Tricky bioprosthetic aortic valve regurgitation

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Disclosures

- Speaker's bureau, Edwards Lifesciences

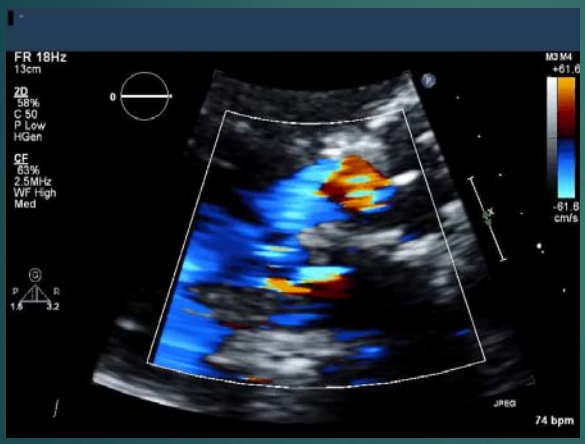
Challenges of bioprosthetic AR assessment

- Acoustic shadowing from bioprosthesis
- Eccentricity of jet

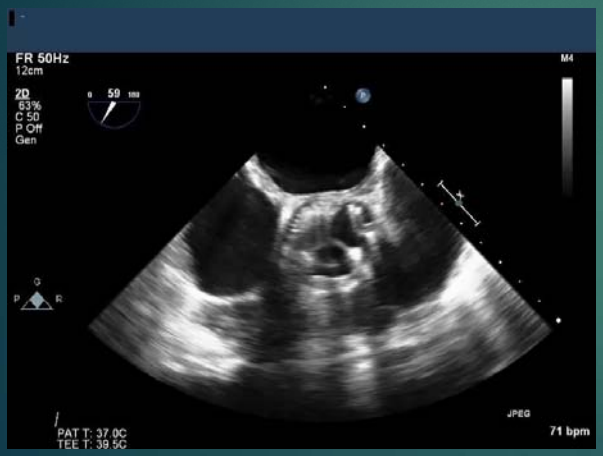
Case 1

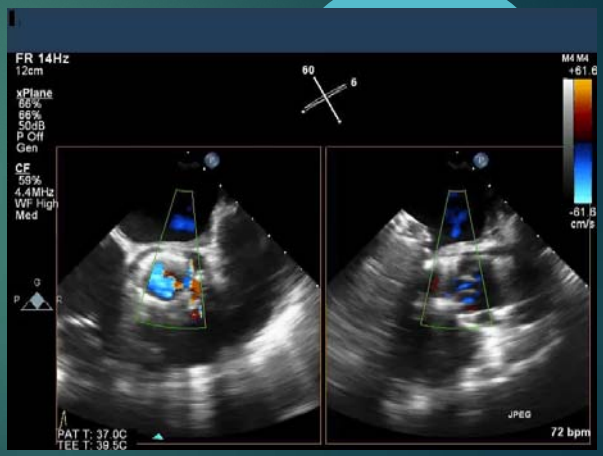
- 72 y/o female with HTN, HLD, AF, COPD, CKD stage III, s/p tissue AVR 2010, with mechanical MVR in 3/2016 (MS) and re-do AVR (Perceval small sutureless valve), MV revision 2016 for bioprosthetic AS/PPM, mechanical MR from tissue interaction
- Surgery was complicated by multiple intrachest injury due to adhesions from prior surgeries
- Discharged ~ 16 days later
- Presents 2 months after latest surgery with significant aortic regurgitation and renewed symptoms

Paravalvular or central?

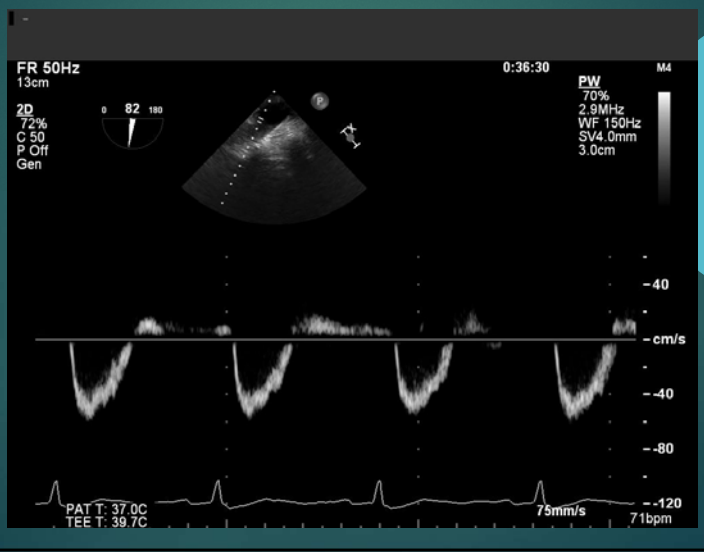


Paravalvular or central?





