

An Aortic Flap from Endocarditis

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Abstract

Endocarditis might result in a chronic damage to heart valves and adjacent cardiac structures. A healed endocarditis of the aortic valve rarely leaves a sterile abscess in the aortic root. The abscess might appear as an intimal tear on subsequent imaging studies leading to a misdiagnosis of aortic dissection in a suspicious clinical context. It is important to recognize this uncommon complication and its manifestation on different imaging modalities.

Case Report

A 68 year old male with known type 2 diabetes mellitus, hypertension and dyslipidemia presented with intermittent exertional chest pain and palpitations for 3 weeks. 2 months prior to presentation, the patient had completed a 3 week course of intravenous antibiotics for streptococcus bovis bacteremia. Transthoracic echocardiography at that time showed normal valvular structures and function with no evidence of vegetations. He became asymptomatic and repeat blood cultures were negative. Further evaluation at that time revealed a sessile colon mass, a surface biopsy of which showed villous adenoma with focal high grade dysplasia and hemicolectomy was contemplated. Upon his current presentation with chest pain, there was no ischemic ECG change but high sensitivity troponin T was consistently elevated between 60 to 75 ng/L (normal upto 14). Other than mild normocytic anemia the rest of hematological and chemistry laboratories were normal. In the presence of NSTEMI with approaching abdominal surgery, an invasive evaluation with coronary angiogram was performed. The coronary arteries did not display any significant luminal stenosis, however aortogram, suggested dilatation of sinus of Valsalva with possible flap (Aortogram Video).

Further evaluation of this pathology with transesophageal echocardiography TEE revealed a dilatation of the non-coronary aortic sinus of Valsalva with a flap appearance (Figure 1A) consisting with type A aortic dissection. Different TEE acquisitions showed no vegetations or significant valvular abnormalities, but the aortic valve looked separated from the mitral continuity with a formation of a cavity behind the non-coronary sinus (Figure 1B). A magnetic resonance imaging of the aortic

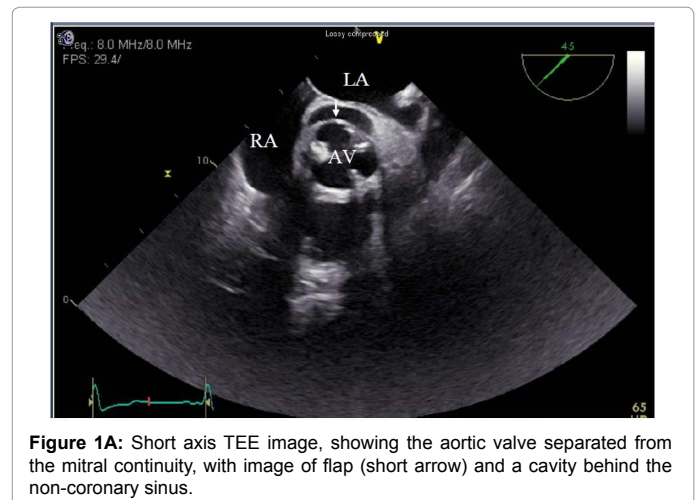


Figure 1A: Short axis TEE image, showing the aortic valve separated from the mitral continuity, with image of flap (short arrow) and a cavity behind the non-coronary sinus.

