

Interesting clinical image: Native valve infective endocarditis

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ABSTRACT

A case of a middle-aged male with infective endocarditis is described. Focused cardiac ultrasound images obtained in the emergency department are presented. A brief discussion of infective endocarditis and emergency ultrasound is also included.

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CASE PRESENTATION

A previously healthy 50-year-old male presented to the emergency department with worsening dyspnea. Physical exam was remarkable for mild tachypnea and a 3/6-diastolic murmur. EKG was consistent with left ventricular hypertrophy. Focused cardiac ultrasound in the emergency department demonstrated a small pleural effusion, aortic valve regurgitation, and a hyperechoic mass on the non-coronary cusp of the aortic valve.

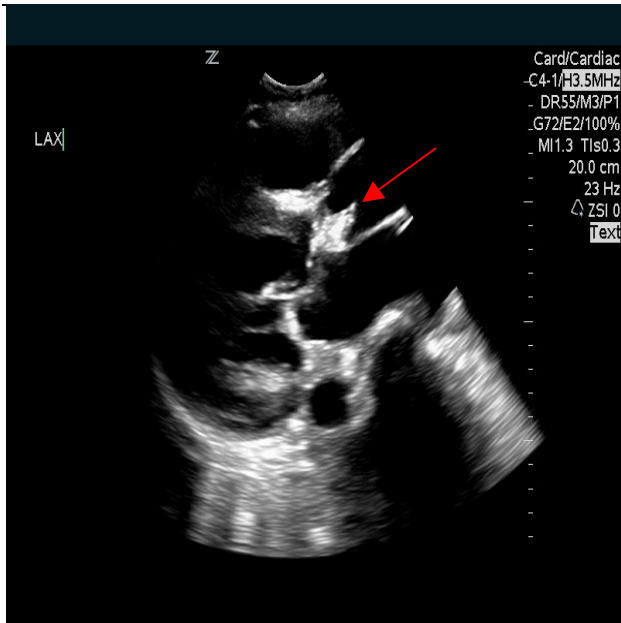


Figure 1: Parasternal long axis view of the heart. The right heart is in the near field and the left heart is in the far field. The depth of the aortic valve and the outflow tract is between 5 and 8 cm. Note the hyperechoic mass on the non-coronary cusp of the aortic valve (red arrow). The mitral valve is located at 10 cm. Note the anechoic descending thoracic aorta at 13 cm.

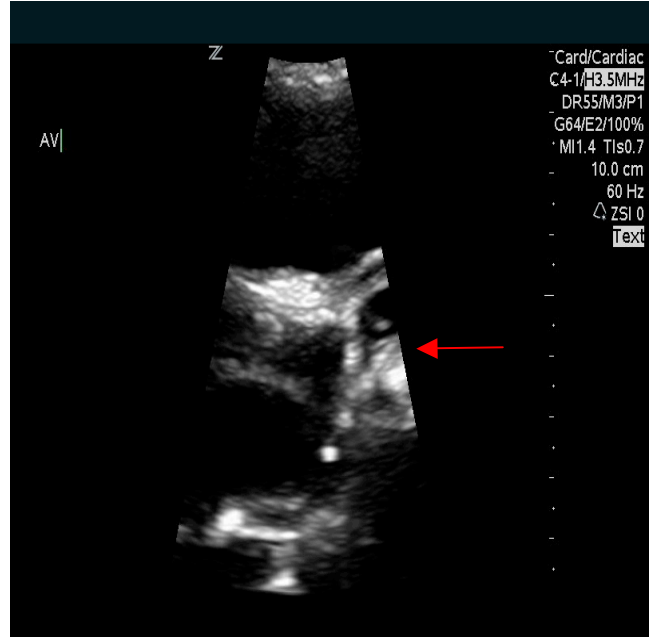


Figure 2: Parasternal long axis view of the heart with zoomed view. The depth of the aortic valve is 7 cm. The chamber located on the leading edge is the left ventricle. Note the regurgitation of the aortic valve during diastole and the hyperechoic mass located on the receding edge at the level of the aortic valve (red arrow).

The American College of Emergency Physicians and the American Society of Echocardiography have established a definitive role for focused cardiac ultrasound in the emergency department. Patients with dyspnea are evaluated for pericardial effusions, global left ventricular systolic dysfunction, and right ventricular assessment.^{1,2} Abnormal findings usually require comprehensive echocardiography. This patient underwent transthoracic and transesophageal echocardiograms which demonstrated vegetations on the aortic leaflets and the chordae tendineae.

Infective endocarditis should be suspected in patients presenting with dyspnea and additional risk factors. Typically, the Duke Criteria assist in the diagnosis. Treatment consists of broad spectrum IV antibiotics until blood culture results return. Complications include valvular dysfunction, septic embolization, mycotic aneurysms, and splenic abscesses. Surgical intervention is indicated in patients with acute heart failure secondary to valvular dysfunction and recurrent embolization or bacteremia.³

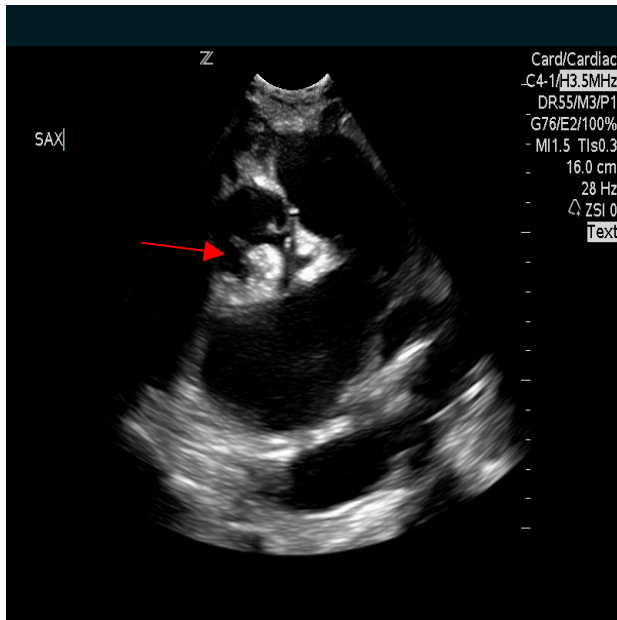


Figure 3: Mediastinal parasternal short axis view. The aortic valve is located at 5 cm on the leading edge. Note the hyperechoic density on the non-coronary cusp (red arrow).

REFERENCES

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- [3] Lester SJ, Wilansky S. Endocarditis and associated complications. *Crit Care Med*; 35[Suppl.]: S384-S391.