

Pulmonary valve replacement: is there an interest for the “folded Melody valve” in short RVOT with early PA bifurcation and/or abnormal course of coronary artery?

*Godart F., Houeijeh A., Recher M, Guillaume M.P., Gras P., Domanski O.
Paediatric Cardiology and Congenital Heart Disease, Lille, France*

Transcatheter pulmonary valve replacement with the Melody valve may be challenging in patients with short RVOT and early PA bifurcation because of the risk of jailing one PA or in patients with abnormal course of coronary artery. Folding of the Melody valve may be a solution.

Since March 2015, 5 patients were included in this study, aged from 10 to 45 years. Initial pathology included transposition and coarctation (n=1), pulmonary stenosis and VSD (n=1) or ASD (n=1), tetralogy of Fallot (n=1) and with pulmonary atresia (n=1). These patients had undergone from 2 to 5 previous surgical repairs. The indications for pulmonary valve replacement were: mixed lesion (n=4) and pulmonary leak (n=1). All patients had before the procedure, MRI study and CT scan to delineate the exact morphology of the RVOT. Before implantation, balloon dilatation of the RVOT with control aortography to obviate any coronary artery compression was performed in all. Pre-stenting was realized in all with LD max stent (Ev3), usually placed under left ventricular pacing. Implantation of the Melody valve was realized in native RVOT (n=2), in pulmonary homograft (diameter 26 and 27 mm)(n=2), and in 18 mm Contegra conduit (n=1). The indications for a folded melody valve were a short pulmonary artery trunk for 4 patients and abnormal course of the right coronary artery between the aorta and the pulmonary conduit in one. Folding of the Melody valve was performed on both extremities of the stent (n=1) and only on distal end (n=4).

During follow-up (1 to 21 months), no patient had reintervention. No myocardial ischemia was reported.

Folding of one or both extremities of the Melody valve is easy to perform and can be a good therapeutic option for patients with short RVOT and early PA bifurcation and/or abnormal course of coronary artery, especially in those with not too large native RVOT or conduit. Initial results are good but more experience and longer follow-up are mandatory.