

# The Mystery Shunt: A Seven-Year-Old Pseudoaneurysm **Causing High Output Heart Failure**

### CASE

- A 68-year-old male with history of paroxysmal atrial fibrillation and HFpEF experienced new dyspnea and edema.
- He had undergone ablation for his PAF seven years prior complicated by right femoral pseudoaneurysm that spontaneously thrombosed.
- Exam showed elevated JVP, edema and palpable thrill in his right groin with audible bruit.
- Echocardiogram demonstrated normal EF and RVSP of 50-55mmHg, increased from prior of 40mmHg.

#### TABLE 1

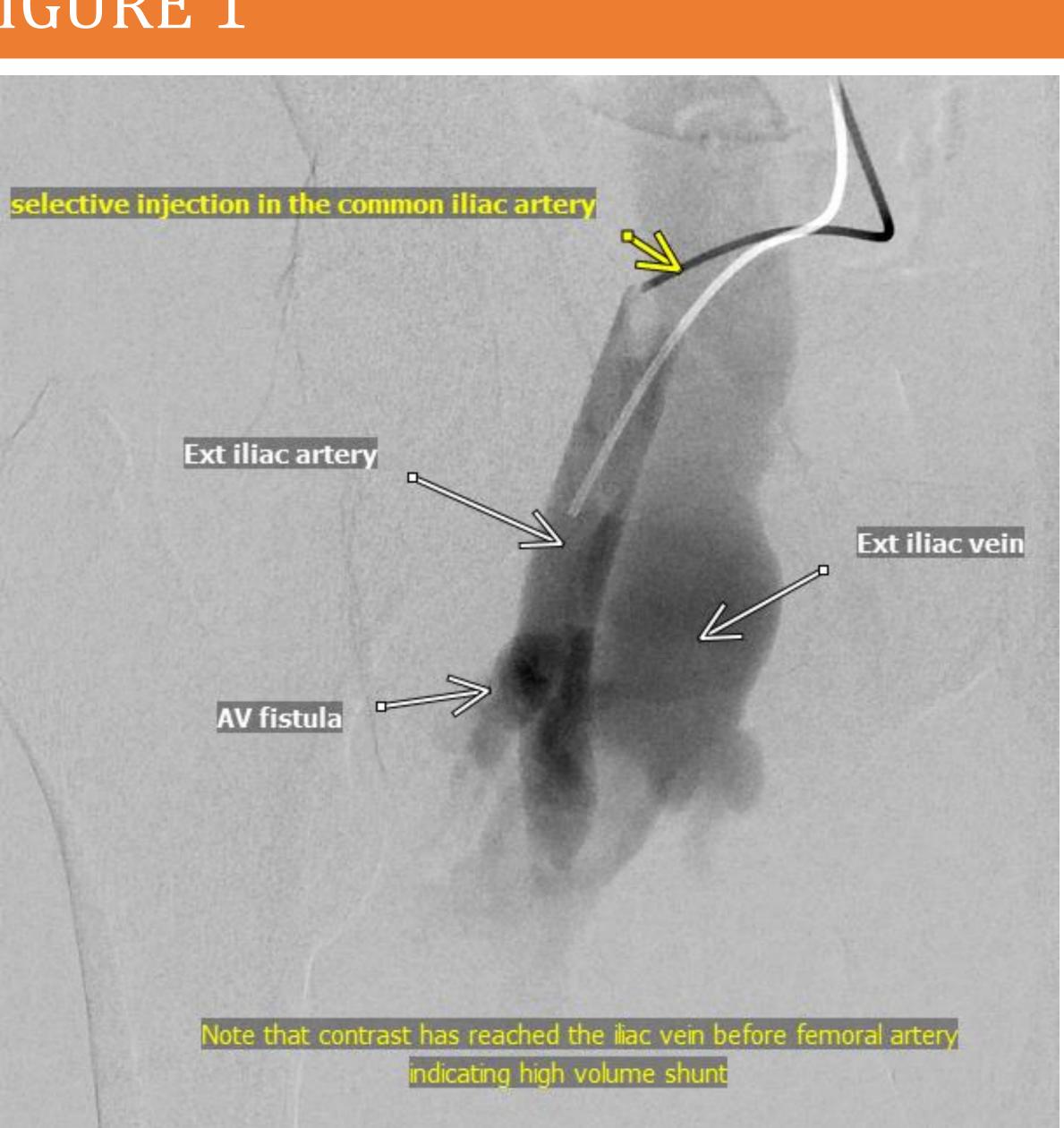
Site	Pressures (mmł
Pulmonary capillary	14
wedge (PCW)	
Pulmonary artery (PA)	50/18, mea
Right ventricle (RA)	50/14
Right atrium (RA)	10

#### TABLE 2

Location	Oxygen saturati
Aorta	96
Pulmonary artery	80
Superior vena cava (SVC)	66
Right atrium (RA)	80
Right ventricle (RV)	80