Diastolic Flow Reversal - Abdomen



Audience Question

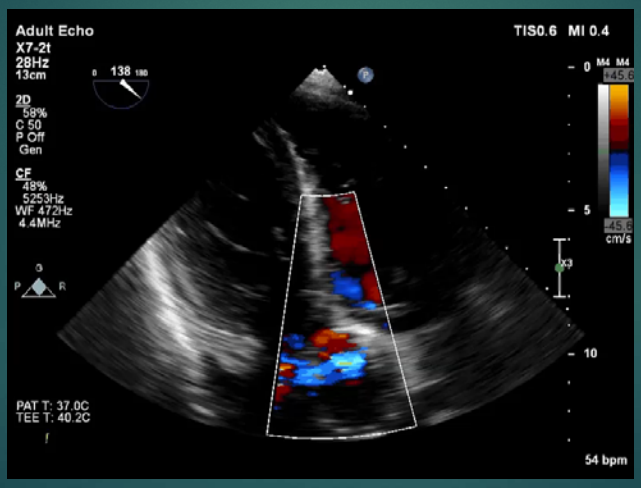
- Is this paravalvular or central aortic regurgitation?

  A. Paravalvular

  B. Central

Patient brought to cath lab for VinV TAVR

Intraprocedural study



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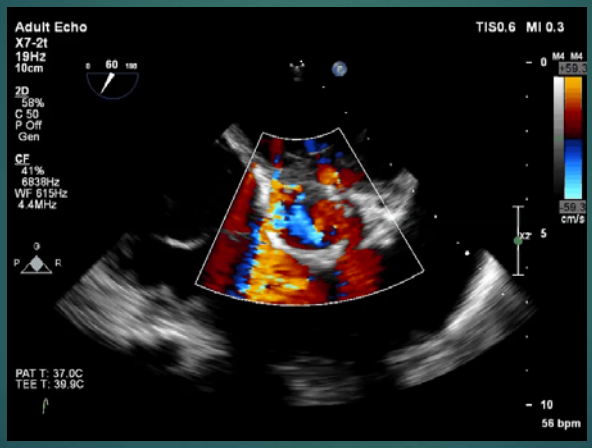
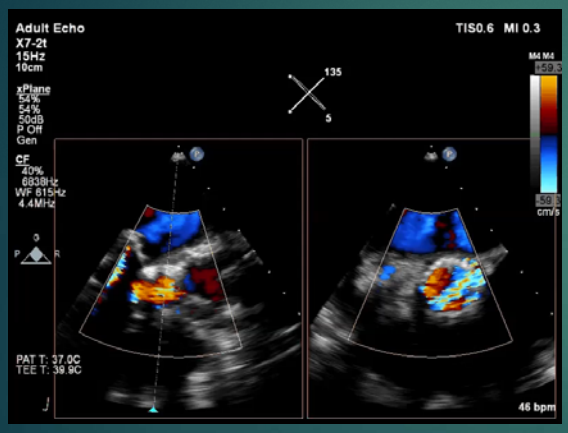
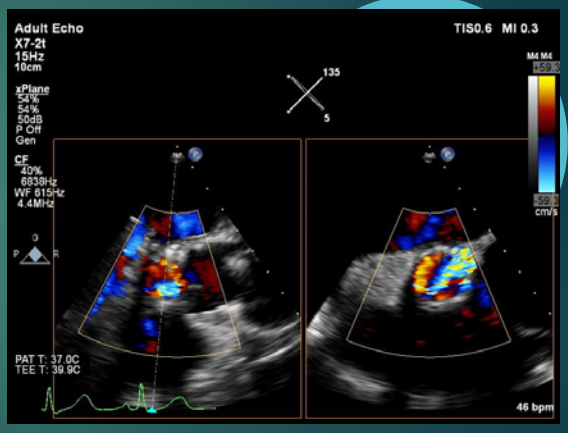
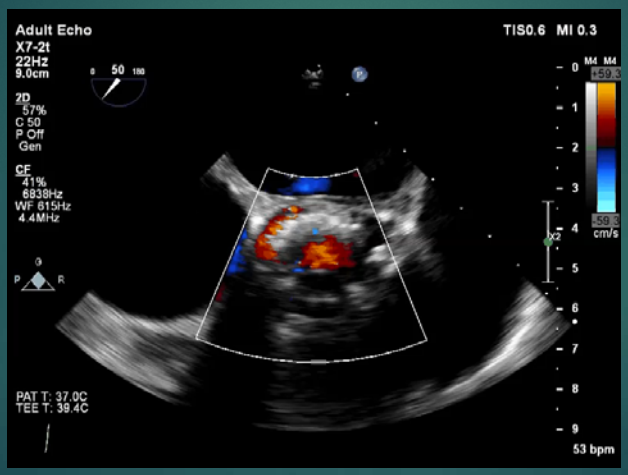


