



A META-ANALYSIS OF VALVE SPARING AORTIC ROOT REPAIR IN PATIENTS WITH BICUSPID AORTIC VALVE AS COMPARED WITH TRICUSPID AORTIC VALVE

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NO DISCLOSURES

OBJECTIVES

- Valve sparing aortic root repair for aortic root dilation with or without aortic dissection
 - Increasing with better outcomes
 - Mostly in Tricuspid Aortic Valve
- Bicuspid Valve is an independent risk factor
- Role of valve sparing aortic root repair is controversial in bicuspid aortic valve
 - Minimal data on outcomes

AIM

- Compare outcomes of valve sparing aortic root repair in bicuspid aortic valve as compared with tricuspid aortic valve
- A meta-analysis of published studies

METHODS

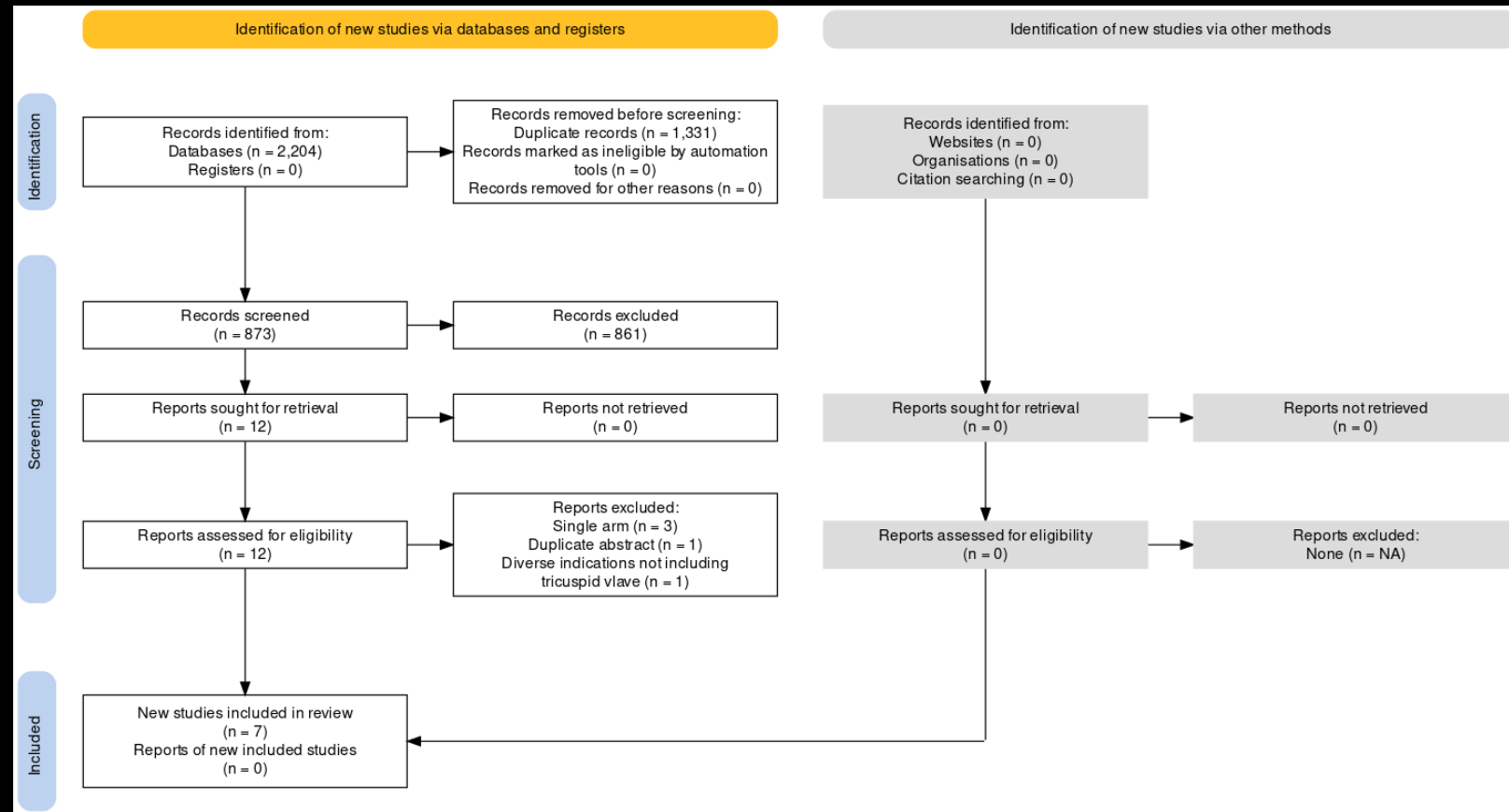
- Systematic search across databases – PUBMED/Medline, SCOPUS, EMBASE and Web of Sciences
- Search from inception until March 30th, 2023
- Inclusion Criteria:
 - Studies reporting outcomes comparing valve sparing aortic root replacement in tricuspid aortic valve versus bicuspid valve
 - No language-based criteria
- Exclusion Criteria:
 - Case reports excluded

