BACKGROUND  Ischemic mitral regurgitation (IMR) is associated with increased mortality and morbidity. For surgical patients with moderate IMR, the benefits of adding MV repair (MVr) to CABG are uncertain.

METHODS  We randomly assigned 301 patients with moderate IMR to CABG alone or CABG with MVr. The primary endpoint was left ventricular end systolic volume index (LVESVI) at one-year, assessed using a Wilcoxon rank sum test categorizing deaths as the lowest LVESVI rank.

RESULTS  Mean one-year LVESVI among surviving patients was 46.1±22.4 mL/m² in the CABG and 49.6±31.5 mL/m² in the CABG/MVr groups (mean change from baseline -9.4 and -9.3 mL/m², respectively). One-year mortality was 6.7% in CABG/MVr patients versus 7.3% in CABG patients (HR 0.90; 95% CI 0.38-2.12; p=0.81). The rank-based assessment of LVESVI at one-year (incorporating deaths) showed no difference between groups (Z=0.50, p=0.61). MVr was associated with longer bypass time (p<0.001), longer postoperative LOS (p=0.002), and more neurological events (p=0.03). Moderate or severe MR was less common in the MVr group (11% vs. 31%, p<0.001).
There were no observed differences in MACCE, death, readmissions, functional status or quality-of-life at one-year.

**CONCLUSIONS** In patients with moderate IMR, the addition of MVr to CABG did not result in a higher degree of reverse LV remodeling. MVr was associated with a lower prevalence of moderate or severe MR, but increased neurological events. Whether the lower prevalence of MR will portend a net benefit requires longer-term follow-up. The routine addition of MVr to CABG in this patient population may not be warranted.

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