Comparative study of standard median sternotomy (SMS) vs right anterolateral thoracotomy (RALT) for mitral valve replacement

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Objective: The objective of this study is to compare the outcome in mitral valve replacement done through standard median sternotomy versus right anterolateral thoracotomy

Methodology: Retrospective study from Jan 2010 to Dec 2016 at Department of Cardiovascular Surgery, Govt. Lady Reading Hospital Peshawar, Pakistan. Total 281 cases of mitral valve replacement (MVR) done among them, 229 were operated through Standard Median Sternotomy (SMS) and 157 were operated through Right Anterolateral thoracotomy (RALT). Ethical committee approval was taken. An informed consent was taken for all patients. Age, sex, mortality, total cardiopulmonary bypass CPB time, time to establish CPB, mediastinal/chest drainage, post op blood transfusion, total hospital stay, ICU stay were analyzed and compared in the two groups. Statistical analysis done by SPSS version 17 and paired t test were applied to get p value. P value less than 0.05 was considered significant.

Results: Females were predominant in both the groups (SMS 73.03% and RALT 77.07%). Mean body surface area was 1.34-meter square. Mean age was 28.65 years in SMS and 26.42 years in RALT. There was no significant difference in mortality, cardiopulmonary bypass time, cross clamp time, ventilator time, in the two groups. There was significant difference in post op blood transfusion, chest drainage, ICU stay and in total post op hospital stay.

Conclusion: Sternum sparing mitral valve replacement can be done safely in selected cases. It gives better cosmetic results in females. RALT approach reduces hospital stay of patients and he/she can return to work early. Besides less pain, shorter skin incision and lower blood loss, it has more advantages as reduced sternal infection and sternal disruption.

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