Surgical Outcomes of Sternotomy Versus Minimally Invasive Mitral Valve Surgery in Intermediate and High-Risk Cohorts: A Propensity Matched Comparison

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Background

- Minimally invasive mitral surgery (MIMS) offers improved cosmesis and faster recovery compared to full sternotomy (FS)
- Given the technical challenges of MIMS and the longer operative times, concern may exist for performing MIMS in intermediate and high-risk patients
- Paucity of data exists of MIMS in these cohorts

Methods

- Study Design: Retrospective cohort study comparing MIMS and FS in intermediate and high-risk patients
  - Intermediate-risk group: STS PROM between 3-6%
  - High-risk group: STS PROM >6%
  - Nearest Neighbor propensity score matching performed (1:1 intermediate risk, 2:1 high risk)
- Primary Outcomes: 30-day survival
- Secondary Outcomes: 10-year survival and peri-operative outcomes including ventilator time, hospital length of stay

Discussion

- Intermediate risk: MIMS patients experienced trends towards similar ventilator times (13 vs. 11.4 hours, p=0.39), hospital LOS (9 vs 9 days, p=0.77), and 30-day mortality (1.0% vs. 3.8%, p=0.37)
- High risk: MIMS patients saw similar trends for initial ventilator times (18.0 vs. 18.4 hours, p=0.93) and 30-day mortality (9.2% vs. 10.8%, p=0.81); however, hospital LOS (10 vs 13 days, p=0.04) was decreased
- Rates of postoperative Afib were significantly lower in the MIMS cohorts of both intermediate (69% vs. 48%, p=0.02) and high-risk groups (34% vs. 19%, p=0.03).