

C13. Twenty-One Year Evolution Of Support Techniques For Root Replacement Ross Procedure

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**OBJECTIVES:** The purpose of this study is to describe a 21 year evolution of technique and results for the root replacement modification of the Ross procedure.

**METHODS:** From March 1987 to January 2009, 453 patients have undergone modified Ross procedures. There were 352 male and 101 female patients aged 10 – 70 with a mean and median age of 43 years. Concomitant procedures were performed in 186 patients including 94 ascending aortic procedures. Annular support was adopted early in the experience. Distal Autograft support was routinely employed after 1999. Sinus reinforcement with native aortic tissue is now routine with graft material used in selected cases.

**RESULTS:** Hospital mortality or within 30 days was 6/453 patients – 1.4%. There were four additional deaths within the first year after discharge and 12 late deaths. Reoperation was required in 38 patients: 28 for Autograft regurgitation, 3 for homograft problems, 5 for mitral regurgitation, 2 for coronary artery disease, and 2 for tricuspid disease. Endocarditis led to four reoperations. One other case of endocarditis was fatal and four others were treated successfully with antibiotics alone. Autograft regurgitation was almost always associated with root dilatation which seems to be prevented by current reinforcement techniques.

**CONCLUSIONS:** Root replacement Ross procedure can be offered to young adults with low operative risk. With appropriate stabilization of the neo-aortic root, the modified Ross procedure can be a very durable solution for aortic valve disease. Longer and more complete follow up is needed to confirm the benefits of root reinforcement.