STATISTICAL ANALYSIS

- Mantel-Haenszel method with the Paule-Mandel estimator of Tau
- Hartung-Knapp adjustment for random effect model to account for interstudy variability
- Small size effect to calculate pooled risk ratio (RR) and 95% confidence interval (CI)
- R statistical software utilized

RESULTS

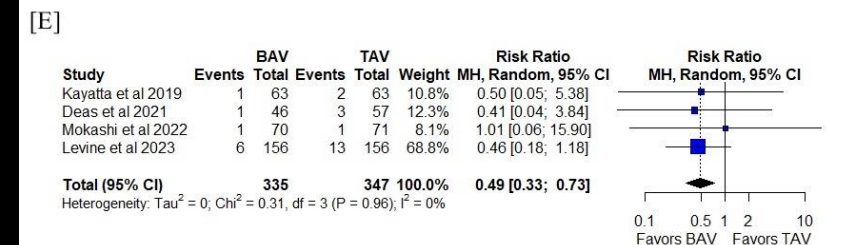
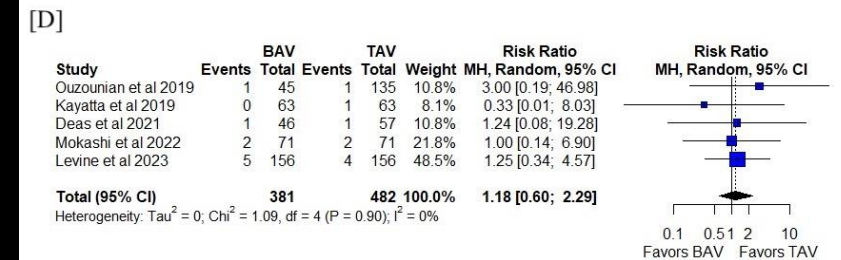
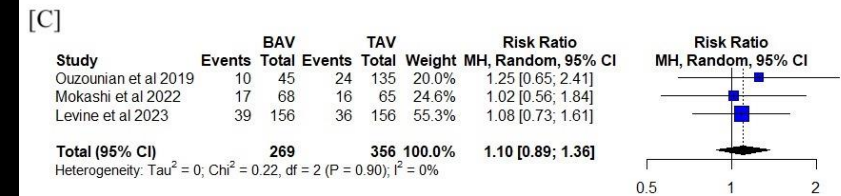
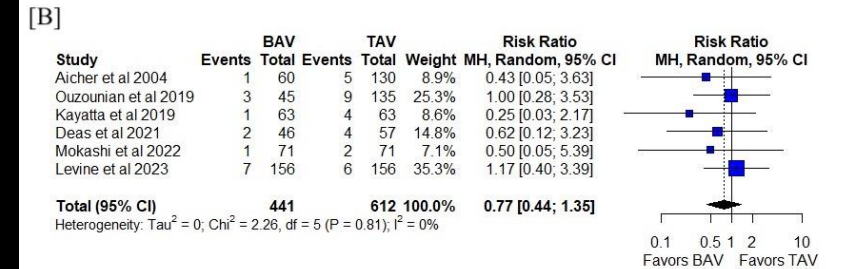
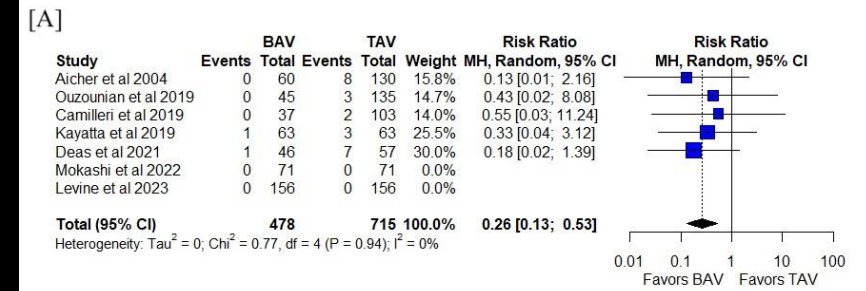
- Total of 2204 studies were retrieved
- Seven studies included in the final analysis
- 478 patients with Bicuspid valve and 715 patients with Tricuspid valve



RESULTS

Short-term Outcomes

- Lower risk of in-hospital mortality (Panel A)
- Lower risk of renal failure (Panel E)
- Similar outcomes of re-operation for bleeding (Panel B)
- Similar risk of new-onset Atrial Fibrillation (Panel C)
- Similar risk of permanent pacemaker implantation (Panel D)



RESULTS

Long-term Outcomes

- Similar risk of long-term overall mortality [1.18, 95% CI 0.60;2.29]
- Similar risk of re-operation [1.68, 95% CI 0.74; 3.80]
- Similar risk of aortic insufficiency 1.04, 95% CI 0.31; 3.48

CONCLUSION

- Valve sparing aortic root repair in bicuspid as compared with tricuspid aortic valve are associated with comparable short and long outcomes.
- Indirect evidence suggesting valve sparing aortic valve repair as a feasible option for bicuspid aortic valve.

QUESTIONS & ANSWERS

