A New Murmur in a Patient with Intracranial Hemorrhage: Enterococcus faecalis Mitral and Aortic Valve Endocarditis

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Background

- Enterococcal infective endocarditis (IE) is the third leading cause of infective endocarditis with a higher risk of infection in older populations (>70 years), with multiple comorbidities.
- IE with multivalvular vegetations carries a substantial risk of systemic embolization. While cerebral embolic events are common, coronary emboli resulting in myocardial infarction remain a rare and life-threatening complication.

Case Presentation

- A 70 year old female with ESRD on hemodialysis, and multiple comorbidities presented after a fall with a left caudate intracranial hemorrhage following months of progressive generalized weakness and fatigue
- On hospital day 3 systolic murmur → TTE showed a mobile aortic valve echodensity.
- TEE revealed vegetations on the left cusp of the aortic valve (2cm x 1.2 cm) and mitral valve (0.7 cm x 0.5 cm)
- Blood cultures grew *Enterococcus faecalis*.
- She was treated with IV ampicillin and ceftriaxone after initial daptomycin therapy. Her HD tunneled catheter was removed for source control.
- Preoperative cardiac catheterization showed 60% RCA lesion.
- Shortly thereafter, she had an acute anterolateral ST-segment myocardial infarction presumed to be due to septic coronary embolization and underwent emergent LAD thrombectomy and balloon angioplasty without stent placement.
- Her mental status progressively declined, delaying surgical intervention.
- Worsening valvular insufficiency led to multiorgan failure, precluding surgical candidacy.
- The patient's family elected to pursue comfort care, and the patient eventually passed away.

Key takeaways

- Multivalvular Enterococcus Faecalis can cause concurrent concurrent intracranial hemorrhage and septic coronary emboli leading to STEMI
- Acute STEMI in IE should raise concern for septic coronary embolization, especially in the absence of obstructive coronary disease
- Neurologic complications such as intra cranial hemorrhage may delay surgical mangement, thus significantly impact prognosis despite early intervention and initiation of appropriate antibiotic therapy

Conclusions

- This case showcases the detrimental embolic potential of multivalvular IE and the diagnostic challenges posed by non-specific presenting symptoms in medically complex patients.
- *Enterococcus faecalis* IE with multivalvular disease may present in an insidious manner with progression to severe embolic complications. Septic coronary embolism is a rare manifestation associated with significant clinical deterioration.
- Early recognition of IE especially in high-risk populations, and prompt multi-disciplinary management is important to reduce morbidity and mortality associated with advanced embolic disease.

Images

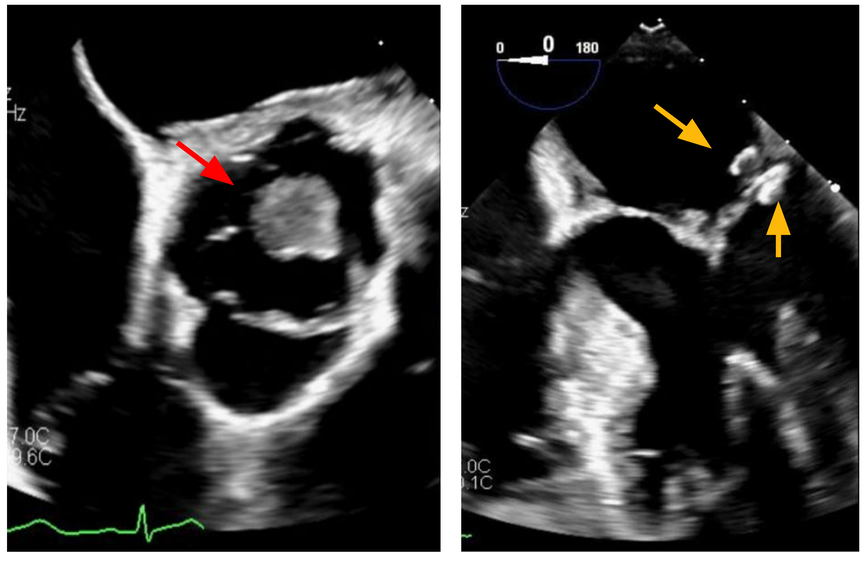

Figure 1: Transesophageal Echocardiogram images demonstrating multivalvular infective endocarditis

Figure 1A (Left): Large mobile vegetation on the left cusp of the aortic valve, measuring 2cm x 1.2 cm (red arrow)
Figure 1B (Right): Small mobile vegetation on the posterior annulus of the mitral valve, measuring 0.7 cm x 0.5 cm (yellow arrows)