A 27-year-old man with a 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. 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. 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).

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.

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