

## **The 'Difficult' Mitral Valve Annulus: A Surgical Challenge**

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Objective: Mitral valve replacement in the presence of complex pathology involving the annulus is technically demanding, associated with high morbidity and mortality. The objective of the present study was to analyze our results in this unusual subset of patients employing various technical solutions.

Methods: During the past two years eight patients underwent mitral valve replacement with a “difficult” mitral annulus. There were 4 men and 4 women. The average age was 58±21 years. Mitral annular pathology included extensive calcification (n=5), prosthetic valve endocarditis with abscess (n=2) and chronic left atrial-ventricular separation after previous replacement (n=1). Four patients had re-do MVR: one second time re-do, two third time re-do, and one patient fourth time re-do. Mechanical valves were implanted in 7 patients and biological valve in one. Surgical techniques employed included complete decalcification of the annulus (n=5), reconstruction of the mitral annulus with a pericardial patch (n=5), supra annular implantation of the valve prosthesis and re-approximation of the atrial-ventricular groove using interrupted pledgeted sutures each in one patient.

Results: Thirty-day mortality was 12.5% (1/8). Major postoperative morbidity included cortical blindness and re-exploration for bleeding each in one patient. In a mean follow-up of 11±6 months (range 2-23 months) of the seven survivors all were alive, six in NYHA functional class I and one in class II. Follow up echocardiograms revealed well-functioning mitral valve prostheses without stenosis or perivalvular leak in all patients.

Conclusion: The “difficult” mitral valve annulus is a surgical challenge. The surgical technique employed should be individually tailored. Short-term and mid-term outcomes are acceptable.