PVL - swirling





Trace central AR

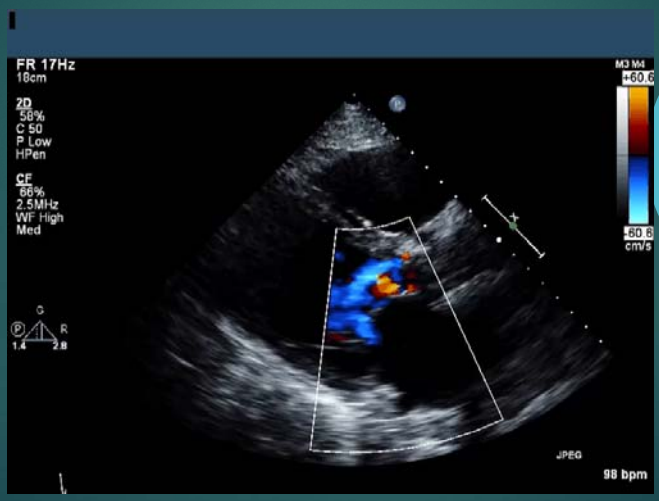


PVL closure performed

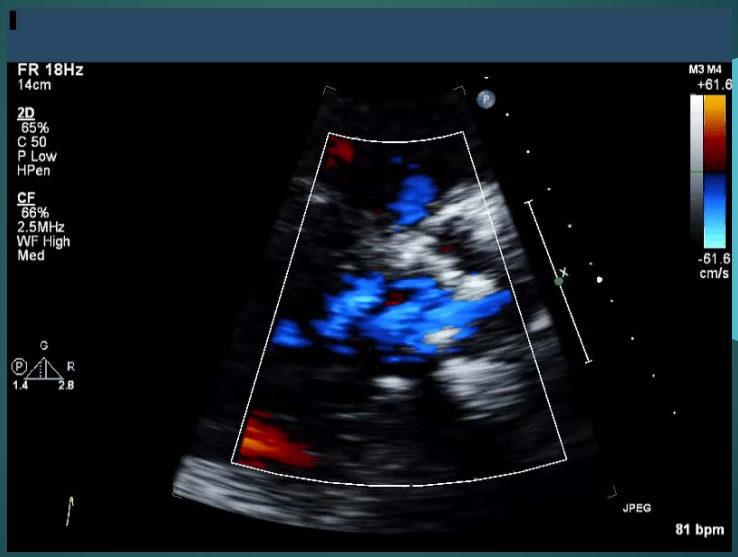
Case 2

- 84 y/o male with history of ischemic CM, AF, severe AS s/p bioprosthetic valve, with progressive symptoms of CHF and significant AR on TTE

PVL or central?



PVL or central?



