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**Ruptured Mitral Valve Kissing Abscess to Left Atrium in Course of
Aortic Valve Endocarditis.**

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Abstract:

In patients with infective endocarditis affecting the aortic valve, a major complication may occur in a mechanism of direct extension of an infected jet of aortic regurgitation striking the ventricular surface of the anterior mitral leaflet. We present a 36-year-old male with infective endocarditis of the bicuspid aortic valve, who developed a secondary infection complicated by a Mitral valve leaflet kissing abscess.

**Keywords: Endocarditis, Bicuspid aortic valve, Mitral valve leaflet kissing abscess,
Echocardiography**

Introduction:

A congenital bicuspid aortic valve is more prevalent in men, accounting for 70 to 80 percent of cases. Patients with a bicuspid aortic valve also are at increased risk for endocarditis (0.4 per 100,000).

Infective endocarditis affecting the aortic valve may lead to secondary involvement of the anterior mitral leaflet, that is caused by the infected jet of aortic regurgitation hitting the ventricular surface of the leaflet. The latter, known as the 'kissing lesion', is observed in 10–15% of patients with infective

endocarditis of the aortic valve. In this case report, we describe a patient with infective endocarditis of the bicuspid aortic valve, who developed a severe mitral regurgitation due to the secondary involvement of the mitral valve and a perforation of the anterior mitral leaflet abscess.

Transthoracic echocardiogram demonstrated an aneurismal cavity on the atrial side of the anterior mitral leaflet with central perforation which result to severe mitral regurgitation where the mobile vegetation on the anterior cusp of the aortic valve was in contact with the anterior mitral valve leaflet.

Case Report:

A 36 year old man was referred with 4 weeks history of fever and weight loss. On physical examination, he was febrile (T:39°C), anemic (Hb:9 gr/dl) and cardiac auscultation revealed systolic ejection murmur grade 2/6 and early diastolic murmur in the aortic area.

Transthoracic echocardiogram showed bicuspid Aortic valve with flail one cusp and large mobile vegetation on it with severe regurgitation, there was also multiple vegetations on atrial and ventricular surface of anterior mitral leaflet . (Figure 1-2). Second transthoracic study after 6 days antibiotics therapy demonstrated new aneurismal cavity with central perforation in mid part of anterior mitral leaflet with severe mitral regurgitation (figure 3,4). At surgery perforated kissing abscess of mitral valve was confirmed (Figure 5) and both valves were replaced. The patient made an uneventful recovery following surgery.

