

Analisis of Long Term results for RVOT Homograft Reconstruction

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INTRODUCTION: Right Ventricle Outflow Tract (RVOT) Reconstruction has been successfully performed since the 1950's. There is a lot of debate regarding the best conduit for RVOT reconstruction. RVOT homograft (HMG) replacement is routine in many centers, but very few long term series are available in the literature.

METHODS: Under the approval of the Ethics Research Committee, all patients' records were reviewed. Follow-up was obtained by patient's outpatient clinic visits. The main purpose was to evaluate HMG dysfunction (either severe stenosis or regurgitation), need for percutaneous intervention, HMG failure or death related to the procedure. Data analysis was performed in IBM SPSS.

RESULTS: Between May 1995 and June 2013, 182 RVOT HMG reconstructions were performed. 56% of the patients were male. Mean age at surgery was 9 years old. 132 Aortic and 50 pulmonary homografts were used. The most common diagnosis was Fallot's Tetralogy in 79 patients, followed by Pulmonary Atresia and Truncus Arteriosus, with 38 and 14 patients respectively. Mean extracorporeal circulation time (ECT) was 125 minutes. Mean follow-up was 7,6 years (ranging from 6 months to 17 years). 18 patients needed homograft replacement. Freedom from homograft dysfunction in 2, 5 and 10 years was 96,7%, 91,7% and 68,6%, respectively. Freedom from pulmonary or aortic homograft dysfunction, in the same follow-up, was 96,7%, 96,7% and 83,9%, and 95,5%, 89,9% and 62%, respectively. There was no statistical difference in mortality between aortic and pulmonary homograft patients.

CONCLUSIONS: Homografts are an excellent choice when RVOT reconstruction is needed. Long time follow-up demonstrated better patency for pulmonary type. Lower age at surgery and higher than 115 minutes ECT were independent risk factors to death ($p < 0.05$). Non-Fallot diagnosis had a stronger tendency to statistical significance for death ($p = 0,056$).