

Cardiac Imaging

Unroofed Coronary Sinus as a Cause of Right Heart Dilatation in an Elderly Patient

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A 72-year-old acyanotic man presented with worsening shortness of breath on exertion, chronic atrial fibrillation and cardiomegaly on the chest radiograph. The transthoracic echocardiogram showed dilated right-sided cardiac chambers with normal left ventricular size and function. A three-dimensional transesophageal echocardiogram revealed the presence of an unroofed coronary sinus (Figure 1). Cardiac magnetic resonance imaging confirmed the presence of the defect without a persistent left superior *vena cava* (Figure 2). Cardiac catheterization demonstrated a left-

to-right shunt with a shunt ratio of 2, a mean pulmonary arterial pressure of 26 mmHg, and pulmonary vascular resistance of 2.2 Wood units. During surgery, a type III (partially unroofed mid portion)¹ coronary sinus defect was detected and successfully repaired with a patch (Figures 3 & 4).

References

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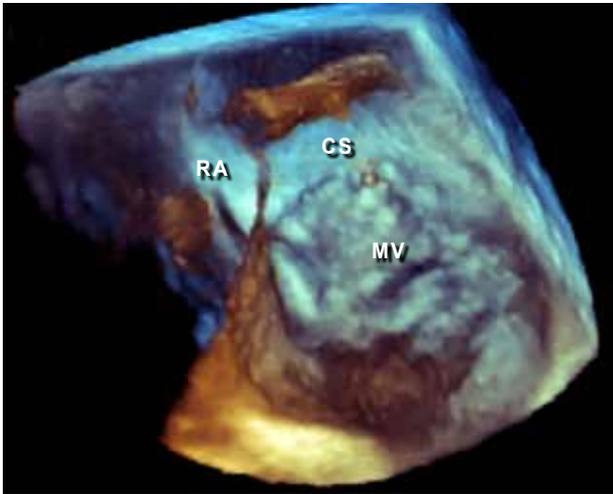


Figure 1. Real-time three-dimensional transesophageal echocardiogram, mid-esophageal view (zoom mode), showing the presence of a dilated coronary sinus. The view is through the left atrium and shows the absence of the diaphragm separating the left atrium from the coronary sinus (unroofed coronary sinus). RA – right atrium; MV – mitral valve; CS – coronary sinus.



Figure 2. Cardiac MRI, horizontal long-axis image, showing enlarged right atrium and ventricle, suggestive of a left-to-right shunt. Ao – aorta; PA – pulmonary artery; LA – left atrium; RA – right atrium.

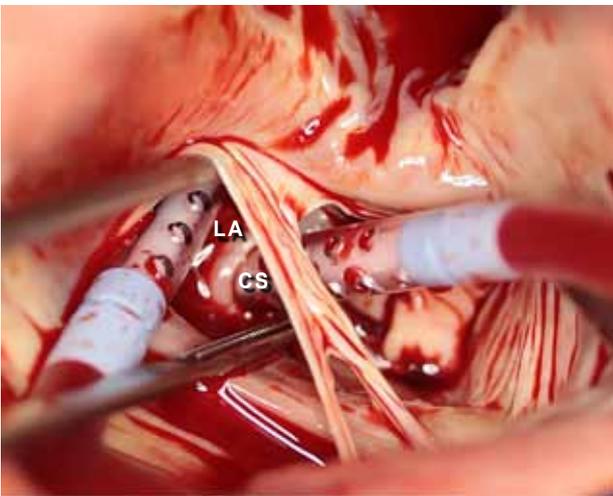


Figure 3. Intraoperative identification of the defect.

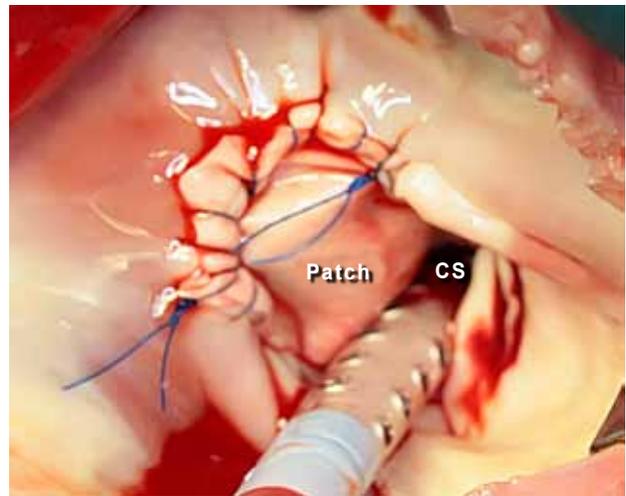


Figure 4. Closure of the defect by placing a prosthetic patch.