



THE BAFFLE LEAK THAT WOULDN'T BE TAMED

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History and Physical

46-year-old man, D-TGA s/p Mustard, s/p Mustard revision for SVC baffle obstruction and pulmonary vein obstruction and tricuspid valve repair with ATS ring and bilateral Maze, complete heart block, s/p epicardial dual chamber pacemaker implantation, atrial tachyarrhythmias including fibrillation and flutter, resistant to sotalol, s/p unsuccessful ablation/cardioversion, off anticoagulation given intracranial hemorrhage due to cerebral embolism with hemorrhagic conversion requiring decompression with biopsy showing infectious etiology likely secondary to paradoxical embolization of bacteremic thrombus from an infected left leg wound and no documented endocarditis, hypertension, hypothyroidism, presented with worsening heart failure for transplant evaluation given worsening heart failure and escalating diuresis. NYHA FC II ACHD AP 3C.

Vital signs: BP 118/69 mmHg, P 72 bpm, Saturation 98% in RA.

Physical exam significant for single second heart sound, 3/6 systolic murmur at the apex, RV heave, JVD, +2 lower extremity edema and liver measuring 9 cm by percussion.

Imaging

Echocardiogram shows moderately dilated and hypertrophied right ventricle with moderately reduced function. No obvious baffle leak was noted in the visualized areas with no agitated saline contrast study performed. Cardiac catheterization shows a baffle leak with Qp:Qs ~2:1 and elevated right-sided pressures with mean pulmonary artery pressure of 32 mmHg.

Indication for Intervention

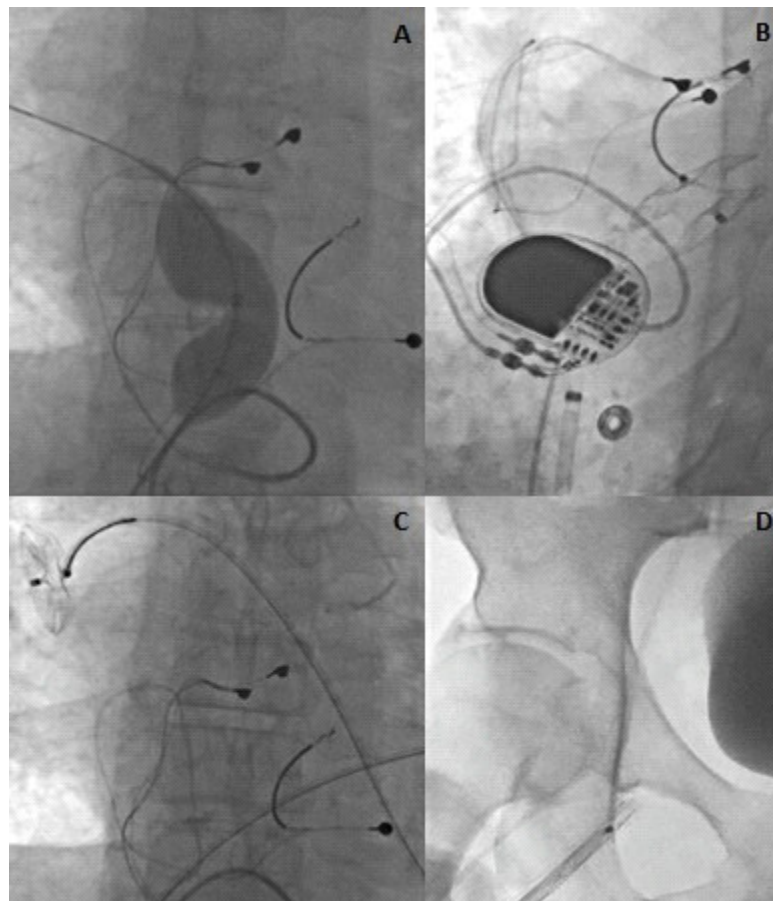
Per the multidisciplinary conference discussion, there is a significant shunt with worsening heart failure. Recommendation was made to attempt percutaneous closure and improve heart failure without recourse to advanced therapy.

Intervention

The defect was crossed from the right femoral venous approach with a 6 French JR4 diagnostic catheter into the pulmonary venous baffle. A 300 cm Lunderquist wire was deployed. Balloon sizing with a 34 mm AGA catheter showed a 16 mm full stretch defect size at the curvature of the baffle (Figure A). Percutaneous closure was performed using an 18 mm Amplatz ASO device (Figure B). Vigorous tug and pull showed a well seated device (Video) with angiography showing no residual shunt and no impairment of pulmonary venous flow. The device was released (Figure B). While performing post closure hemodynamics, the device was noted to have



embolized into the pulmonary artery. The device was eventually captured with a gooseneck snare (Figure C) and successfully retriad into the sheath (Figure D) without complications. The patient was discussed at the multidisciplinary conference and his defect was deemed unfavorable for percutaneous closure given its shape and location and transplant evaluation was initiated. The patient is currently better clinically on continuous infusion of inotrope, PDE-5 inhibitor and diuresis, awaiting transplantation.



Learning Points of the Procedure

- Suture line baffle leaks may have geometries unfavorable for percutaneous closure with current devices.
- Complications may arise despite adequate stepwise checks. Periprocedural monitoring is vital to note acute developments and allow early intervention if necessary.
- The procedure was performed with fluoroscopy only. Concomitant imaging with TEE and/or ICE may provide additional helpful guiding information regarding defect shape and size.