

2017 ASE Florida | Orlando, FL

---

October 8, 2017 | 4:11 – 4:22 PM | 11 min | Grand Harbor Ballroom South

# Goofs, Coups & Things I Learned in the Past Year

---

**Muhamed Sarić MD, PhD, MPA**  
Director of Noninvasive Cardiology | Echo Lab  
Associate Professor of Medicine



# Disclosures

---

Speakers Bureau (Philips, Medtronic)  
Advisory Board (Siemens)

# Goof Case #1

---

# Case Presentation

---

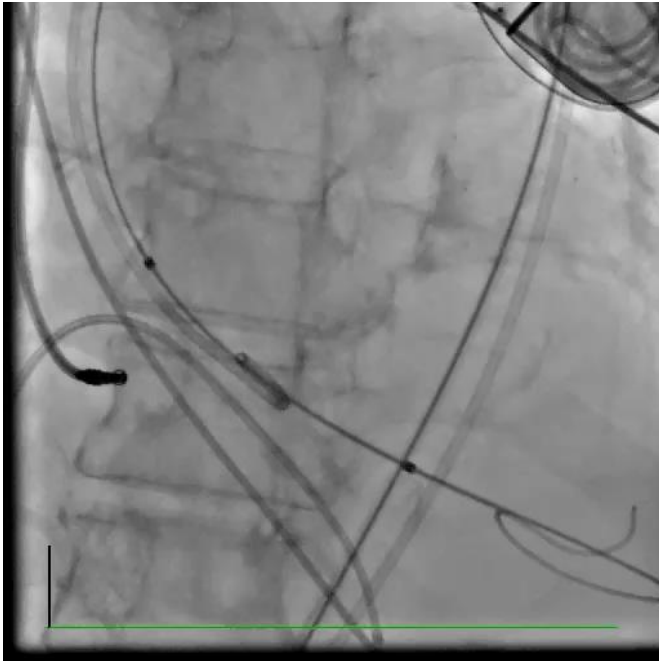
## **86-year-old woman**

- Severe symptomatic high-gradient native aortic stenosis with preserved LVEF (ACC/AHA class D1)
- Undergoing transfemoral TAVR using a self-expanding bioprosthesis
- TTE is being used to for intraprocedural assessment

