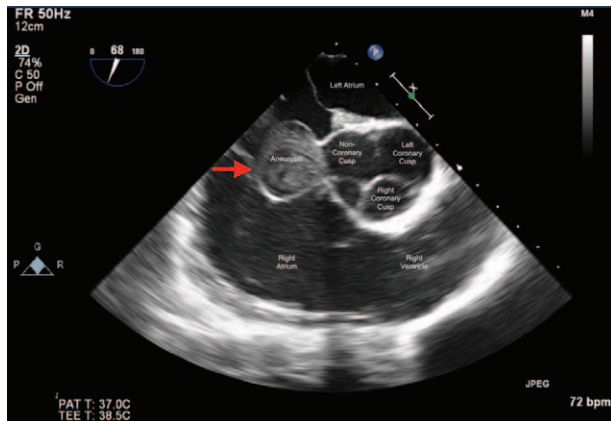


Images in Anesthesiology: A Case of Mistaken Atrial Myxoma

Jonathan S. Goldberg, M.D., Samuel J. Hankins, M.D.



A 27-YR-OLD man with diagnosis of right atrial mass by cardiac magnetic resonance imaging (MRI) was scheduled for resection *via* median sternotomy. MRI images showed a well-circumscribed mass with hypointense T1-weighted imaging and hyperintense T2-weighted imaging that appeared unattached to the interatrial septum. Signal intensity, location, and smooth borders supported the diagnosis of myxoma, but attachment site necessitated inclusion of other tumors (hemangioma, pheochromocytoma, lymphoma) in the radiologist's differential.

On intraoperative placement of transesophageal echocardiography, a large, well-circumscribed outpouching of the noncoronary cusp of the aortic valve composed of full-thickness aortic root (true aneurysm) was imaged most clearly

in the midesophageal aortic valve short axis view. This unruptured Sinus of Valsalva aneurysm communicated freely with the noncoronary cusp as visualized by color Doppler and by swirling of spontaneous echo contrast mainly during diastole. After discussion with the surgeon, cardiopulmonary bypass was accomplished with single venous cannula, and the Sinus of Valsalva aneurysm was repaired with pericardial patch *via* aortotomy.

Sinus of Valsalva aneurysms are formed due to disjuncture between the aortic tunica media and the aortic valve annulus and can arise from any of the three aortic cusps.^{1,2} Symptoms can be nonspecific (*e.g.*, dyspnea, palpitations) but may be subclinical until rupture into the adjacent cardiac chamber, which can lead to aorto-atrial, aortoventricular, or ventricular septal defects.^{1,3} Although cardiac MRI can support the diagnosis, transesophageal echocardiography has more than 98% sensitivity and specificity for atrial tumors and thrombi, along with the added benefit of real-time imaging (MRI provides only static, gated images).⁴

Verification of presumed diagnoses by a skilled echocardiographer is key to preclude unnecessary procedures in cardiac surgery, especially in possible open-chamber surgeries. In the case of this patient, dual cannulation, atriotomy, and possible complications of aortic clamping and antegrade cardioplegia were able to be avoided.

Competing Interests

The authors declare no competing interests.

Correspondence

Address correspondence to Dr. Goldberg: jonathan.goldberg@bcm.edu

References

- Cheng TO, Yang YL, Xie MX, Wang XF, Dong NG, Su W, Lü Q, He L, Lu XF, Wang J, Li L, Yuan L: Echocardiographic diagnosis of sinus of Valsalva aneurysm: A 17-year (1995-2012) experience of 212 surgically treated patients from one single medical center in China. *Int J Cardiol* 2014; 173:33-9
- Takach TJ, Reul GJ, Duncan JM, Cooley DA, Livesay JJ, Ott DA, Frazier OH: Sinus of Valsalva aneurysm or fistula: Management and outcome. *Ann Thorac Surg* 1999; 68:1573-7
- Chadha S, Lodha A, Shetty V, Sadiq A, Hollander G, Shani J: Sinus of Valsalva aneurysm: A rare presentation with ventricular tachycardia. *J Am Coll Cardiol* 2012; 59:1729
- Motwani M, Kidambi A, Herzog BA, Uddin A, Greenwood JP, Plein S: MR imaging of cardiac tumors and masses: A review of methods and clinical applications. *Radiology* 2013; 268:26-43

From the Department of Anesthesiology, Baylor College of Medicine, Houston, Texas (J.S.G.); and Department of Cardiovascular Anesthesiology, CHI Baylor St. Luke's Medical Center, Houston, Texas (S.J.H.).

Copyright © 2015, the American Society of Anesthesiologists, Inc. Wolters Kluwer Health, Inc. All Rights Reserved. *Anesthesiology* 2016; 124:1394