TAVR in Severe Aortic Regurgitation Secondary to Acquired Aortico-Left Ventricular Fistula

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Nature of Financial Relationship	Ineligible Company
Grant/Research Support	Edwards Lifesciences
Consultant Fees/Honoraria	Abbott

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All Relevant Financial Relationships have been mitigated.
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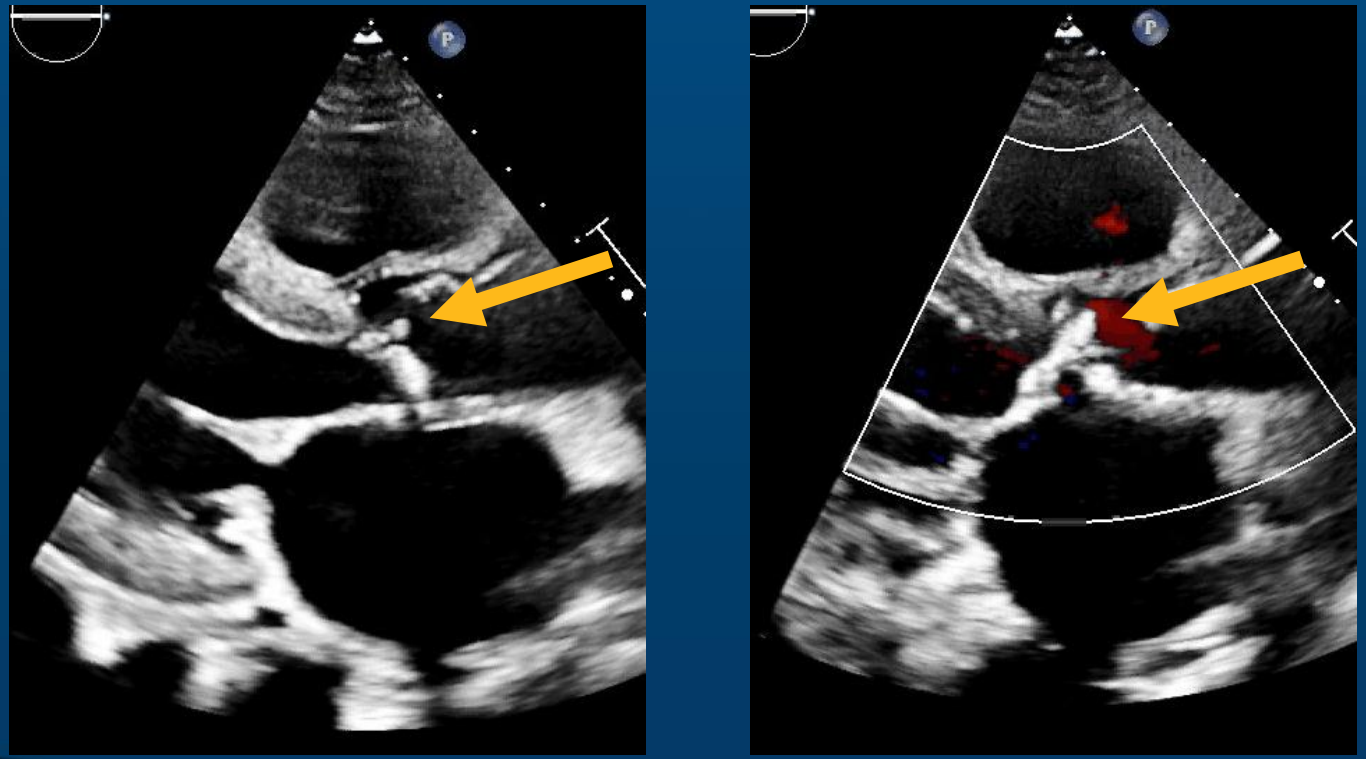
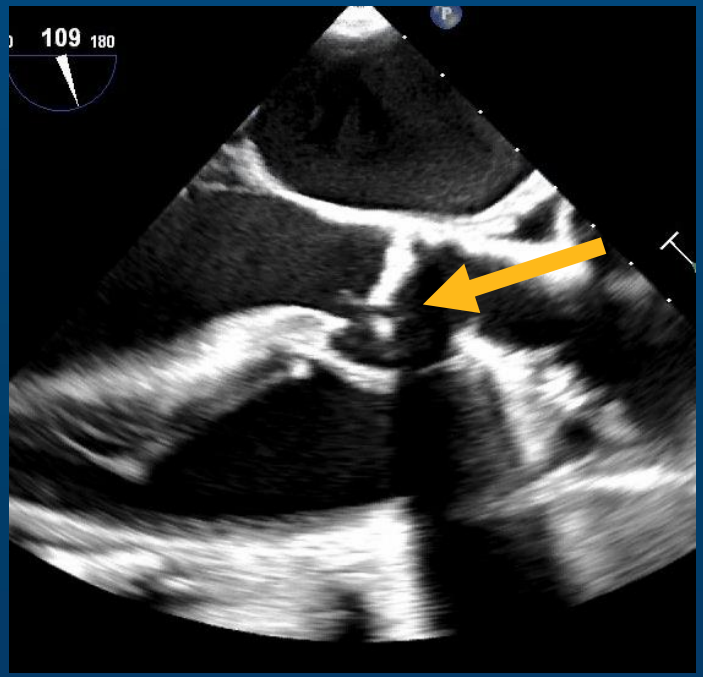
Case Presentation

