

Impact of explanted valve type on outcomes in reoperative aortic valve replacements

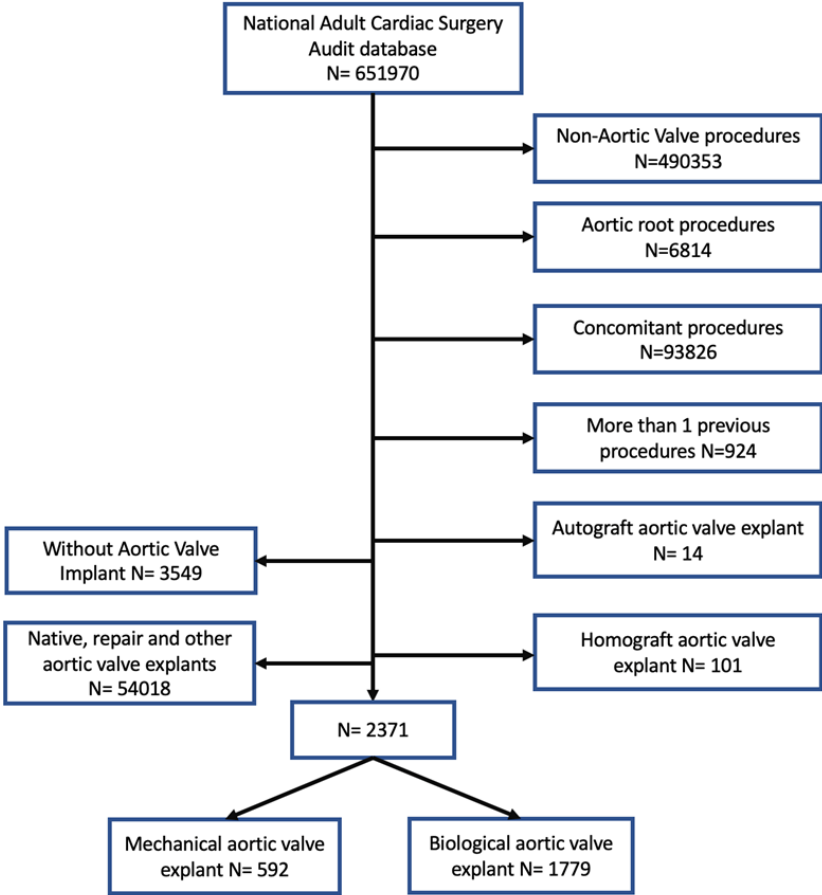


Background / Study Objective

- Limited data exists on the impact of explanted valve type on outcome during reoperative aortic valve replacement (AVR)
- The aim of this study was to assess the impact of explanted valve type (Mechanical or Biological) on mortality during first time reoperative AVR
- We also sought to identify independent predictors of adverse outcomes in patients undergoing re-operative AVR



Patients



Methods

- Study period 1999- 2017
- Data obtained from all hospitals in the United Kingdom using the National Institute of Cardiovascular Outcomes Research database
- Data on patients undergoing reoperative aortic surgery with a mechanical or bioprosthetic valve was extracted
- Primary outcome was in-hospital mortality
- Propensity matching was carried out for a matched comparison between the mechanical or bioprosthetic valve
- Multivariable logistic regression was carried out to identify independent risk factors for in-hospital mortality.



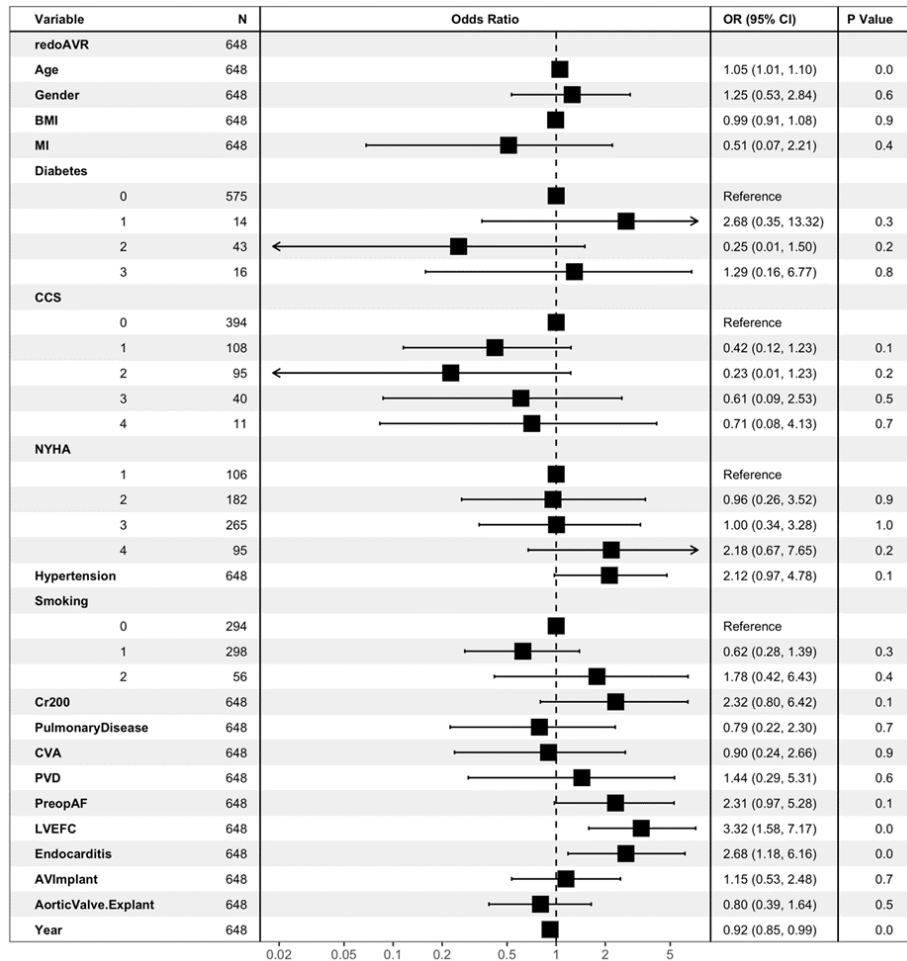
Results 1

- Bio-prosthetic valves were more commonly explanted compared to mechanical valves: 1779(71%) vs. 592(24 %)
- After propensity matching 324 patients undergoing first time reoperative AVR were present in both the groups.
- Incidence of endocarditis was similar in both the groups [96 (29.6%) vs. 89 (27.5%), $p=0.6$].
- In-hospital Mortality in explanted mechanical and bioprosthetic valves was similar [23(7.1%) vs. 19(5.9%), $p=0.6$]
- Incidence of renal failure (6.2% vs 3.7%, $p=0.2$), CVA (1.5% vs, 3.4%, $p=0.3$), length of stay [9(6-15) vs. 9(6-16), $p=0.8$] were also similar



Results 2

- Explanted Valve type was not a risk factor for mortality OR 0.80(95% CI 0.39-1.64)
- Age, Left Ventricular ejection fraction and endocarditis were independent risk factors for mortality



Conclusion

- Type of valve implanted during the primary operation is not a risk factor for mortality in reoperative aortic valve surgery
- Endocarditis was responsible for reoperation in similar numbers of biological and mechanical valves
- Age, left Ventricular ejection fraction and endocarditis were independent risk factors for mortality in reoperative aortic valve surgery in this nationwide study