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#### FIGURE 1



#### Figure 1: Flouroscopic evidence of AV fistula



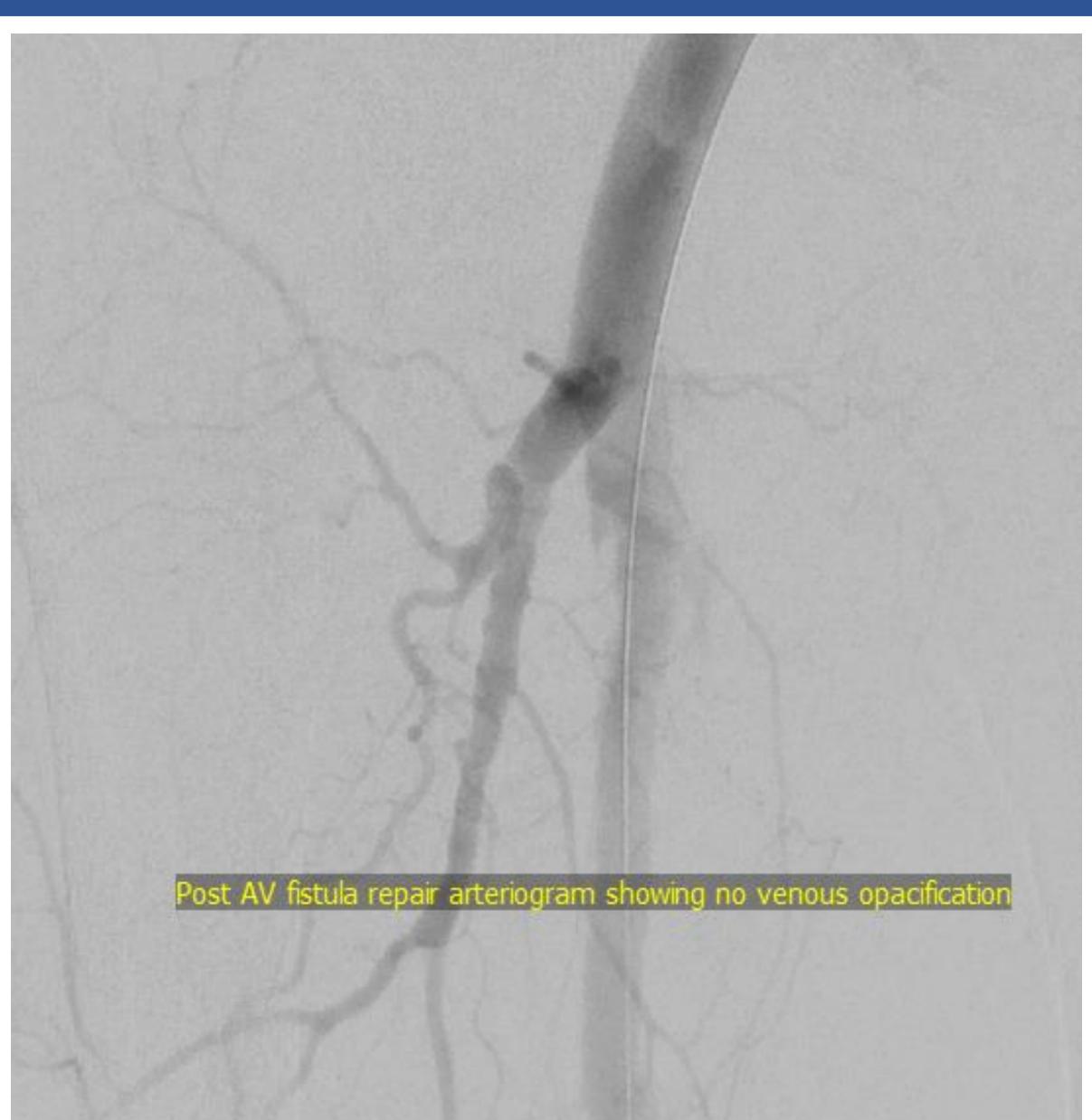


Figure 2: Fluoroscopy post-AV fistula repair

Hg) n 30



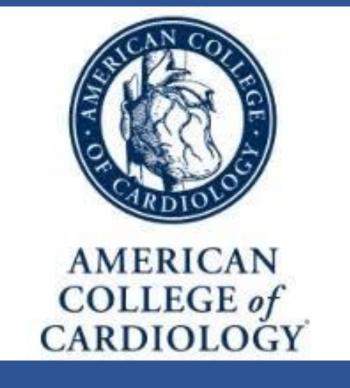
# DECISION MAKING

- and common femoral vein.
- primary repair.

# CONCLUSION

- Qp:Qs.

### CONTACT



• RHC showed moderate post-capillary pulmonary hypertension, high cardiac output (Table 1) and PA saturation of 80%. Oximetry run showed step up in oxygenation from SVC to RA (Table 2). Using the SVC saturation as systemic venous O2 saturation and aortic saturation as pulmonary vein saturation, Qp:Qs ratio by RHC was 1.7:1. A residual ASD from his prior septal puncture was suspected.

However, cardiac MRI showed an intact atrial septum, Qp:Qs of 1.0, and a markedly increased IVC to SVC flow ratio of 2.7 (IVC flow 6.34 L/min).

 Right groin ultrasound showed an AV connection with flow between the superficial femoral artery

• Vascular surgery performed a lower extremity angiogram revealing an AV fistula and performed

Elevated PA saturation on RHC should prompt an oximetry run. The SVC saturation is sometimes used as an estimate of the SvO<sub>2</sub> in intracardiac shunt calculations, however, his Qp:Qs was inaccurate due to not sampling the IVC. If included in the Svo<sub>2</sub> calculation, this would have resulted in a normal

• High output heart failure treatment is correcting the etiology, in this case AV fistula repair.