

A Case of Infected Mitral-Aortic Intervalvular Fibrosa Pseudoaneurysm

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An 81-year-old woman presented with fever and shortness of breath. She had an aortic valve replacement in 2012 (a 19-mm St. Jude Trifecta bioprosthetic valve) as well as coronary artery bypass grafting. Blood cultures were positive for vancomycin-intermediate *Staphylococcus aureus*. Transthoracic echocardiography showed degeneration of the aortic valve prosthesis with severe aortic insufficiency and a tricuspid valve vegetation.

Transesophageal echocardiography demonstrated pseudoaneurysm formation in the mitral-aortic intervalvular fibrosa (MAIVF) (Figures 1, 2). Color Doppler showed systolic and diastolic flow into the pseudoaneurysm (Figure 3). Cardiac computed tomography showed that the ruptured abscess cavity extended from the aortic root to the proximal ascending aorta (Figure 4, red arrow).

The patient underwent debridement of the aortic annulus as well as aortic root and ascending aorta replacement using a

CryoLife allograft (CryoLife, Inc.). The tricuspid valve vegetation was removed, and intravenous antibiotic therapy was continued for 8 weeks with daptomycin and ceftaroline followed by lifelong doxycycline therapy. She was discharged to rehabilitation 2 weeks later.

The MAIVF is a fibrous structure located at the junction of the anterior mitral leaflet and the noncoronary cusp of the aortic valve. It is relatively avascular, which makes it prone to infection and injury resulting in pseudoaneurysm formation. When making the diagnosis, it is important to visualize the echo-free space with systolic expansion and diastolic collapse of the pseudoaneurysm.¹ Patients with ring abscesses in the MAIVF region, prosthetic aortic valves, or histories of endocarditis are at higher risk for developing pseudoaneurysm of the MAIVF. Transesophageal echocardiography is critical to make the diagnosis.²

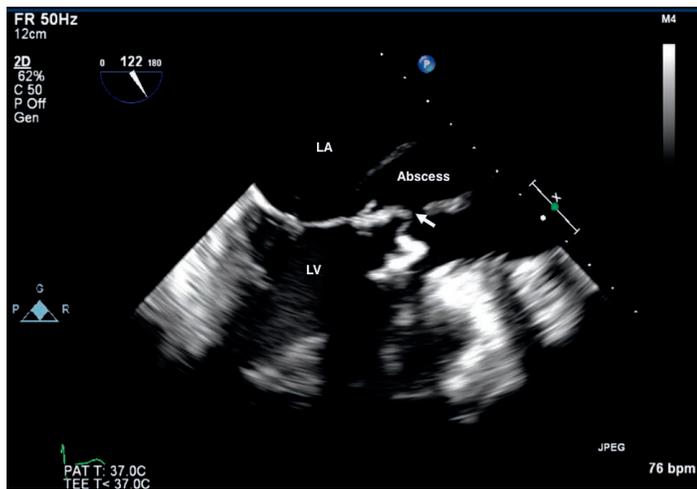


Figure 1.

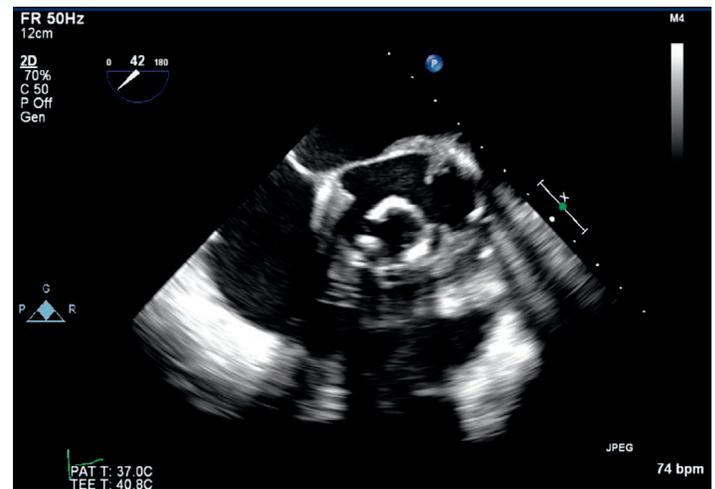


Figure 2.

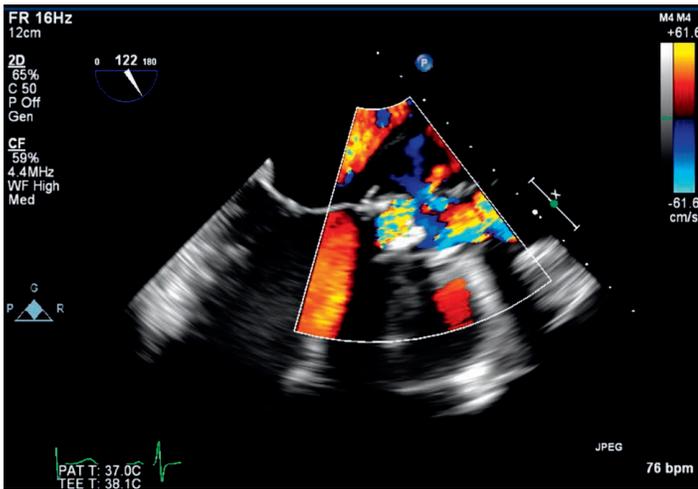


Figure 3.

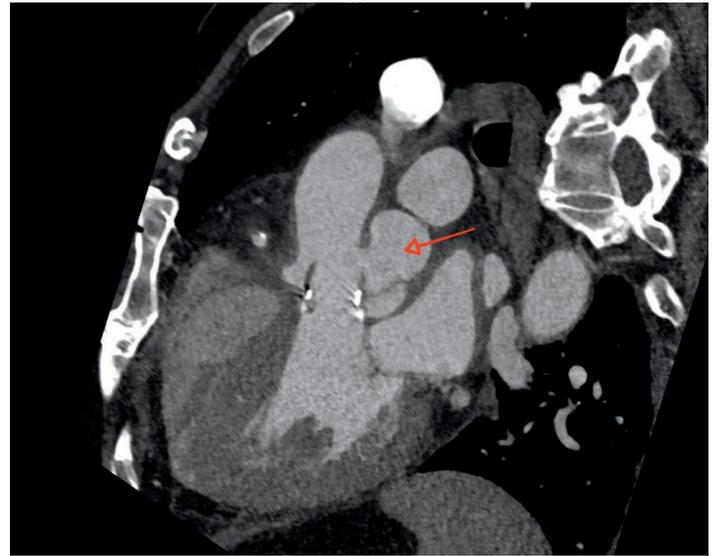


Figure 4.

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2. Sudhakar S, Sewani A, Agrawal M, Uretsky BF. Pseudoaneurysm of the mitral-aortic intervalular fibrosa (MAIVF): A comprehensive review. *J Am Soc Echocardiogr*. 2010 Oct;23(10):1009-18.