# TAVR: Procedural Steps with Self-Expanding Valve

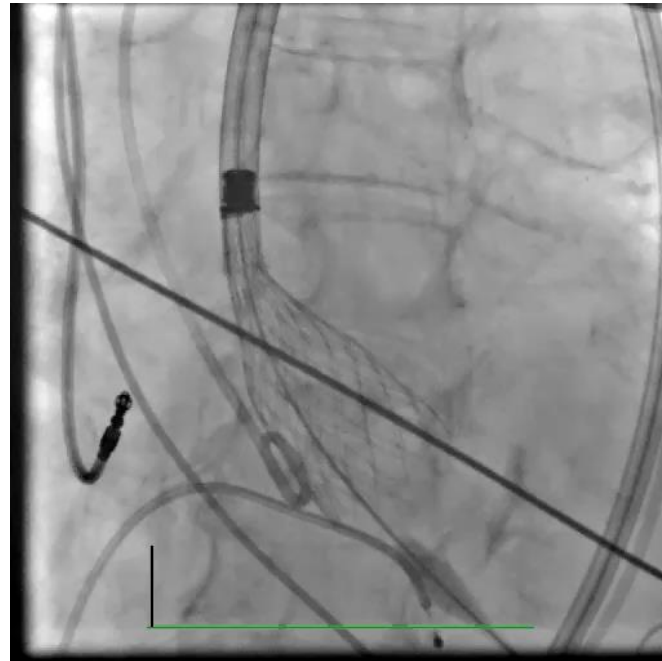
## Step #1

Native Valve Visualization



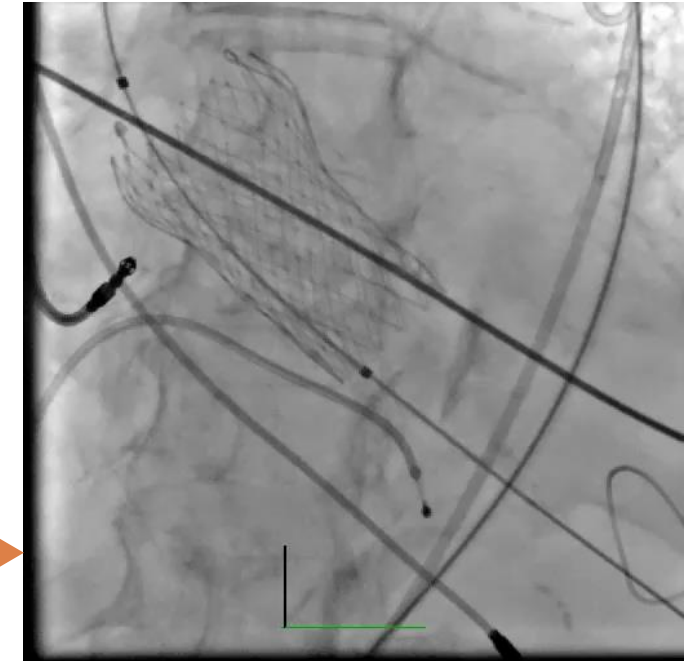
## Step #2

Partial Deployment



## Step #3

Full Deployment



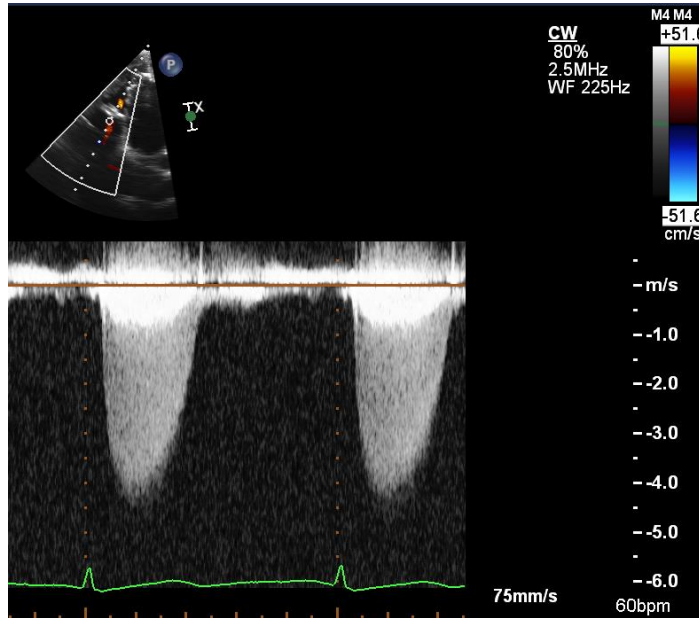
## Echo Parameters of Good TAVR

- : Circular in cross-section
- : No PVL
- : Systolic Vmax < 2.0 m/s

# What Was Expected

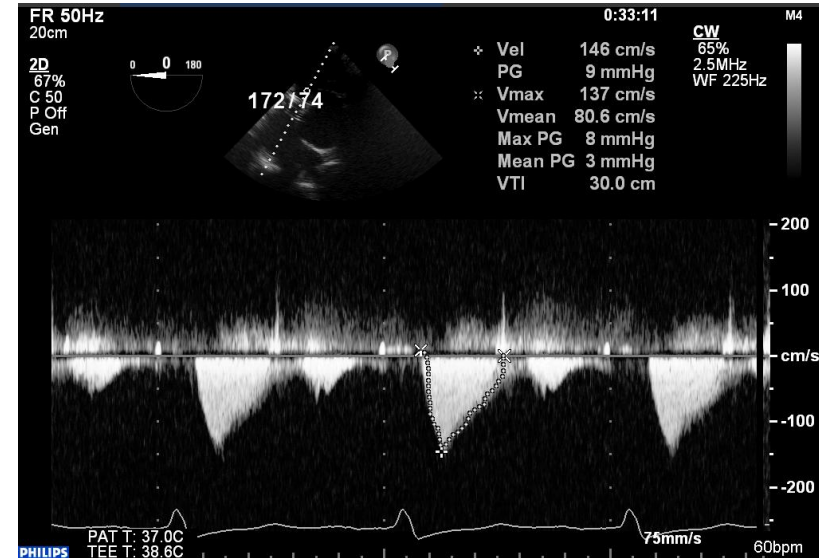
---

# Good TAVR Result



**Before TAVR**  
(Severe native valve stenosis)

$V_{max} = 4.3$  m/sec  
Peak/Mean Gradient **74/43** mm Hg  
Time to peak gradient  
**140** msec (late peaking)



