

Bedside Point of Care Ultrasound Diagnosing Bilateral Valve Involvement in Infective Endocarditis

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Abstract

Endocarditis is a well known complication of intravenous drug abuse which classically affects the tricuspid valve. It is usually diagnosed by formal echocardiogram and positive blood cultures. Vegetations involving both the mitral and tricuspid valves are rare, occurring in less than 5% of all cases of infective endocarditis.¹ Here we report a case of a patient with vegetations on both valves which was discovered by point of care ultrasound.

Case Description

This is a case of a 27 year old female presenting to the emergency department with an initial complaint of not feeling well. The patient reports a previous history of intravenous drug use (IVDU). On examination she was found to be severely cachectic with a petechial rash and persistently tachycardia without fever. Due to the persistent tachycardia and prior history of IVDU a point of care ultrasound was performed which demonstrated a large mobile vegetation on the mitral valve as well as a smaller vegetation on the tricuspid (Figure 1). The patient was admitted to the ICU and treated empirically for endocarditis. The vegetations were then confirmed by formal echocardiogram as an inpatient.

Figure 1

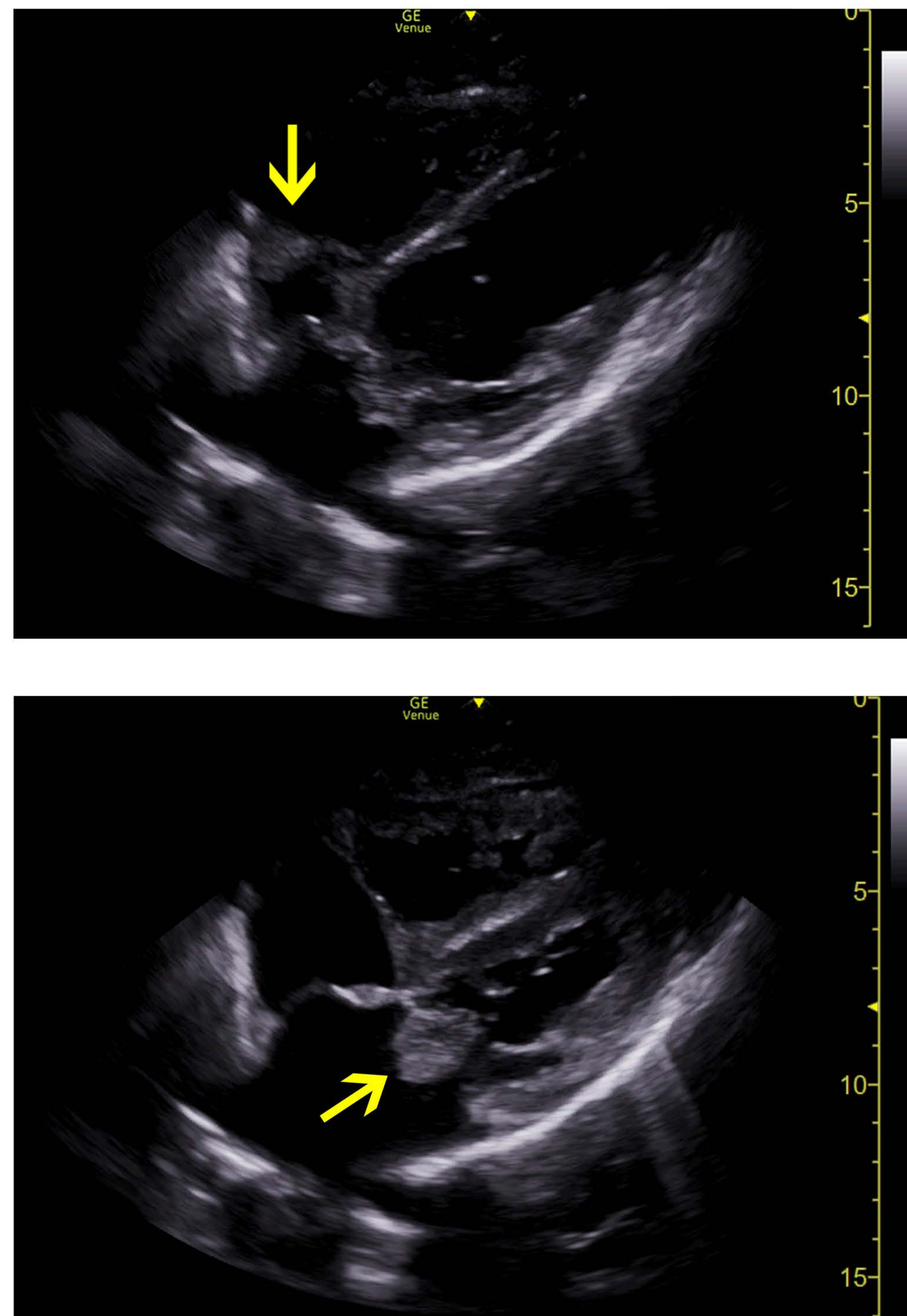


Figure 1: Point of care ultrasound showing vegetations on the tricuspid valve (left) and mitral valve (right).

Discussion

The rates of endocarditis have been rising in the United States.² Though classically IVDU has been associated with vegetations occurring on the tricuspid valve the incidence of left versus right sided involvement in IVDU varies between region and study. While transthoracic ultrasound (TTE) is not as specific or sensitive as transesophageal it is a Level A recommendation by the AHA to obtain a TTE first in all suspected cases of infective endocarditis.³ Formal echocardiograms are not routinely obtained in the emergency department. Point of care ultrasound is a quick bedside procedure that can expedite appropriate treatment if a thrombus is visualized.

Conclusion

Incidence and location of infective endocarditis associated with IVDU changes with population and region. However involvement of both tricuspid and mitral valves remains relatively rare. The identification of both on vegetations on a point of care ultrasound further supports its routine use in the emergency department for suspected cases of endocarditis.

References

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