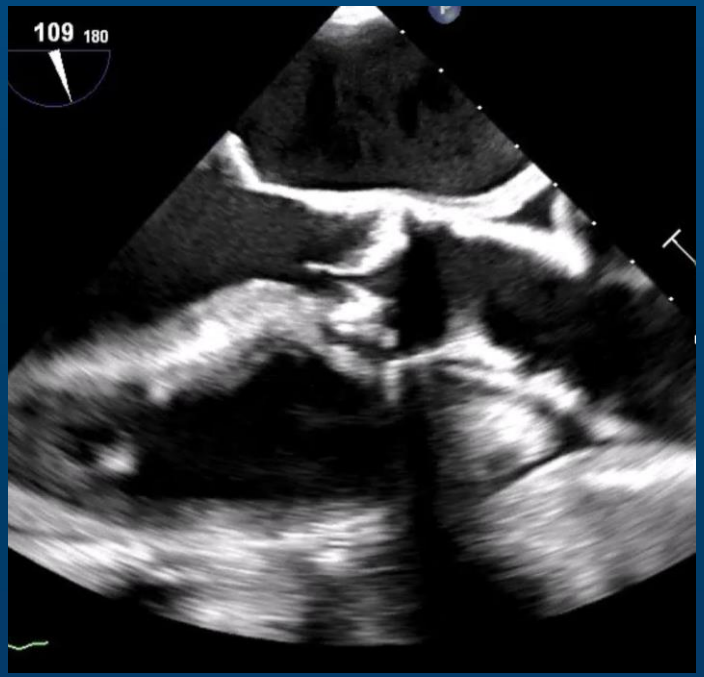
- 85-year-old man was transferred from another hospital after multiple hospitalizations with heart failure over 5 months.
- Patient is frail. He was completely independent 6 months prior.
- Previous Echocardiogram showed Moderate Aortic Stenosis and Moderate Aortic Regurgitation.

