

ICU or hospital stay when surgical correction is performed effectively.²⁵ Collectively, these studies support the present results, suggesting that LA reduction alongside MVR is safe and does not significantly prolong early postoperative care.

Analysis of early postoperative complications showed that AF remained the most common event, significantly reduced in the LA reduction group (33.3% vs 73.3%; $p = 0.028$). Other complications, including bleeding, superficial wound infection, renal and respiratory events, and transient ischemic attack, were rare and statistically comparable between groups, with no in-hospital mortality. These results align with findings reporting fewer major postoperative complications in patients undergoing LA reduction, and studies observing low early complication rates regardless of atrial size, highlighting the safety and clinical benefit of concomitant LA reduction in reducing postoperative AF without increasing other risks.⁵

Limitations of the study

The study had several limitations:

- * The study was conducted in two hospitals in Dhaka city, which may limit the generalizability of the findings to the broader population of the country.
- * The study duration was relatively short, which may have restricted comprehensive assessment of outcomes.
- * The sample size was small, which may limit the statistical power and robustness of the findings; larger-scale studies are recommended for future research.
- * The follow-up period was short, with no data available beyond three months, limiting evaluation of long-term outcomes.

Conclusion

Left atrial enlargement is common in patients undergoing mitral valve surgery and is associated with a high risk of postoperative atrial fibrillation. In this study, concomitant left atrial reduction during mitral valve replacement significantly decreased the incidence of postoperative atrial fibrillation and promoted greater regression of left atrial size, along with improved

ventricular function, while operative times, postoperative bleeding, ICU and hospital stay, and other complications remained comparable between groups. These findings suggest that LA reduction is a safe and effective adjunct to mitral valve replacement, offering additional benefits in rhythm control and structural remodeling without increasing early postoperative risk.

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