Two-Year Outcomes Following Mitral Valve Repair or Replacement for Severe Ischemic Mitral Regurgitation

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**BACKGROUND**
The Cardiothoracic Surgical Trials Network recently reported no difference in left ventricular end systolic volume index (LVESVI) at one year post-surgery between patients randomized to mitral repair (n=126) or replacement (n=125) for severe ischemic mitral regurgitation (MR). However, repair patients experienced significantly more recurrent MR than replacement patients. We report the 2-year follow-up of trial participants.

**METHODS**
We followed 251 patients randomized to repair or replacement for 2 years. LVESVI was assessed using a Wilcoxon rank sum test in which deaths were assigned the lowest rank.

**RESULTS**
Among surviving patients, mean 2-year LVESVI was 52.6 ±28mL/m2 in the repair and 60.7±39mL/m2 in the replacement arm (mean decrease from baseline 9.0mL/m2 and 6.5mL/m2, respectively). Two-year mortality was 19.1% for repair and 23.2% for replacement (HR 0.79, 95% CI 0.46-1.35; p=0.39). There was no significant between-group difference in LVESVI after adjustment for death (Z=-1.32, p=0.19). The rate of moderate or severe MR recurrence at 24 months was higher in the repair than replacement arm (36.3% vs.1.3%; p< .0001). In the repair arm, the 2-year LVESVI was 62.5 ± 25 in patients with recurrent MR vs. 47.0 ± 29 in those without MR (p=0.0042). Four repair patients and 1 replacement patient underwent MV reoperation. There was no significant difference in the composite of MACCE, functional status or quality of life at 2 years. Rates (pt-yr) of serious adverse events (1.5 vs.1.3, p=0.18) and overall readmissions (0.8 vs. 0.7, p=0.14) were not different between arms, but repair patients experienced a higher rate of serious heart failure (0.24 vs. 0.15, p=0.049) and more CV readmissions (0.48 vs. 0.33, p=0.02) than replacement patients.

**CONCLUSIONS**
We observed no difference in LV reverse remodeling or survival between repair and replacement at two
years. Replacement provided more durable correction of MR, as well as fewer HF events and CV readmissions.

Disclosure: