Respect versus Resect
Approaches for Mitral Valve Repair: A Meta-analysis of Reconstructed Time-to-event Data

Objective: To compare the long-term outcomes of two main techniques used in mitral valve repair (MVr) for mitral regurgitation (MR): (a) chordal replacement ("respect approach"), whereby artificial neochordae are used to resuspend prolapsed segments of the affected leaflet and (b) leaflet resection ("resect approach"), whereby diseased leaflet segment is resected, and the remaining segments are sutured together.

Methods: PubMed/MEDLINE, EMBASE and Google Scholar were searched for studies comparing the two techniques and which reported rates of all-cause mortality/survival and/or MR recurrence and/or reoperation accompanied by at least one Kaplan-Meier curve for any of these outcomes. We adopted a 2-stage approach to reconstruct individual patient data based on the published Kaplan-Meier graphs

Results: Fourteen studies with Kaplan-Meier curves met our eligibility criteria. In comparison with patients who underwent MVr with the resect approach, patients who underwent MVr with the respect approach presented better 10-year survival (HR:0.73, 95%CI 0.56-0.96, P=0.024) and no statistically significant difference in the rates of MR recurrence (HR:1.39, 95%CI 0.92-2.08, P=0.116) and reoperation (HR:0.92, 95%CI 0.62-1.35, P=0.663) at 10 years. When considering only the propensity-score matched studies, we observed no statistically significant differences in terms of 10-year survival (HR:1.0, 95%CI 0.55-1.82, P=0.991) and MR recurrence (HR:1.62, 95%CI 0.76-3.47, P=0.211) over time.

Conclusions: The respect approach seems to outperform the resect approach in terms of overall survival, but this result is not consistent in populations with similar baseline characteristics. Despite any possible advantages of one technique over the other, which approach is best for each patient must be decided on a case-by-case basis and more studies with long-term follow-up data are warranted.

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