

C92. Effects Of Mitral Valve Repair Versus Prosthetic Replacement on Long-term Survival After Isolated Mitral Valve Surgery

Mani A. Daneshmand¹; Carmelo A. Milano¹; J S. Rankin²; Emily Honeycutt¹; Linda K. Shaw¹; R D. Davis¹; Donald D. Glower¹; Peter K. Smith¹

¹Duke University Medical Center, Durham, NC, United States; ²Vanderbilt University, Nashville, TN, United States

OBJECTIVES: Mitral valve repair (Rpr) has expanded considerably, now allowing Rpr of most disease etiologies. However, few long-term data are available across the spectrum of mitral pathologies to guide procedural choices. This study examined the effects of mitral procedure on long-term survival to guide future practice.

METHODS: From 1986-2006, 2,072 patients underwent isolated primary mitral valve operations (+CABG). Maximal follow-up was 20-years with a median of 5-years. Valve disease etiology was degenerative in 865, ischemic in 451, rheumatic in 419, endocarditis in 98, and "other" in 239. Overall, 57% of valves were repaired, and 39% had CABG. Survival differences were evaluated with a Cox proportional hazards model that included baseline characteristics, disease etiology, and choice of Rpr versus replacement with tissue (TRpl) or mechanical (MRpl) valves. Average survival differences were quantified by area under the curve methodology.

RESULTS: Baseline risk profiles generally were better for MRpl ($p < 0.0020$). Age was the most significant multivariable predictor of late mortality [HR = 1.6/10-year increment, Wald Chi-Square = 131.6, $p < 0.0001$]. As compared to Rpr (Figure), worse risk-adjusted survival was observed after TRpl [1.9, 36.7, < 0.0001] and also after MRpl [1.3, 10.2, 0.0014]. Over 18-years of followup, risk-adjusted survival after Rpr averaged 23.8% higher than TRpl, and 9.4% higher than MRpl.

CONCLUSIONS: Mitral repair is associated with better long-term survival than valve replacement across the spectrum of mitral disorders. The data favor mechanical prostheses when replacement is required. These findings support the current trend of increasing repair rates in all forms of mitral valve disease.

Figure

