

Percutaneous revalvulation of the RVOT in Belgium

Cools B. (1), Boshoff D.(1), Budts W. (1), Sluysmans T.(2), Dessy H.(3), Dewolf D.(4), Heying R.(1), Kefer J.(2), Milani S.(3), Gewillig M.(1)

University Hospitals Leuven, Leuven, Belgium (1)

Clinique Universitaire Saint-Luc, Brussels, Belgium (2)

Hôpital Universitaire d'enfants Reine Fabiola, Brussels, Belgium (3)

University Hospitals Ghent, Ghent, Belgium (4)

Introduction

Percutaneous valve implantation of the RVOT is a feasible treatment option for important valvular dysfunction. A mandatory database has been requested for reimbursement in Belgium; the scientific data are available for analysis.

Patients and methods

Nationwide multicentre interim analysis of percutaneous valve implantation in the RVOT; prospective and ongoing study. Since 2006 percutaneous Melody® valve implantations are performed in Belgium. Until 12/2011 a total of 77 valves have been implanted in 4 centres.

Results

Median age at implantation of 20.2 years (range 6.0 – 81.6). Male predominance (ratio 2:1). Primary lesions : Tetralogy of Fallot (37), pulmonary atresia with VSD (5), common arterial trunk (6), TGA with VSD and PS (13), aortic valve (Ross) (12) and critical pulmonary stenosis (4). The RVOT characteristics before revalvulation : native or patch extended RVOT (7) requiring open cell stents to anchor, homograft (51), contegra conduit (3), bioprosthesis (16). The mean diameter of the conduit was 19 mm (range 10 – 27). Pulmonary stenosis was the main reason for revalvulation (41), pulmonary regurgitation (23) and mixed PS/PR (13). In 70 patients (90%) prestenenting was done, with a clear trend to go for 100% prestenenting. In 19 patients more than one stent was necessary (max 3). A total of 36 covered and 54 bare stents were used. RV systolic pressure dropped from mean 56 mmHg (range 28 – 104) to 42 mmHg (range 23 - 91) after valve implantation. Complications early : (2) pulmonary artery bleeding solved by covered stent implantation, (1) ischemia due to LAD compression solved by surgical removal of the stent. Complications late : stent fractures (3). No deaths.

Conclusion

Percutaneous valve replacement in conduits and homografts in the RVOT is a safe and grateful treatment with futile morbidity. Adequate prestenenting to create a nice landing zone is a key feature avoiding many complications such as embolisation, recompression and fracture. Covered stents allow to expand any breakable – dilatable conduit beyond the nominal value at implantation or later during growth. Open cell stents allow to hook on the dilated “native” outflow tracts.