Transthoracic Echocardiogram

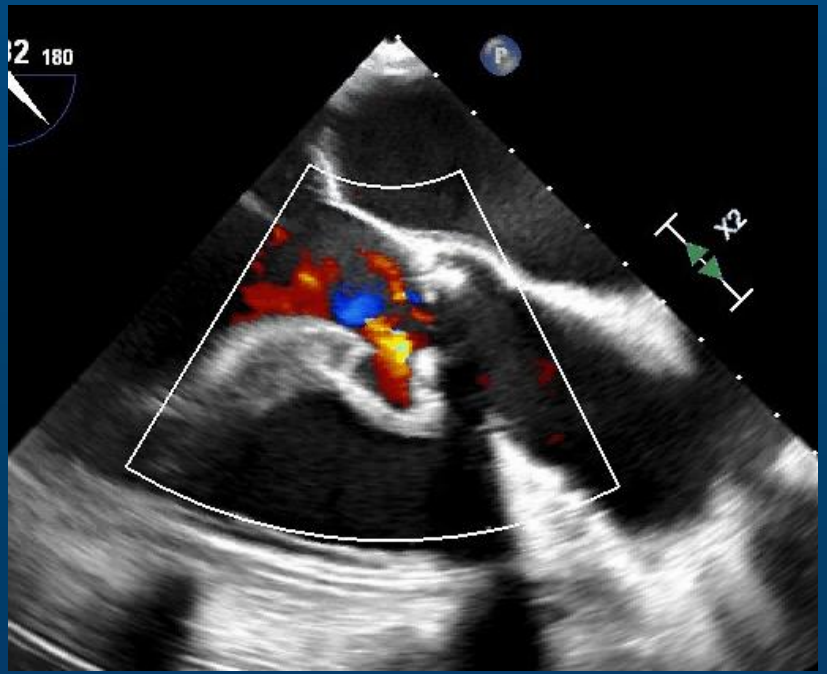


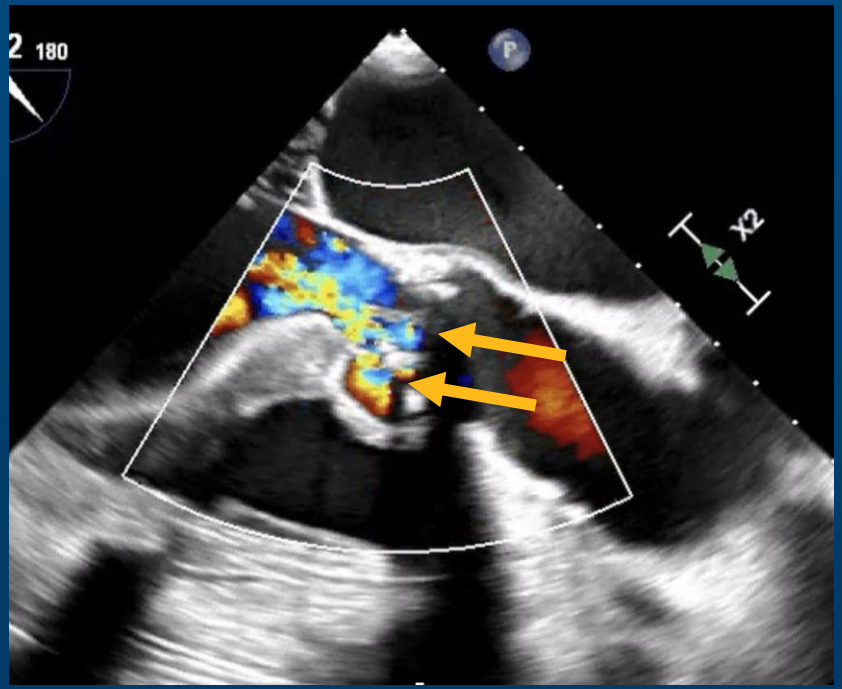
Transesophageal Echocardiogram



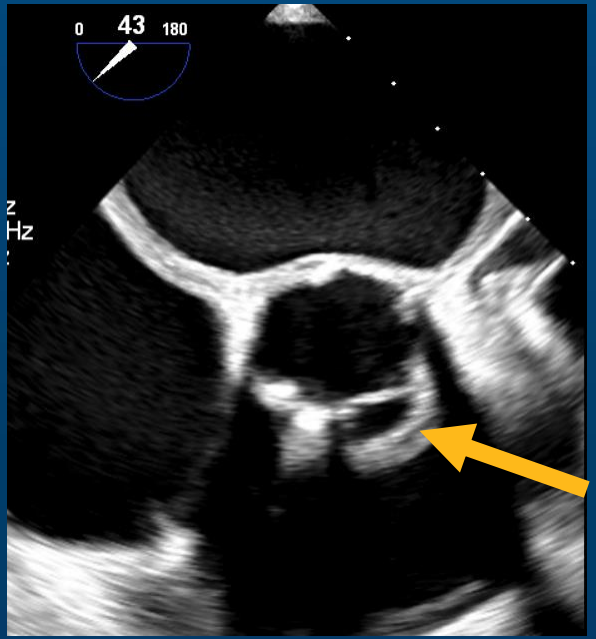


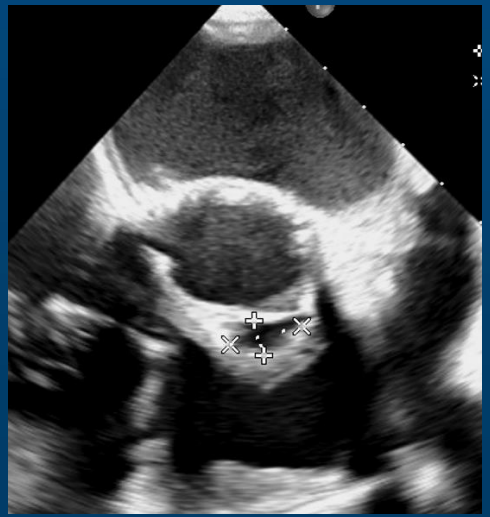
Transesophageal Echocardiogram

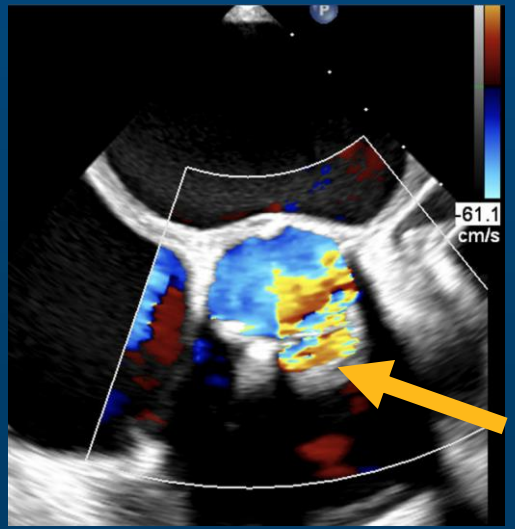




Transesophageal Echocardiogram



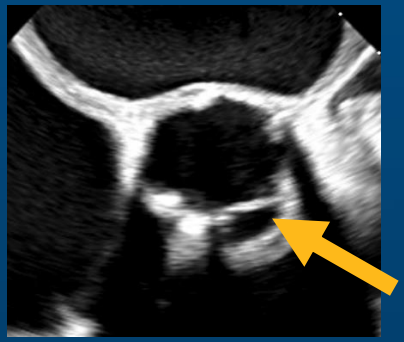


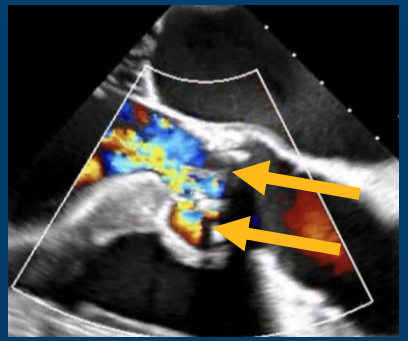


Transesophageal Echocardiogram

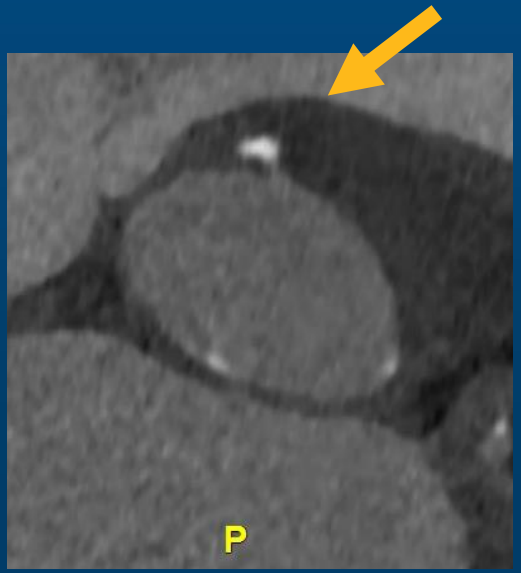
- Mild to Moderate Aortic Stenosis.
- Severe Aortic regurgitation – 2 Jets