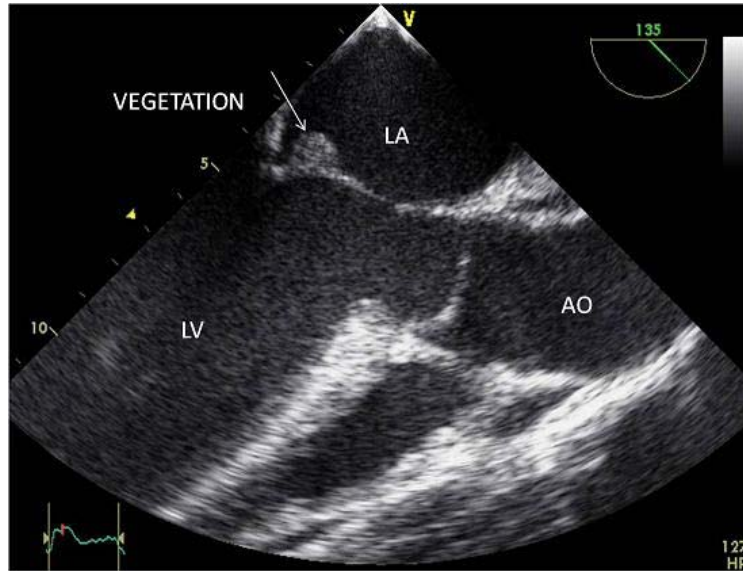


Figure 1

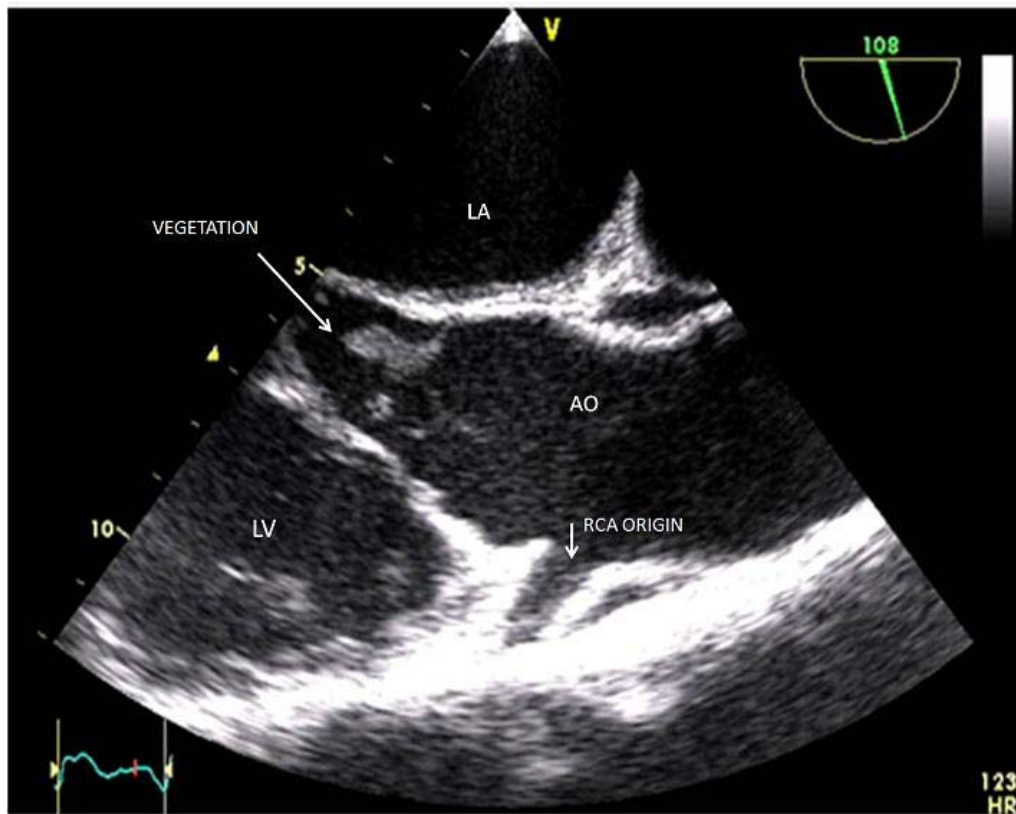


Figure 2

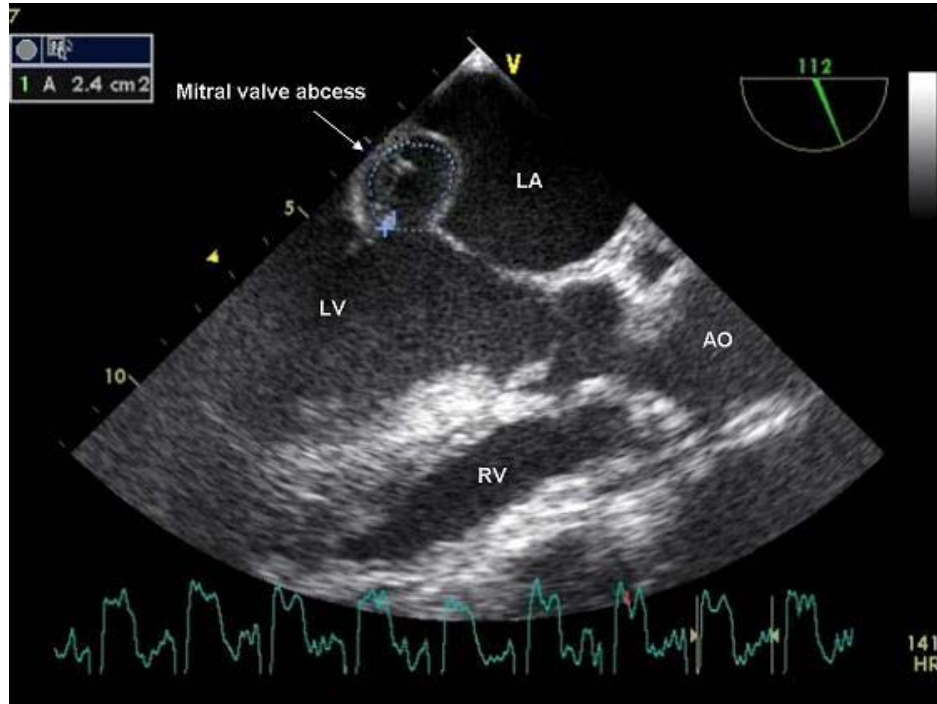


Figure 3

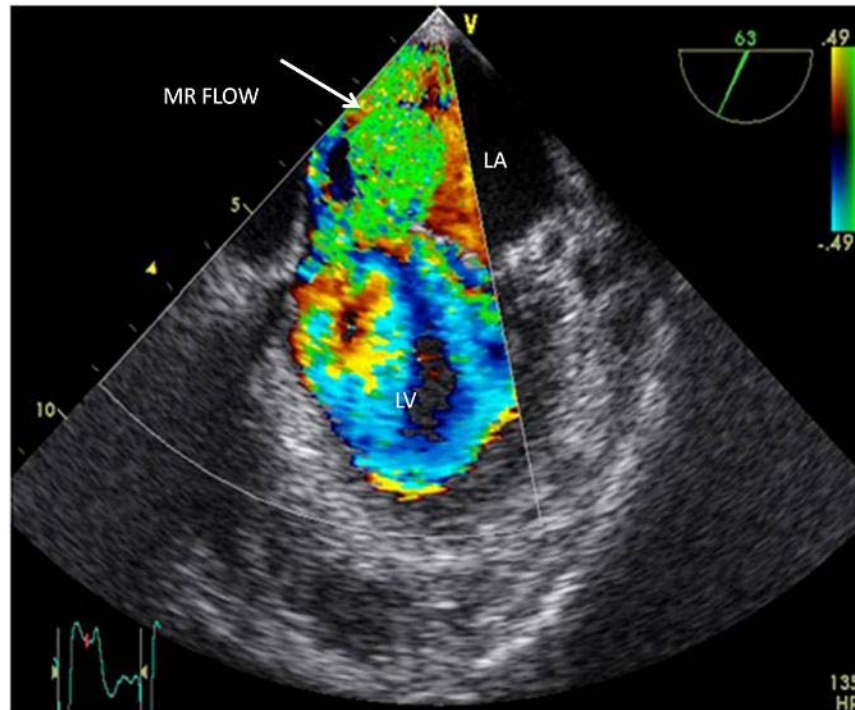


Figure 4



Figure 5

Discussion:

Infective endocarditis is a well-established cause of valvular heart disease and carries a high risk of morbidity and mortality. Because of the close anatomic relationship between the aortic and mitral valves, aortic valve endocarditis can lead to concomitant mitral valve endocarditis. The localization of the infectious process to the mitral valve can be explained by two different mechanisms. First, an aortic annular abscess can extend to the intervalvular fibrous body and then to the mitral annulus. Subsequent infection can spread to the anterior mitral leaflet, which may result in its partial/complete detachment from the annulus. In the second mechanism, the diastolic jet of

aortic regurgitation due to the primary aortic endocarditis can produce a secondary lesion on the ventricular surface of the anterior mitral leaflet, this lesion can be a vegetation, leaflet abscess, and/or leaflet perforation. This also called "kissing lesion".^(1,2) Mitral valve aneurysm is a rare complication following infective endocarditis especially aortic valve involvement. It was first described in 1972.⁽³⁾ Since then, a few cases were documented mainly at surgery or autopsy.