

Percutaneous closure of ruptured sinus of Valsalva aneurysms using a retrograde approach without formation of an arteriovenous loop

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A 37-year-old male presented with exertional dyspnoea (NYHA III) and cardiac imaging demonstrated a ruptured sinus of Valsalva aneurysm (right aortic sinus to right atrium) (**Figure 1A**). The defect measured 6 mm at the aorta and successful device occlusion was achieved using an 8 mm AMPLATZER™ Muscular VSD Occluder (St. Jude Medical, St. Paul, MN, USA), delivered from the aorta without formation of an arteriovenous (AV) loop (**Figure 1B**). An immediate increase in the aortic diastolic pressure was noted after successful device deployment. The procedure was uncomplicated and the patient remains well at two-year clinical follow-up.

Ruptured sinus of Valsalva aneurysms carry significant morbidity. Surgery is the standard treatment, but transcatheter

closure, which was initially explored out of need in high-risk surgical patients, has emerged as an alternative. Most previous reports of transcatheter closure describe delivery of a device (most commonly an AMPLATZER™ Duct Occluder; St. Jude Medical) from the venous side after formation of an AV loop. We have achieved successful closure in four cases through delivery of a “bileaflet” device in a retrograde fashion from the aorta without formation of an AV loop in a similar manner to the case described.

Conflict of interest statement

The authors have no conflicts of interest to declare.

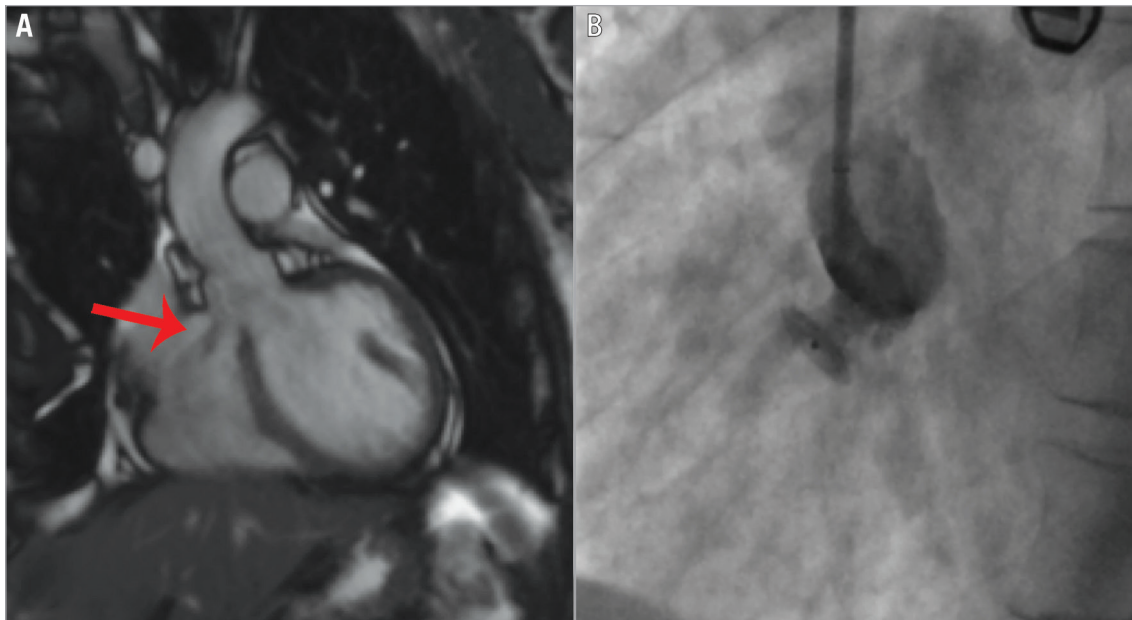


Figure 1. Imaging pre and during transcatheter closure. A) MRI with red arrow indicating fistula to right atrium. B) Cine angiography showing device in situ with cusp injection.

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