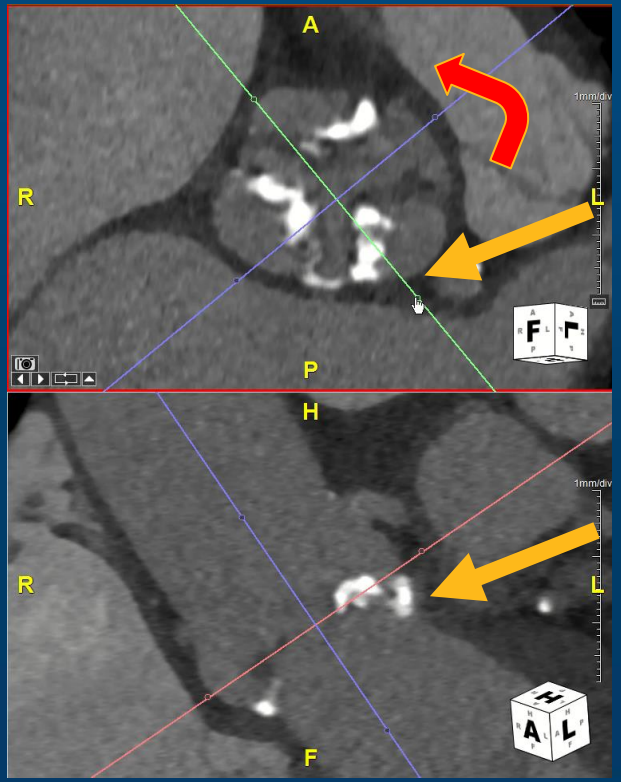
1. Central AR due to Flail RCC.
2. Peri-Annular AR via Aortico-LV fistula (acquired AorticoLV tunnel through the right aortic sinus).



