Percutaneous tricuspid valve implantation – Initial two centre experience

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Introduction: Tricuspid valve replacement is indicated for severe tricuspid valve dysfunction as the last therapeutical option, if a surgical valve plasty is not feasible. A biological prosthesis in TrV position has a limited durability. Percutaneous tricuspid valve implantation (PTVI) may be an alternative to repeated surgical valve replacement.

Methods and Results: Since July 2008 ten patients (female 5, diagnosis: Ebsteins’s anomaly 3, functionally univentricular heart 3, other 4) with biological valve dysfunction in tricuspid position were treated by PTVI at two centres. Median patient age was 31.2 years (5 – 71 years) and median weight was 54.3 kg (17.7 – 97.5kg). Prevailing severe regurgitation of the bioprosthesis was the indication for treatment in 10/11 procedures. All eleven valves were delivered successfully (Medtronic Melody valve 9, Edwards 26 mm Sapien 1, Edwards 29 Sapien 1) in these 10 pts and early after the intervention only mild residual regurgitation was assessed by TEE in all. Pre-stenting was done in 8/11 procedures. There were no major periprocedural complications. One femoral venous disruption occurred in the smallest patient (17.7kg) without clinical relevance. One early recurrent tricuspid regurgitation (after 18 months) led to surgical replacement and subsequent repeated PTVI (6 months after repeated surgery). Follow-up ranges from 1 month to 3 ½ years.

Conclusion: PTVI can be done with a low periprocedural complication rate. On short to medium term follow-up valve function is acceptable in 10/11 implanted valves. PTVI may be a good alternative to surgical valve replacement.