

# 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.

## TTE and TEE findings

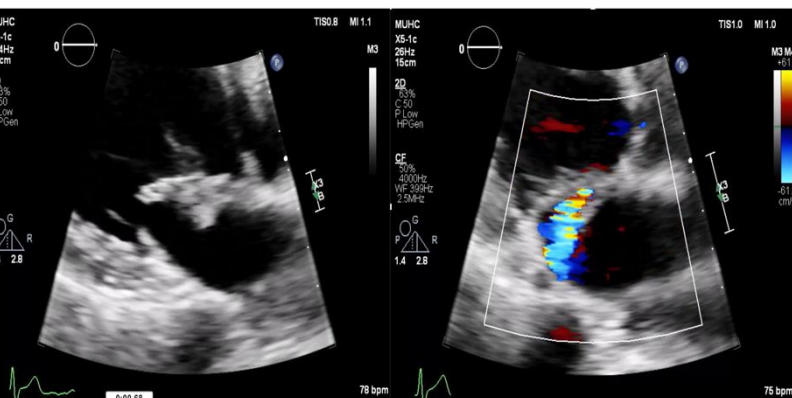


Figure 1 (TTE): Windsock deformity in the base of the AML with eccentric posteriorly-directed MR.

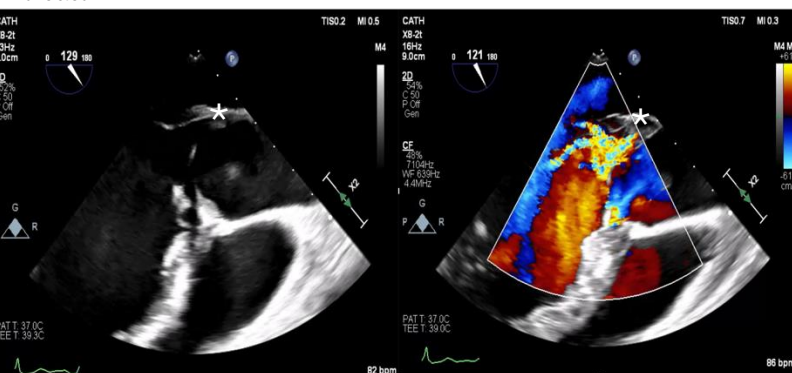


Figure 2 (TEE): mobile echodensity on the RCC with two eccentric AR jets. Thickening of the mitral-aortic junction (\*).



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

## Cardiac CT



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

## 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 valves aneurysms (MVAs) remain uncommon entities (<0.3% incidence)<sup>1</sup>; usually associated with aortic valve endocarditis.
- Proposed mechanism includes weakening of the AML due to regurgitant AR jet ("jet lesion")<sup>2</sup>.
- 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:** <sup>1</sup> - Vilacosta I, San Román JA, Sarriá 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.

<sup>2</sup> - 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.