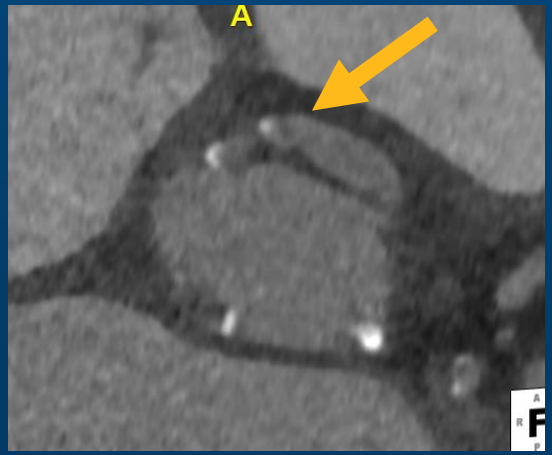


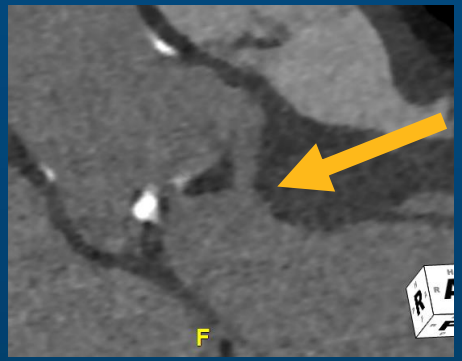
Cardiac CT

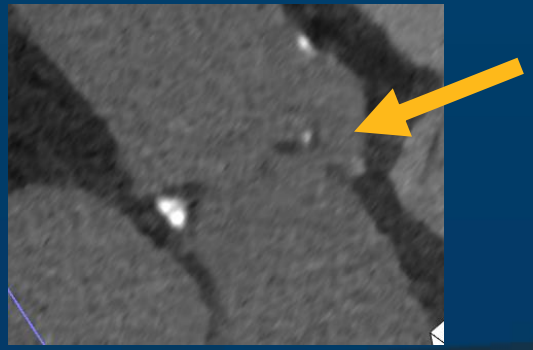




Aortico-LV fistula







Management

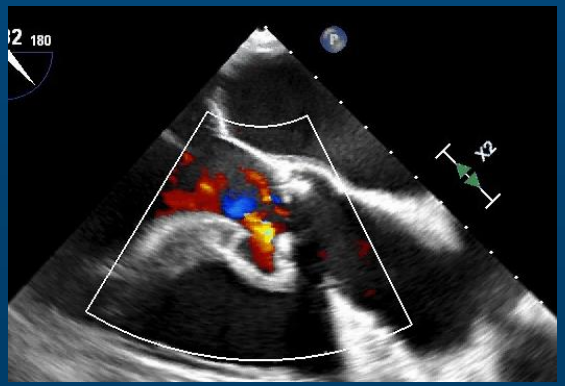
- No clinical signs of endocarditis.
- BC: **+ for Staph. Hemolyticus.**
- Heart team discussion - **Not a surgical candidate** due to age, frailty and comorbidities.
- Plan was for Daptomycin for **6 weeks** followed by negative cultures.
- During these 6 weeks, he had two more hospital admissions with Heart Failure. At this point he became wheelchair bound - At baseline, he was completely independent.

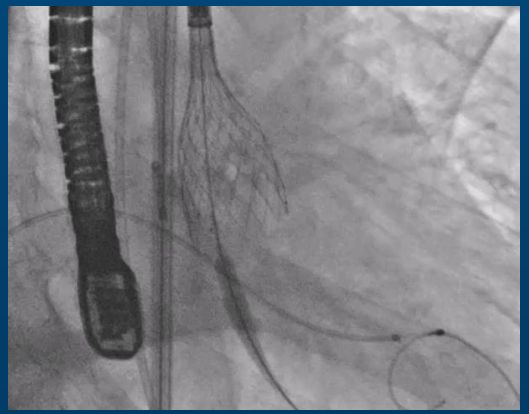
Plan

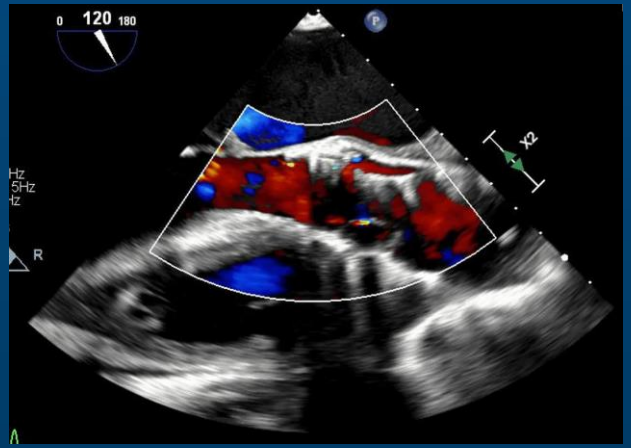
TAVR under TEE guidance to interrupt the track of the Aortico-LV fistula

- 29 mm Evolut FX Medtronic Self expendable THV. Ensure that the ventricular side of the fistula (2 mm below the annulus) is sealed.
- SEV was chosen over BEV because of its capability to be recaptured / repositioned.

