

# SURGICAL MANAGEMENT OF RHEUMATIC MITRAL VALVE DISEASE IN THE YOUNG - Single-Center Experience

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**Background** Repair of rheumatic mitral valve (MV) disease in children and young adults presents many challenges. The relevant literature is based on small numbers, mixed morphology, differing ages and various operative techniques.

**Objective** We assessed short-term (30 day) results in this essentially pediatric subgroup: primary outcome was in-hospital mortality. Secondary outcomes included: need for re-operation (secondary repair or replacement) within the same admission, need for post-operative circulatory support (ECMO), duration of ventilation and intensive care (ICU) stay.

**Methods** Retrospective analysis of pre-operative, operative and post-operative variables of young patients (coming mainly from Sub-Saharan Africa) referred for repair of rheumatic MV pathology to avoid issues of anticoagulation. All patients were initially screened in their home site and sent to our tertiary surgical center between 2007-2012.

**Results** Forty-four patients were referred for repair (mean age 13.1 yrs., range 7-23 yrs.); in two, more recent echocardiography demonstrated need for MV replacement (MVR) and in another, intra-operative assessment resulted in MVR as repair was deemed unsuitable. Of 41 primary repairs, two required MVR at that operation due to inadequate result (failed repairs). Repair was initially successful in 39 patients; concomitant surgery was required in 16 patients (16 tricuspid and five aortic valve repairs, one patient having both repairs in addition to the MV repair). Early death occurred in two patients after MVR, with failure to wean from CPB and despite ECMO support. Re-operation (within 30 days) was required in four patients with gradual increase of mitral regurgitation and because of their remote geography on discharge (one redo repair, three MVR with concomitant AVR). Mean ventilation duration was 1.0 days (range 1-10 days) and mean ICU stay 3.5 days (range 2-25 days). A total of 36 patients were discharged with successful mitral valve repairs.

## Conclusion

Chronic rheumatic heart disease in children from underdeveloped regions, particularly Sub-Saharan Africa, is aggressive and presents with often complex mixed morphology and dominant regurgitation. Repair can be accomplished in the majority of cases. Mitral valve repair offers freedom from anticoagulation, requires understanding of the fused and retracted mitral apparatus and expert surgery to accomplish the desired result and is feasible in the majority of cases.