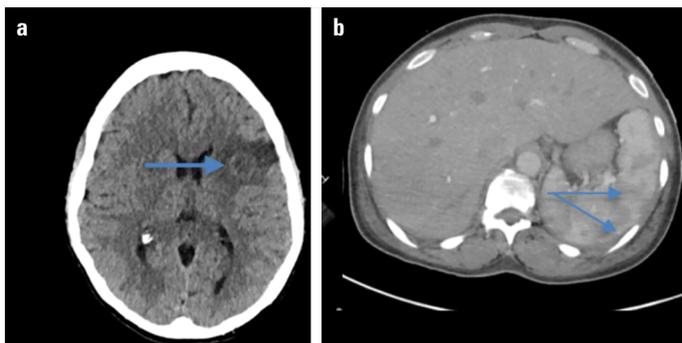


## Left-sided heart valve endocarditis in an intravenous drug user: Odd presentations and aggressive vegetations

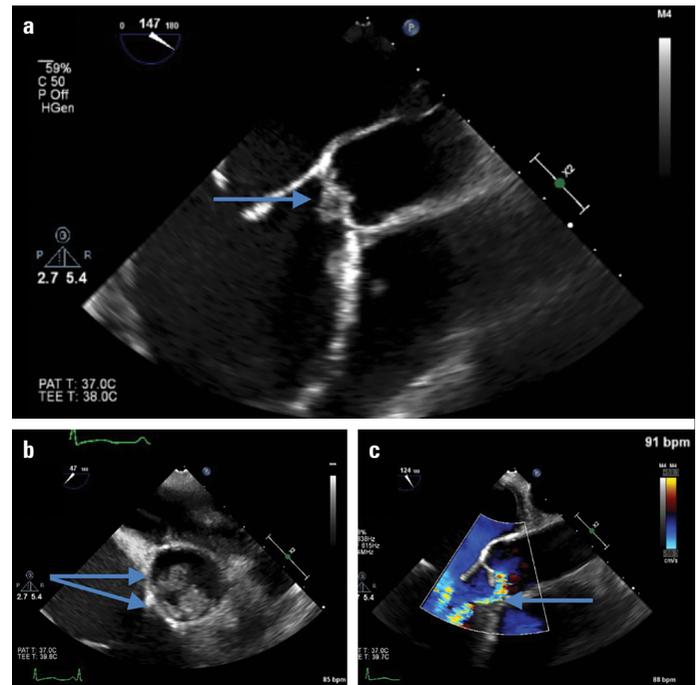
A 40-year-old female with known intravenous drug use (IVDU) was admitted with right-sided weakness, aphasia, and a body temperature of 38.4°C. A brain computed tomography (CT) scan revealed cerebral infarction with embedded ring enhancement, which was consistent with septic emboli (Fig. 1: panel A). Owing to the history of IVDU and fever, a transthoracic echocardiogram (TTE) was obtained. It revealed a vegetation on the aortic valve, suggestive of infective endocarditis (IE) with severe eccentric aortic regurgitation (AR). Thrombolysis was withheld owing to the risk of hemorrhagic transformation, and intravenous antibiotic therapy was commenced.

Results of blood cultures obtained at admission revealed the presence of methicillin-sensitive *Staphylococcus aureus* bacteremia, although with no obvious underlying immunosuppression was noted. Two days after admission, she developed acute pulmonary edema and was transferred to the cardiothoracic center for an emergency aortic valve replacement. An intra-operative transesophageal echocardiogram confirmed the presence of a vegetation (Fig. 2: panel A); large vegetations were observed on the right and non-coronary cusps of the aortic valve with associated leaflet destruction (Fig. 2: panel B) along with severe eccentric AR (Fig. 2: panel C). Post-operative TTE showed a well-seated tissue aortic valve replacement (tAVR) with minimal AR and some mild tricuspid regurgitation (TR), which were both stable on a TTE obtained during surveillance later.

Four months after discharge, she presented with fever, abdominal pain, and ongoing IVDU. A new systolic murmur was identified, and a CT of the abdomen revealed multiple splenic infarcts (Fig. 1: panel B). Although no vegetations were observed on TTE, new severe TR was observed, with the tAVR still intact.



**Figure 1.** Computed tomography at an axial plane illustrates systemic emboli in the brain (panel A) and spleen (panel B)



**Figure 2.** Intra-operative transesophageal images of native aortic valve vegetations (long axis view, panel A; short axis view, panel B) and eccentric regurgitation (panel C)

Recurrent IE was presumed. She developed severe sepsis and died within 24 hours.

Learning points: Left-sided IE is as common as right-sided IE in individuals with IVDU and should be considered in those presenting with systemic embolization (1). Thrombolysis should be avoided in conditions of stroke occurring due to septic emboli owing to a high risk of hemorrhagic transformation (2).

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