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Titel des Beitrags: Percutaneous pulmonary valve implantation: two-centre experience with more than 100 patients.

Abstract: Aims Dysfunction of valved conduits in the right ventricular outflow tract (RVOT) limits durability and enforces repeated surgical interventions. We report on our combined two-centre experience with percutaneous pulmonary valve implantation (PPVI). Methods and results One hundred and two patients with RVOT dysfunction [median weight: 63 kg (54.2-75.9 kg), median age: 21.5 years (16.2-30.1 years), diagnoses: TOF/PA 61, TAC 14, TGA 9, other 10, AoS post-Ross-OP 8] were scheduled for PPVI since December 2006. Percutaneous pulmonary valve implantation was performed in all patients. Pre-stenting of the RVOT was done in 97 patients (95%). The median peak systolic RVOT gradient decreased from 37 mmHg (29-46 mmHg) to 14 mmHg (9-17 mmHg, P< 0.001) and the ratio RV pressure/AoP decreased from 62% (53-76%) to 36% (30-42%, P< 0.0001). The median end-diastolic RV-volume index (MRI) decreased from 106 mL/m(2) (93-133 mL/m(2)) to 90 mL/m(2) (71-108 mL/m(2), P = 0.001). Pulmonary regurgitation was significantly reduced in all patients. One patient died due to compression of the left coronary artery. The incidence of stent fractures was 5 of 102 (5%). During follow-up [median: 352 days (99-390 days)] one percutaneous valve had to be removed surgically 6 months after implantation due to bacterial endocarditis. In 8 of 102 patients, a repeated dilatation of the valve was
done due to a significant residual systolic pressure gradient, which resulted in a valve-in-valve procedure in four. Conclusion This study shows that PPVI is feasible and it improves the haemodynamics in a selected patient collective. Apart from one coronary compression, the rate of complications at short-term follow-up was low. Percutaneous pulmonary valve implantation can be performed by experienced interventionalists with similar results as originally published. The intervention is technically challenging and longer clinical follow-up is needed.

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