

Transcatheter closure of ruptured sinus of Valsalva aneurysm with nitinol mesh occluders.

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Introduction: Ruptured sinus of Valsalva aneurysm (RSOVA) is rare shunt lesion with scant data about its transcatheter closure (TCC). Methods: From March 2007 to September 2011, 12 patients (pts) –mean age 37,2 years were selected for TCC. Two pts had acquired RSOVA after previous cardiac surgery. Another pt after previous surgical closure of RSOVA had 2 recanalizations. Echocardiography revealed the rupture of right or noncoronary sinus into right atrium in 9 pts and into right ventricle in 2 another pts. In 1 pt RSOVA was open from left coronary sinus to pulmonary artery (PA). The defect diameter was from 3,8 to 10 (mean 6,9) mm. Different nitinol mesh occluders (ductal, atrial or muscular VSD) were applied by antegrade venous approach. In all cases arterio-venous loop was created Results: All defects were successfully closed (in 1 pt during 2 sessions). In one pt embolization of 2 mm larger than defect Amplatzer Duct occluder occurred. The device was retrieved with lasso and bigger occluder (Cardio-O-Fix PDA) was successfully applied. In another pt (after tetralogy of Fallot repair) with left RSOVA to PA ST-segment depression was observed on the ECG and the procedure was abandoned. All treated pts had complete closure at discharge. In 72 y old woman with renal failure, aortic dissection and after aortic valve replacement Cardio-O-Fix PDA occluder was applied in proximal entrance to the ruptured SOVA. Because of the presence of important residual leak on the edge of the implant the procedure had to be supplemented by closing of the distal RV orifice of SOVA with 10 mm Amplatzer Muscular VSD Occluder. Trivial aortic regurgitation occurred in 1 pt without progression in follow-up. In one pt 3 y after the procedure new shunt close to occluded RSOVA was found. The patient is scheduled for another attempt of TCC of RSOVA. Conclusion: In appropriately selected pts with RSOVA, transcatheter closure is a feasible and effective method of treatment.