⁽⁴⁾ It also occurs after mitral valve endocarditis or in connective tissue diseases such as Marfan syndrome, osteogenesis imperfecta, Ehlers-Danlos syndrome, pseudoxanthoma elasticum, or mitral valve prolapse.⁽⁴⁻⁷⁾ Echocardiography allows preoperative diagnosis

and identify a mobile saccular bulge arising from mitral leaflets, protruding to the left atrium during systole, and diastole by two-dimensional transthoracic

investigation, but it is best detected by transesophageal study.⁽⁶⁻⁷⁾ Differential

diagnosis includes abnormalities such as cystic atrial myxoma, cyst of the papillary muscle, cyst of the mitral valve, large vegetations, flail mitral valve or myxomatous degeneration, and severe mitral valve prolapse.⁽⁴⁻⁷⁾

Color flow mapping enhances the diagnosis of ruptured mitral valve aneurysm by demonstrating mitral regurgitation and flow through the saccular formation to the left atrium.⁽⁷⁾

Conservative mitral valve surgery for aneurysm correction is not always possible, it is related to the degree of valve destruction and to the anatomic disorder.⁽⁸⁾

In our patient, transesophageal echocardiography study enabled preoperative diagnosis and mitral valve and aortic valve replacement were performed with satisfactory results. Several days after surgery our patient

was discharged with good health from hospital.

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