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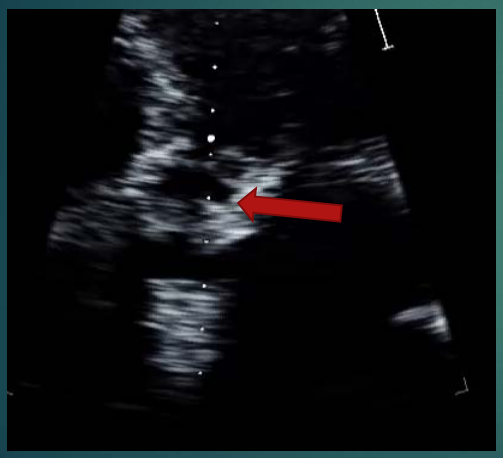
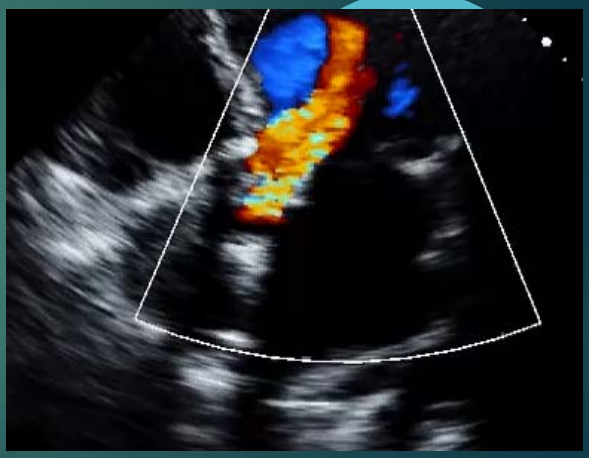
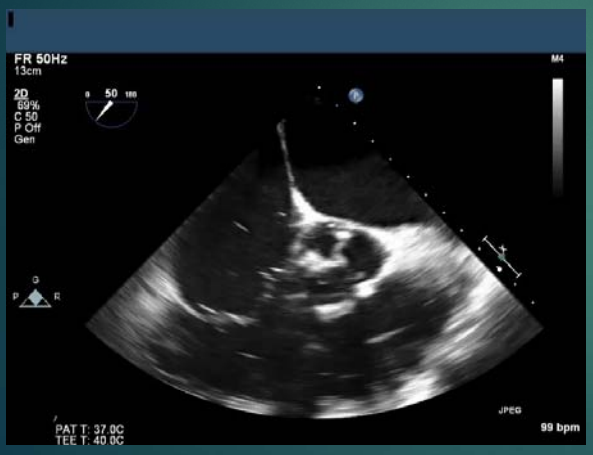
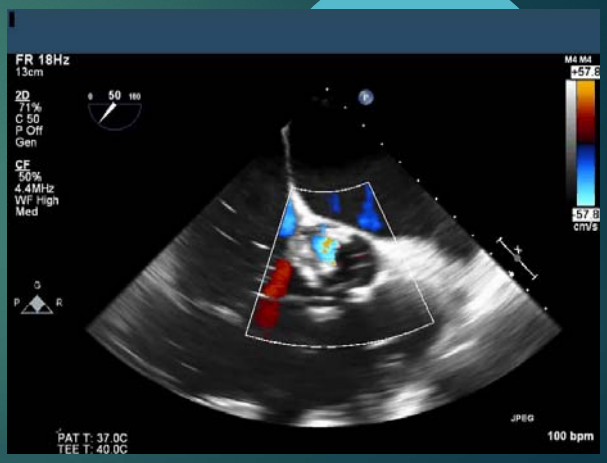


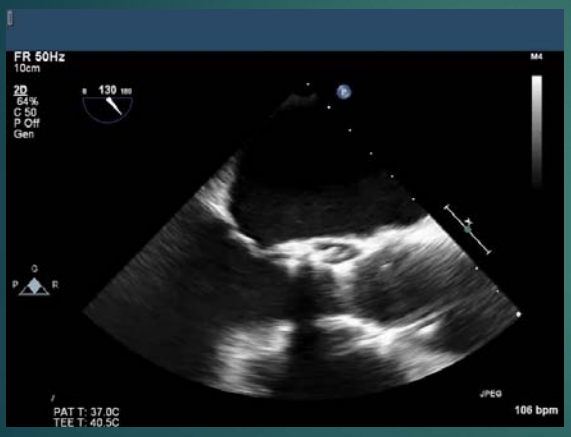


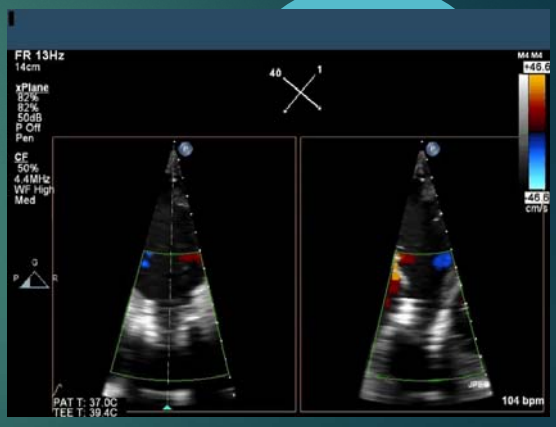
Intraprocedural TEE





Post VinV TAVR





Tips

- General perceived location of jet origin not adequate to differentiate central vs PVL
- MUST clearly see origin of jet(s)
- View from multiple angles of TTE and TEE

- multiple levels of mid-esophageal to see different aspects of bioprosthetic frame and leaflets

- Deep transgastric or TTE 3 or 5 chamber can be very helpful to see PVL origin and degenerative leaflets/central AR origin

Thank you