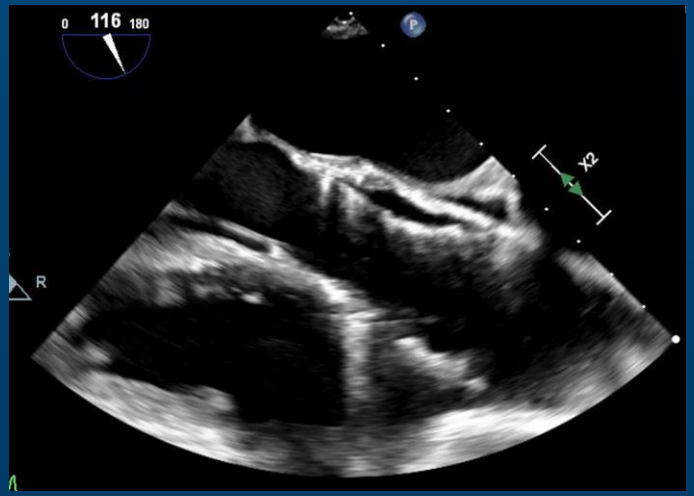
TAVR under TEE guidance

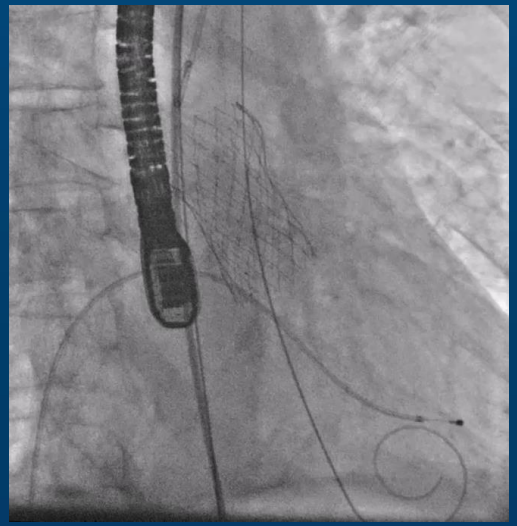




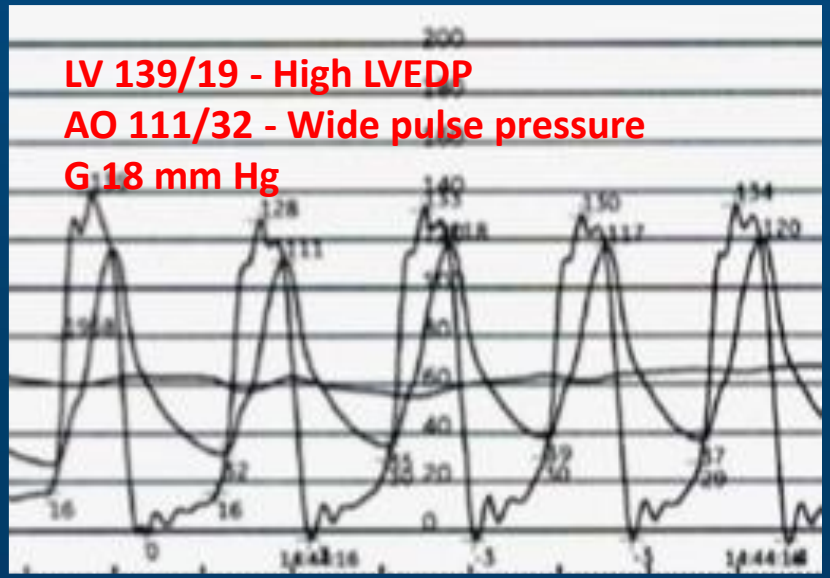


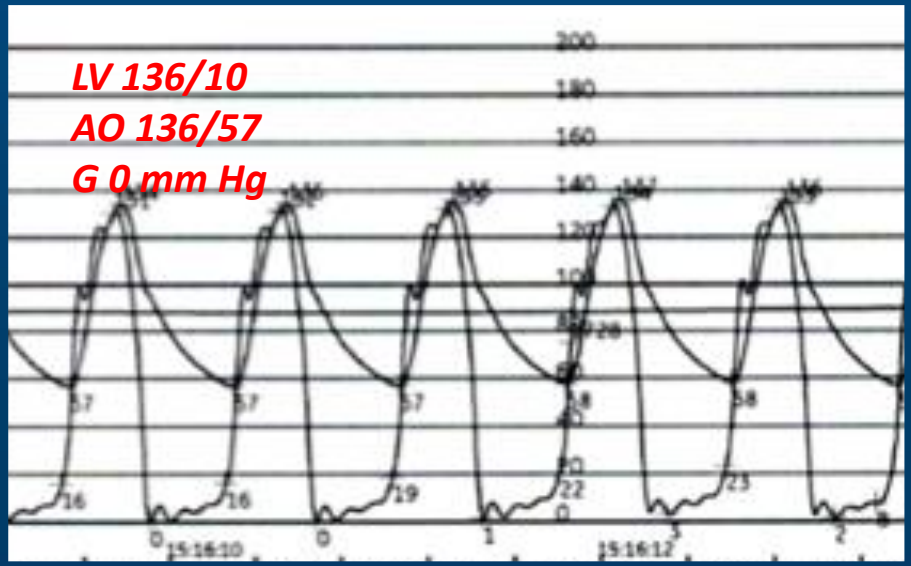
Valve position was confirmed angiographically and by TEE before deployment





Hemodynamics





Follow up

One month Follow up

- No heart failure symptoms.
- TTE with no aortic regurgitation or stenosis.
- Patient is out of the wheelchair and gradually returning to baseline function.

