

Redux Pulmonary Valve Replacement Surgery for Conotruncal Diseases

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Introduction: The repair of conotruncal diseases is often the cause of ulterior pulmonary valvular lesions, which could be life-threatening in adulthood. Iterative Pulmonary valve replacement is an obligation because the inevitable degeneration of the bioprostheses used. The goal in these patients is to delay the surgical recovery but without reaching the stage of irreversible lesions. Many questions arise regarding the benefit of this surgery and the factors on which it depends. The objective of our work was to evaluate the results of pulmonary valve replacement in the short, medium and long term.

Methods:

This was a retrospective study, conducted between January 1999 and March 2016, involving 34 patients with conotruncal heart disease. They had at first a complete repair of their pathology followed in a second time of a pulmonary valve replacement.

Results:

The mean age at pulmonary valve replacement was 20.22 years. The rate of patients with tetralogy of Fallot was 64.70%. The reason for valvulation was severe pulmonary regurgitation in 76.50% of cases. Pulmonary valve replacement was done by a bioprosthesis in 56% of patients and by a valved tube in the remaining patients.

Our study showed an early mortality rate of 2.9% and a rate of major postoperative complications of 32.35%. After an average follow-up of 3.14 ± 2.42 years, the results of our study were in favor of a non-significant improvement ($p = 0.36$) in the functional status of patients, the overall stability of right ventricular function ($p = 0.08$) and left ($P = 0.6$) and the decrease in QRS duration ($p = 0.05$). The survival rate without degeneration at 5 years and at 10 years was respectively 62.4% and 52%. The survival rate without second valvulation for the same durations was respectively 87.4% and 72.8%.

Conclusion:

Pulmonary valve replacement is a low-risk surgery despite its iterative nature. Highly specialized management and optimization of operative timing is required in these patients, whose numbers are growing rapidly.