Cardiology Lett. 2026;35(1):33–34
doi:10.4149/Cardiol_2026_1_4

Trivalvular infective endocarditis: A rare presentation in an intravenous drug user

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Keywords: Infective endocarditis; Transesophageal echocardiography; Tricuspid valve; Pulmonary valve; Mitral valve

Image

A man in his 40s presented with fever and dyspnea. His background included intravenous heroin use, alcohol use disorder, human immunodeficiency virus and hepatitis C virus infection diagnosed in 2003, and tuberculosis in 2016, with erratic adherence to therapy in recent years. On admission he was tachypneic and febrile (39.2°C), hypotensive (80/45 mmHg) and markedly tachycardic (175 beats/min), with a holosystolic murmur and basal crackles.

Blood tests showed mild anemia with markedly elevated C-reactive protein, brain natriuretic peptides, and troponin I. Total leukocyte and lymphocyte counts were within the normal range, but CD4+ lymphocytes were markedly reduced (164 cells/mm^3). The electrocardiogram demonstrated sinus tachycardia without ischemic changes.

Chest radiography revealed diffuse Kerley B lines and cavitary lesions. Computed tomography showed hepatosplenomegaly with multiple ischemic/necrotic foci involving the liver, kidneys, lungs, and spleen, consistent with systemic embolic/septic phenomena. Acid-fast ba-

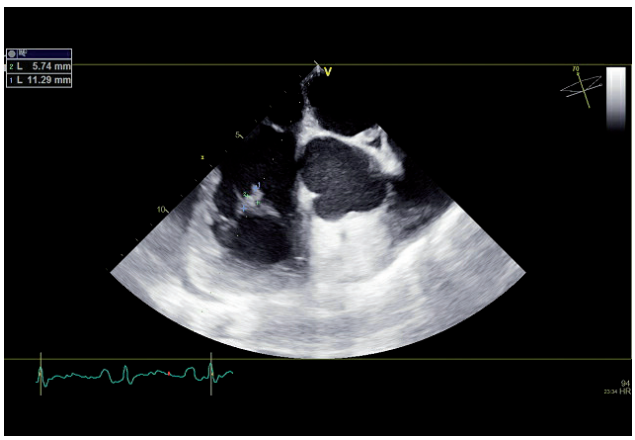

Figure 1

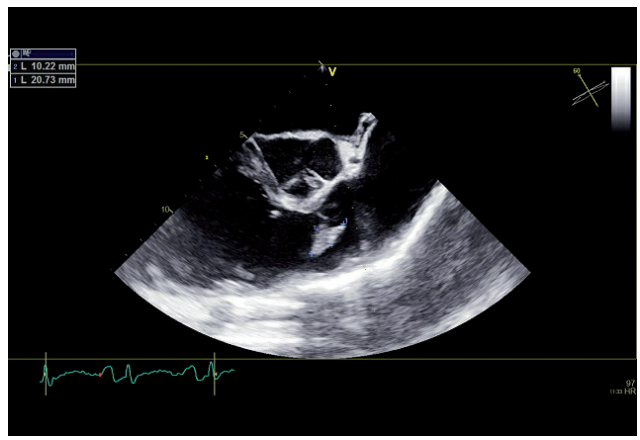

Figure 2

Manuscript received 7 February 2026; accepted for publication 24 February 2026

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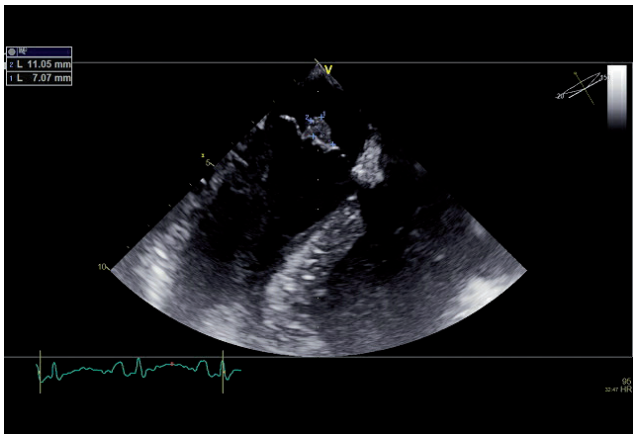

Figure 3

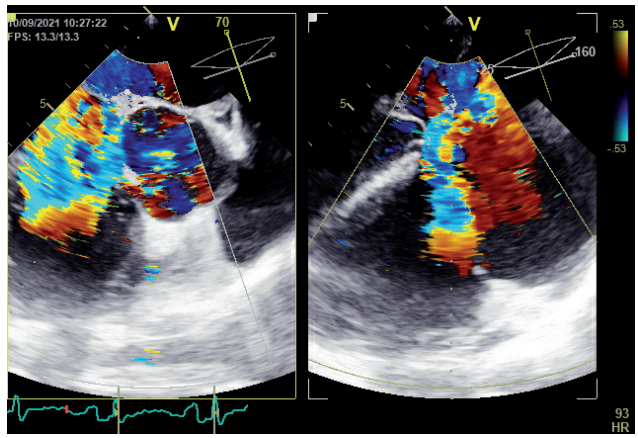

Figure 5

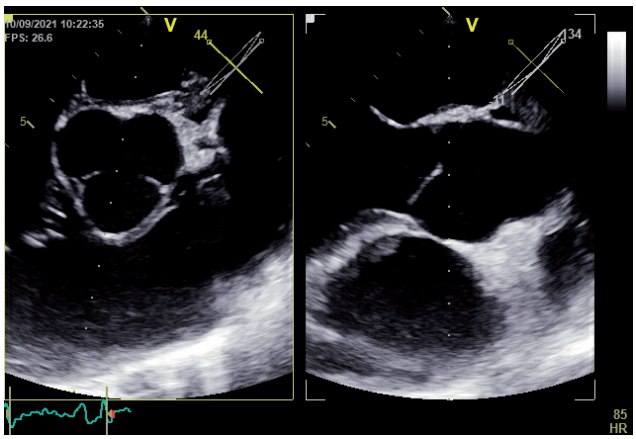

Figure 4

cilli smear and culture were negative; immunoglobulin gamma assay and nucleic acid amplification testing were also negative.

Transthoracic and transesophageal echocardiography demonstrated mobile vegetations on three native valves: Tricuspid valve: 6×11mm, with severe tricuspid regurgitation due to anterior leaflet perforation (**figure 1 and 5**); Pulmonary valve: 10× 21mm (posterior leaflet), with moderate to severe regurgitation (**figure 2**); Mitral valve: 11×7 mm (anterior leaflet), with moderate regurgitation (**figure 3**); Biventricular systolic function was preserved. No aortic valve involvement was identified (**figure 4**) in the acquired views.

Blood cultures grew MSSA, and targeted therapy with flucloxacillin was started. Despite counselling, the patient refused cardiac surgery and was discharged against medical advice. He died two months after discharge.

Conflict of interest: None.

Funding: None.