Six months Follow up

- Patient regained full independence, resumed driving, and returned to baseline functional status.

Take Home Points

- IE rarely presents with heart failure.
- Multimodality imaging is essential for accurate diagnosis of IE.
- Careful patient selection, procedural planning and intraprocedural TEE guidance are necessary for procedural success in treating IE complications like an Aortico-left Ventricular Fistula using THV.

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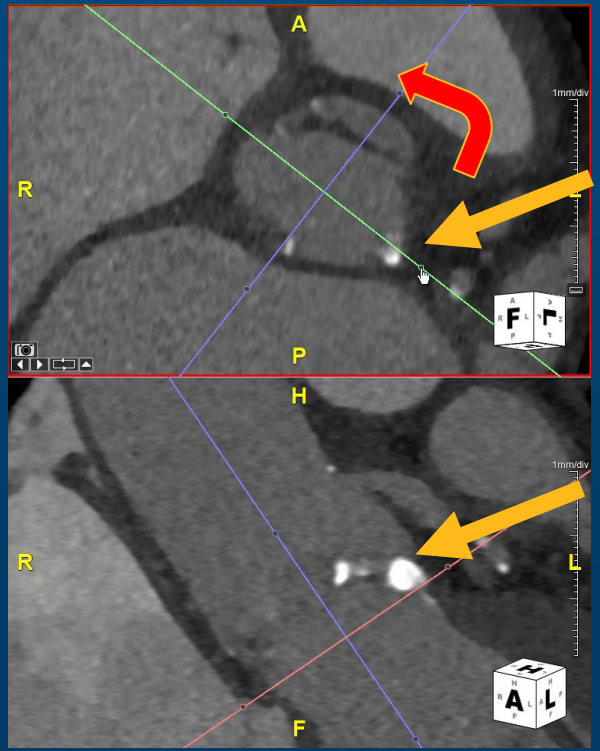
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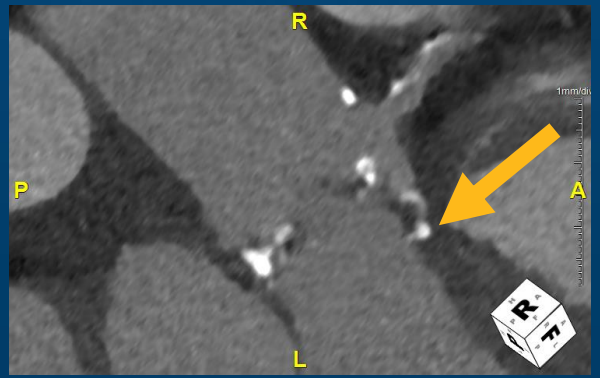
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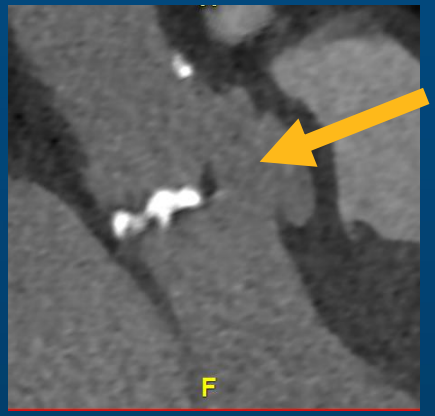
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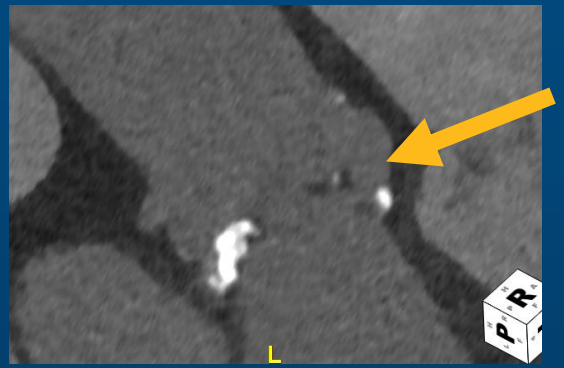
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