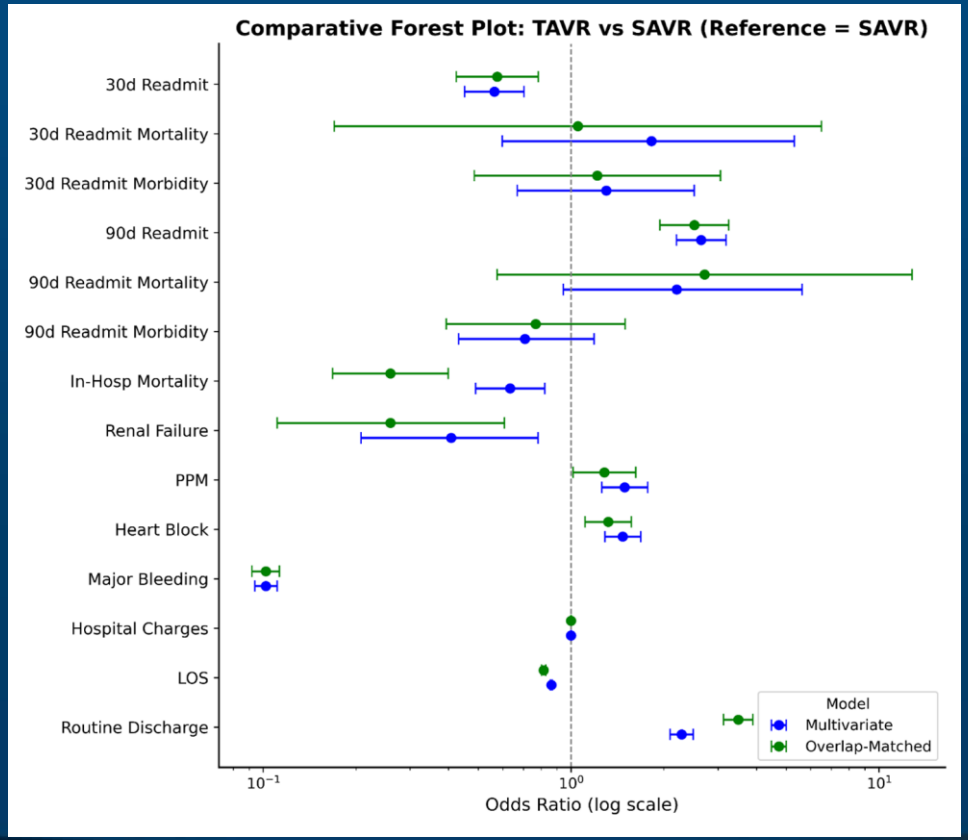
- Overlap matching yielded 5272 robust patient-pairs.
- TAVR utilization significantly increased during the study period (80% in 2016 to 88% in 2022).



Results

- In both cohorts, while in-hospital mortality significantly decreased over the years, in-hospital mortality was significantly higher in the SAVR group 4.1% vs 0.5% (P<0.001).
- Moreover, 30-day and 90-day readmission was higher in SAVR group (P<0.001).
- However, there was no differences in 30-day morbidity and mortality between the two groups.
- Permanent pacemaker implantation occurred more frequently within the SAVR group compared to TAVR (8.7% vs 6.5%, p<0.001).

Results


Comparative Forest Plot: TAVR vs SAVR (Reference = SAVR)
30d Readmit
30d Readmit Mortality
30d Readmit Morbidity
90d Readmit
90d Readmit Mortality
90d Readmit Morbidity
In-Hosp Mortality
Renal Failure
PPM
Heart Block
Major Bleeding
Hospital Charges
LOS
Routine Discharge
Model
Multivariate
Overlap-Matched
10^{-1}
10^{0}
10^{1}
Odds Ratio (log scale)

Summary

- TAVR appears to have a favorable short-term outcome profile over SAVR in patients who underwent prior CABG, in terms of in-hospital mortality, and rates of major bleeding, renal failure and pacemaker implantation.
- Further studies are warranted to benchmark these outcomes in the long term especially in the context of increasing low and intermediate-risk patients.

Thank You

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- Invitation for questions