

Double the Trouble: a case of Mitral Valve Perforation in Native Valve Infective Endocarditis

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Clinical Presentation

- 28M known BAV who presented for routine TTE.
- On history and physical examination:
 - ✓ Endorsed a 3-week history of night sweats.
 - ✓ No recent invasive or dental procedures.
 - ✓ No stigmata of infective endocarditis
- Blood cultures positive for *S. hominis* and *S. epidermidis* for 3-days until sterilization.
- Underwent mechanical AVR + MVR with reconstruction of the mitral-aortic curtain.

Cardiac CT



Figure 4 (Cardiac CT): 12 mm x 5.5 mm x 9 mm pseudoaneurysm from the mitral-aortic intervalvular fibrosa (arrow).

TTE and TEE findings

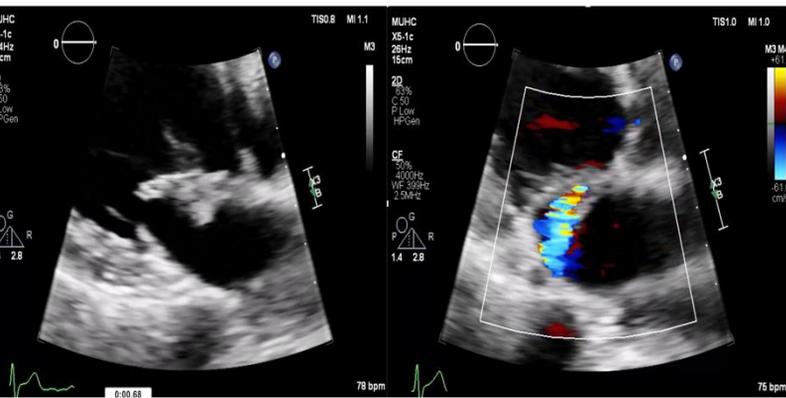


Figure 1 (TTE): Windsock deformity in the base of the AML with eccentric posteriorly-directed MR.

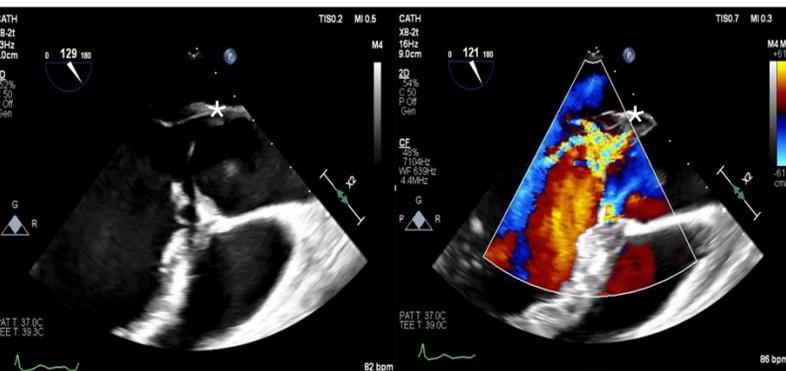


Figure 2 (TEE): mobile echodensity on the RCC with two eccentric AR jets. Thickening of the mitral-aortic junction (*).

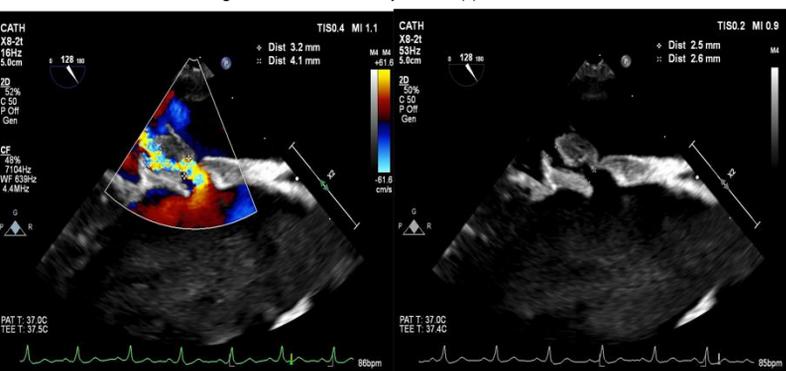


Figure 3 (TEE): mitral valve aneurysm with perforation. "Jet lesion" originating from the AR jet, directed towards the AML.

Surgical Findings



Figure 5: Intraoperative image of aortomitral curtain reconstruction with bovine pericardial patch (commando procedure). The AML was found to have a jet lesion perforation with associated vegetation.

Discussion Points

- Mitral valve aneurysms (MVA) remain uncommon entities (<0.3% incidence)¹; usually associated with aortic valve endocarditis.
- Proposed mechanism includes weakening of the AML due to regurgitant AR jet ("jet lesion")².
- Most common cause includes NVIE, however has also been described in connective tissue disorders, myxomatous valves, and non-bacterial endocarditis.
- MV repair is preferred when feasible with good surgical results.
- TEE is crucial for pre-operative planning and assessment of perivalvular complications.

References: 1 - Vilacosta I, San Román JA, Sarría C, Iturralde E, Graupner C, Batlle E: Clinical, anatomic, and echocardiographic characteristics of aneurysms of the mitral valve. *Am J Cardiol.* 1999, 84:110-3.

2 - Gonzalez-Lavin L, Lise M, Ross D: The importance of the 'jet lesion' in bacterial endocarditis involving the left heart. *Surgical considerations.* *J Thorac Cardiovasc Surg.* 1970, 59:185-92.