A Rare Case of Enterococcus Faecalis Causing MitraClip Vegetation

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Introduction

- MitraClip procedure is a minimally invasive procedure that involves an edge-to-edge approximation of the MitraClip device with the regurgitant mitral valve, thereby resulting in better coaptation of the mitral leaflets and symptomatic improvement
- Here we present a rare case of MitraClip-associated infective endocarditis

Case Presentation

- The patient was an 80-year-old male with a past medical history significant for lung nodule, emphysema, alpha 1 antitrypsin deficiency, chronic obstructive pulmonary disease, pulmonary fibrosis, bronchiectasis, hyperlipidemia, coronary artery disease, mitral valve regurgitation s/p MitraClip placement, paroxysmal atrial fibrillation.
- He presented to the hospital with the complaint of cough, shortness of breath, and right lower quadrant tenderness. On evaluation, he was febrile and tachycardic.
- Labs showed an elevated lactic acid of 2.4 and leukocytosis of 12.9. Chest X-ray showed volume overload.
- CT chest showed a 1.5cm lung nodule and emphysematous changes
- EKG showed sinus tachycardia with PVCs
- Blood cultures were obtained and the patient was empirically started on Ceftriaxone and azithromycin. A sepsis bolus of fluids was given and the patient was admitted to telemetry.

Discussion

- Post admission the patient went into atrial fibrillation with a rapid ventricular rate. Blood cultures grew Enterococcus faecalis, and he was switched to IV Vancomycin.
- Cardiology attributed the tachycardia to the ongoing sepsis and a Diltiazem drip was started. Beta-blockers were deferred in view of severe lung disease. Rate control was suboptimal and the patient was started on Digoxin.
- Transthoracic echo was done and could not exclude MitraClip vegetation
- In view of persistent bacteremia, a transesophageal echo was done and showed a small independently mobile echo density on the mitral valve, suggestive of mitral valve endocarditis in the presence of a MitraClip-figures 1 & 2
- The patient was recommended to continue a total of six weeks of antibiotic therapy from the date of negative cultures with Ampicillin and Ceftriaxone and was discharged

Fig 1. There is a small abnormal echo density on the anterior mitral leaflet with independent oscillatory motion measuring 0.2x 0.8cms suggestive of a vegetation seen in Fig 1 (green arrow) and Fig 2 (red arrow).

Fig 2.

Conclusion

- While infective endocarditis is a commonly encountered condition, MitraClip infective endocarditis is extremely rare. There have only been 17 documented cases as per an ESC article by Leow et al. published in 2020 (1).
- Out of these, only two known cases of E. faecalis causing MitraClip endocarditis are known as published by Weiss et. al in 2017 (2). Other causative organisms are Staph aureus (most common) and Pseudomonas. In most of the published cases the prognosis has been poor, either in the form of conversion to surgical repair of the mitral valve, persistent symptoms, or death (1).
- Early diagnosis and appropriate antibiotic treatment are imperative in improving outcomes. TEE is the diagnostic modality of choice.
- Increased awareness is needed regarding this near catastrophic complication of the MitraClip procedure, especially as it gains increased popularity as a treatment modality for high-risk patients with mitral regurgitation.

References