

O15-4

## Medium- and long-term follow-up of transcatheter closure of ruptured sinus of Valsalva aneurysm

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### Introduction

We aim to evaluate medium- and long-term outcomes of transcatheter closure (TC) of ruptured sinus of Valsalva aneurysm (RSVA), which is a rare and mostly congenital heart disease.

### Methods

Retrospective analysis included 23 patients (pts; 14 males) aged 15-79 years (y;  $39.9 \pm 18.5$ ) selected for TC of RSVA between 2007 and 2017 in two tertiary centres. 15 pts were in NYHA class III or IV before TC, 5 pts had acquired RSVA after previous cardiac surgery. Echocardiography revealed rupture of right/noncoronary sinus to right atrium in majority of pts (17/23). Qp/Qs ranged from 1.4 to 3.7 (median 2.2). Defect's aortic orifice diameter was  $9.5 \pm 3.3$  mm (4-16). Fluoroscopy time was  $18.0 \pm 11.0$  minutes (5-48). We applied 22 duct, 3 muscular and 1 atrial septal Amplatzer or Amplatzer-like occluders by anterograde venous approach after arterio-venous loop creation in all but 1 pt. Mean follow-up conducted in outpatient clinic was  $5.5 \pm 3.5$  y (range 1-11).

### Results

The procedure was successful in 19/23 pts (82.6%). Four procedures were abandoned and the devices were percutaneously retrieved because of coronary artery compression (1 pt), transient increase of aortic regurgitation (AR; 1 pt) and embolization (2 pts). New onset of significant AR was noted in the one of the latter pts after device removal. NYHA class has improved in all treated pts but 2, in whom remained stable. Three pts needed percutaneous reintervention in follow-up because of significant residual shunt in 1 and late recurrent RSVA in 2 pts. Follow-up of remaining pts was uneventful. Neither erosion, embolization, new AR nor death were observed.

### Conclusions

Percutaneous closure of RSVA is a safe and effective method of treatment with good clinical outcome. However, although not described previously, recurrent shunts after TC of RSVA are possible.