

A Novel Technique For Allograft Replacement May Provide Survival Benefits In Patients With Tricuspid Valve Endocarditis.

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Objective: The aim of our single center retrospective study was to compare safety and clinical efficacy of surgical treatment of tricuspid valve endocarditis (TVE) with either bioprosthesis or mitral allograft.

Methods: The study included 54 patients with TVE operated on between January 2016 and November 2024. Early safety and clinical efficacy were estimated and compared between two equal groups (Group 1-stented bioprostheses; Group 2 - mitral allograft) in accordance with T-VARC definitions. Time-to-events probability of survival was assessed by Cox-regression analysis with Kaplan-Meier curves. Freedom from all-cause mortality, cardio-vascular mortality, permanent pacemaker implantation (PPI), recurrent endocarditis and redo surgery was assessed in the follow-up period.

Results: Preoperative characteristics were comparable in two groups. There were 6(22,2%) redo cases in group 1 and 5(18,5%) in group 2. There were no in-hospital mortality, postoperative stroke, MI and deep wound complications. Mean and max pressure gradient on TV were lower in group 2 (3 [2-4] and 6 [4,5-7,5] vs. 4 [3,2-6] and 9,2 [6,5-12] mmHg, p<0,001). One year cardio-vascular and prosthesis-associated mortality were higher in group 1 (6(22%) vs 0, p=0,023, OR 16,6 95CI [0,887-312]). Early non-cardiovascular mortality was similar - 2(7,4%). Clinical efficacy at 2 years after surgery after applying T-VARC variables demonstrated superior survival, least rate of recurrent endocarditis, PPI and redo surgery in group 2. Cox-regression analysis showed better freedom from cardio-vascular mortality (100% vs 96,3%; 81,5%; 77,8%; 69,6% at 6,-12-,24-, 36-months, log-rank p=0,01) and PPI (100% vs 81% at 6,-12-,24-, 36-months, log-rank p=0,021) in group 2. Time-to-events probability test of recurrent endocarditis, redo surgery has not shown significant difference between groups.

Conclusions: Our experience demonstrated a plausible superiority of allograft tricuspid valve reconstruction in terms of hemodynamics, cardio-vascular survival and freedom from PPI in patients with TVE. Clinical efficacy at 1 and 2 years after surgery tends to be superior with allograft

