



Congenital Cardiology Solutions

BLOOD BORNE BACTERIAL INFECTIONS OCCURRING IN PATIENTS WITH PERCUTANEOUSLY IMPLANTED BIOPROSTHETIC PULMONARY VALVE: A SINGLE CENTER EXPERIENCE

Oral Contributions

West, Room 3005

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Background: Percutaneous pulmonary valve implantation (PPVI) using a stent-based bioprosthetic valve is utilized as an alternative to surgery in selected patients. . Cases of systemic infections in Melody valve-implanted patients have been reported, yet the incidence and associated risk factors have not been studied in a large cohort.

Methods: Between 2007 and 2012, 149 consecutive patients with congenital heart disease underwent percutaneous Melody valve implantation at Boston Children's Hospital. Predictor variables collected at baseline and follow up included demographic, clinical, echocardiographic and procedure-related variables factors. Our primary outcome was the occurrence of blood borne bacterial infection treated with >4 weeks of antibiotic therapy, as identified within the database as an adverse event, or by medical record review.

Results: Two patients died of non-infectious causes in the immediate post procedural period. The remaining 147 patients, of whom 59% had Tetralogy of Fallot, had a mean age at implantation of 21.5 years. During a median follow up of 19 months (range: 1 to 63), 14 patients experienced an outcome event (9.5%, 95% CI 5.3%-15%). Of these, 5 (5 of 147, 3.5%) were diagnosed with endocarditis affecting the Melody valve, necessitating valve explantation in one patient, the others were treated medically. Two patients without known valve involvement died at the time of the event. The median procedure to infection time was 15 months (range 1 to 56). In univariate analysis, the following patient and anatomical characteristics were associated with the occurrence of bacterial infection: male gender, history of prior endocarditis, in situ stents in the right ventricular outflow tract prior to valve placement, and presence of outflow tract irregularities at the implant site.

Conclusions: In Our cohort, 9.5% of patients who underwent PPVI with a Melody valve were subsequently treated for a systemic bacterial infection. The infections occurred between 1 and 56 months after implant, and 5 had confirmed involvement of the valve. Our findings suggest that patient and anatomical factors may be associated with systemic bacterial infection after PPVI.