

Sinus of Valsalva aneurysm

Alexi M. Mantas, MD, and Melissa M. Carry, MD

A 63-year-old man was in good health with well-controlled hypertension and dyslipidemia when he developed progressive dyspnea one day following an uncomplicated and unrevealing routine screening colonoscopy. Physical examination, electrocardiogram, and chest radiograph revealed hypotension, tachycardia, jugular venous distension, cardiomegaly, grade III/VI holosystolic murmur at the apex, and bilateral basilar pulmonary rales. Laboratory investigation disclosed mild troponemia, azotemia, elevated brain natriuretic peptide, and elevated acute-phase reactants. Echocardiography revealed an unruptured noncoronary sinus of Valsalva aneurysm (SVA) protruding into the left atrium, obstructing mitral outflow while also causing acute severe mitral regurgitation (*Figure 1*).

SVAs are exceedingly rare congenital or acquired degenerations of connective tissue from atherosclerosis, infection, or trauma resulting in dilations of one of three aortic sinuses: most commonly right, occasionally noncoronary, and rarely left. Unruptured SVAs are usually clinically silent and found incidentally during routine echocardiography. Occasionally, the physical presence of SVAs can precipitate arrhythmias, obstruct a coronary artery resulting in myocardial ischemia, or disrupt normal hemodynamics. Ruptured SVAs have a varied presentation, ultimately depending on the size, progression, and chamber into which rupture occurs.

Surgical correction is indicated for ruptured SVAs and unruptured SVAs of large size and those with complications, including but not limited to altered hemodynamics or conduction abnormalities (1). Our patient presented with uncompensated New York Heart Association class III–IV heart failure and was medically stabilized. He then underwent aneurysm resection followed by valve-sparing patch repair of the aortic root along with mitral valve repair with an annuloplasty ring. The patient

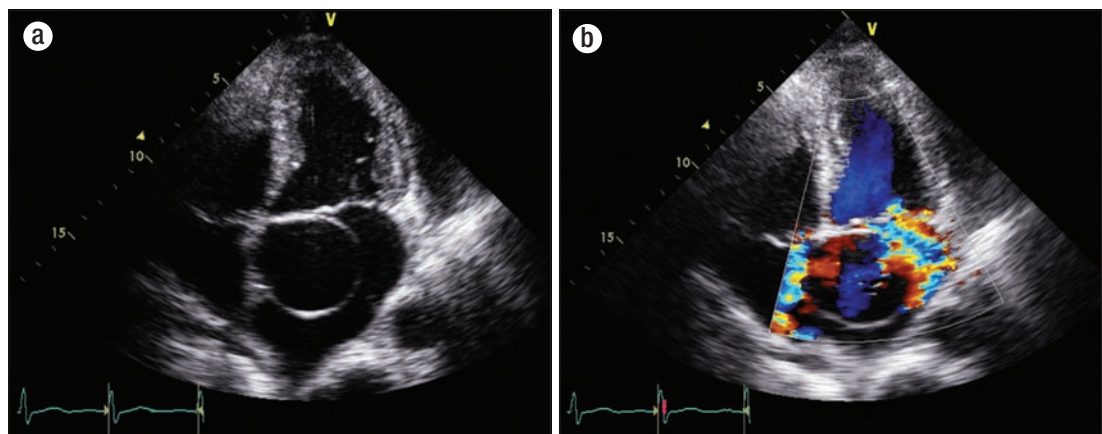


Figure 1. Preoperative echocardiogram: (a) two-dimensional apical four-chamber view, (b) same view with color flow.

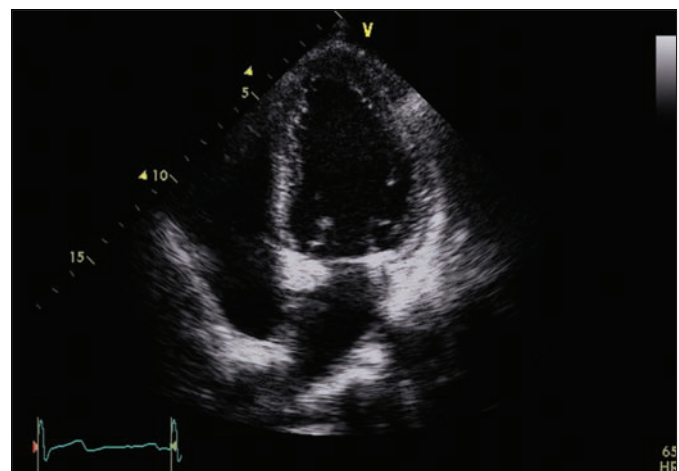


Figure 2. Postoperative echocardiogram: two-dimensional apical four-chamber view.

is currently symptom free 12 months postoperatively following uncomplicated surgical correction (*Figure 2*).

1. Feldman DN, Roman MJ. Aneurysms of the sinuses of Valsalva. *Cardiology* 2006;106(2):73–81.

From the Department of Internal Medicine (Mantas) and the Division of Cardiology (Carry), Baylor University Medical Center, Dallas, Texas.

Corresponding author: Alexi M. Mantas, MD, Resident, Department of Internal Medicine, Baylor University Medical Center, 3500 Gaston Avenue, Dallas, Texas 75246 (e-mail: Alexi.Mantas@BaylorHealth.edu).