

A NEW TECHNIQUE FOR ONE-STEP PROCEDURE IN PULMONARY VALVE IMPLANTATION USING MELODY VALVE: SIMULTANEOUS PRESTENTING AND MELODY VALVE IMPLANTATION

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BACKGROUND

Percutaneous pulmonary valve implantation (PPVI) has achieved standard of care for management of patients with dysfunctional right ventricular outflow tract (RVOT). The approach is completely standardised.

OBJECTIVES

To report a new modification named “the one step procedure” that allows to pre-stent and insert a Melody valve at the same time.

METHODS

Patients undergoing PPVI using a one-step procedure were identified in our database. Procedural data and radiation exposure were compared to a matched group of patients who underwent PPVI using conventional technique.

RESULTS

Between January 2016 and January 2017, PPVI was performed in 27 patients (median/range age, 19.1/10-55-y old) using a new modification of the Melody consisting in a manual crimping of one to three bare metal stents (BMS) over the Melody-Ensemble assembly. All could be delivered successfully. No complication occurred. All patients had excellent haemodynamic results (median/range post-PPVI RV to pulmonary artery gradient 9/0-20-mmHg). Valve function was excellent. Median procedural and fluoroscopic times were respectively 56 and 10.2-min that significantly differed from a matched group of patients who had a conventional two-steps procedure. Similarly, dose area product (DAP), normalized DAP to body weight, and radiation time were statistically lower in the one-step group ($p < 0.0001$ for all variables). After a median follow-up of 3.5-months (range 1-10-months), no patient had reintervention. No device dysfunction was observed.

CONCLUSION

The one step procedure is a safe modification of Melody implantation allowing to pre-stent and implant a valve at the same time. It reduces significantly procedural and fluoroscopic times and radiation exposure.