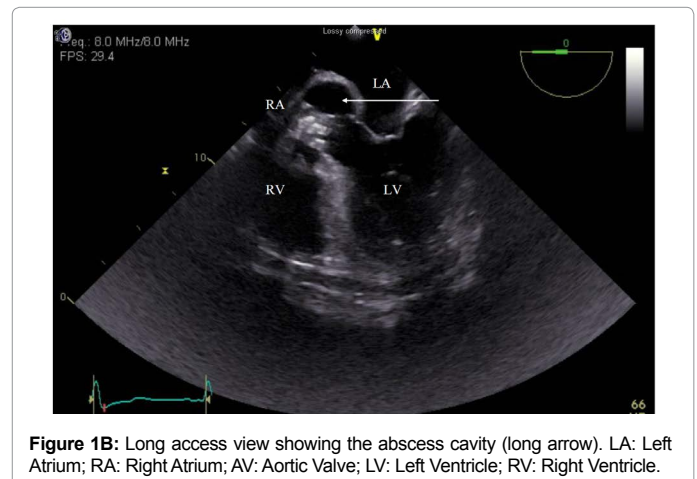
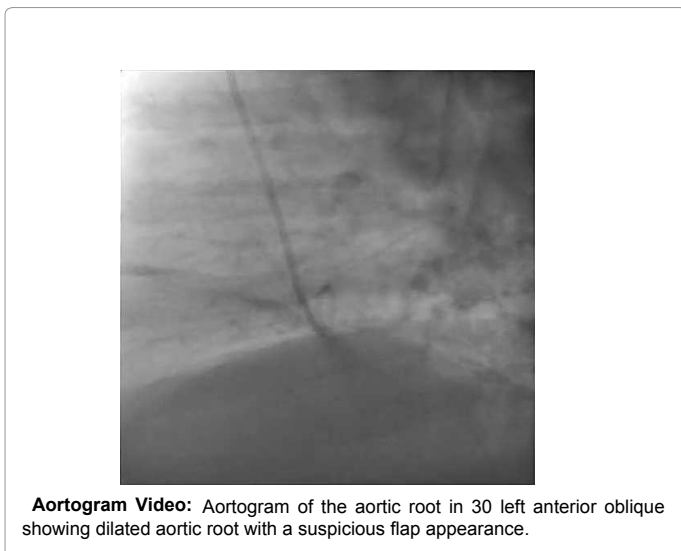


Figure 1B: Long access view showing the abscess cavity (long arrow). LA: Left Atrium; RA: Right Atrium; AV: Aortic Valve; LV: Left Ventricle; RV: Right Ventricle.



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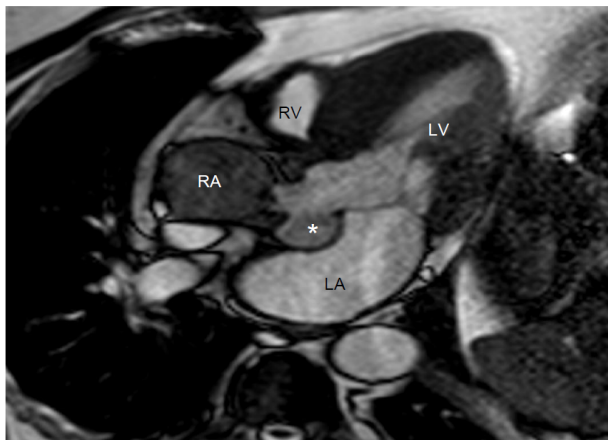


Figure 2: Axial long access, 4 chamber MRI image showing a blind abscess pocket behind the aortic valve (asterisk). LA: Left Atrium; LV: Left Ventricle; RA: Right Atrium; RV: Right Ventricle.

valve and aorta confirmed the avulsion of the annulus at the level of the non-coronary sinus forming a blind pocket (Figure 2).

A surgical exploration of the aorta showed a destruction of the aortoventricular junction with a sterile cavity extending downward to form a pocket between the aortic and mitral valves. A Bentall

procedure was performed and the aorto-mitral space cavity was closed utilizing a pericardium autograft. The resected tissue was sterile on microbiological studies.

Discussion

In this patient, the flap appearance on aortogram might have led to the diagnosis of aortic dissection, especially in the presence of aortic root dilatation suggesting a chronic aortic pathology that may predispose to dissection. However, the clinical history and the chest pain characteristics were not consistent with such a diagnosis. The history of recent bacteremia involving a typical germ raised the suspicion of an endocarditis-related complication. Aortic root abscess as a complication of endocarditis might cause an intimal tear in the aortic root and give the appearance of aortic dissection [1]. Aortogram has been considered the golden standard for diagnosing aortic dissection; however, other imaging modalities (transesophageal echocardiography, MRI and CT angiography) provide information beyond the luminogram acquired with aortography and have high sensitivity and specificity for this diagnosis [2].

References

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