

PW1-4

Percutaneous pulmonary valve replacement in bovine jugular vein grafts (Contegra™) – Anything fancy?

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Objective: Percutaneous pulmonary valve replacement (PPVR) is an established successful procedure for patients with degenerated surgically implanted grafts in pulmonary artery (PA) position. The bovine jugular vein graft (Contegra) as a new generation xenograft frequently does not show classical degeneration/calcification but the development of intimal proliferation at the anastomosis sites. Furthermore, one might presume that due to its elastic properties it might not be restrictive enough to accommodate the stented valve firmly and safely during PPVR. Therefore, the aim of our study was to compare the results of PPVR in patients with homografts and Contegras in PA position. **Method:** Retrospective comparison of the results of PPVR with the Melody™ valve in paediatric patients with homografts and Contegras in our institution since March 2007. **Results:** 13 patients with a homograft (mean age 12.7(8-19) years), and 10 patients with a Contegra (age 12(5-20) years) received PPVR. Patients with Contegra predominantly had stenotic lesions (n=7), whereas homograft patients mostly had combined lesions with stenosis and regurgitation (n=9). Contegras were treated earlier than homografts with PPVR - 5.5(3.8-7.8) years vs. 11.3(6.3-18.1) years after implantation (p<0.01). There was no significant difference with regard to pre-interventional echo gradient (56 vs. 65 mmHg in Contegra). Apart from three all patients received pre-stenting of the graft with no differences in length of intervention and radiation-dosage. Contegra could be overstretched more effectively than the homograft (+2.6 mm to original diameter vs. 1.6 mm). In the homograft group one patient had a perforation of the LPA with the guide-wire, he needed surgery. Satisfying acute and midterm (follow-up 24.5 vs. 19.3 months in Contegra) gradient relief (>45%, p=0.3) without any significant regurgitation could be achieved in both groups. In one homograft patient surgical explantation of the valve was performed 13 months after implantation because of a persisting systolic gradient >50 mmHg. **Conclusions:** Contegras can be treated effectively with PPVR. It is even possible to overdilate them in comparison to their original diameter (mean +13%). Possibly also due to a modified surgical technique of side-to-side connections Contegras do have a roomier in- and outflow. Furthermore, this technique avoids distortion and kinking which results in straight grafts acting as a firm landing-zone for any percutaneously implanted stented valve.