**After TAVR**  
(Minimal aortic valve gradients)

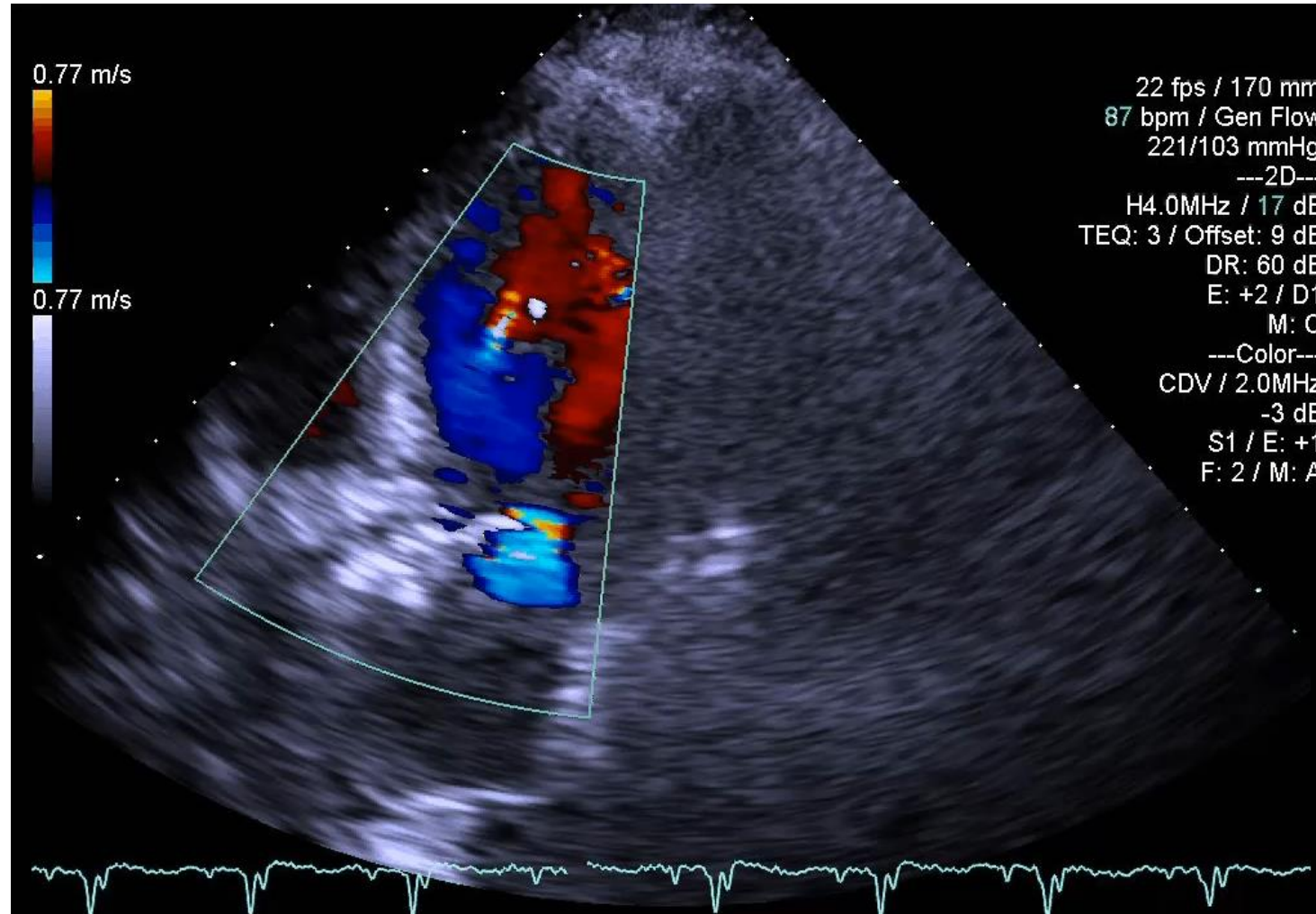
$V_{max} = 1.4$  m/sec  
Peak/Mean Gradient **9/3** mm Hg  
Time to peak gradient  
**95** msec (early peaking)

# What Was Seen in This Patient

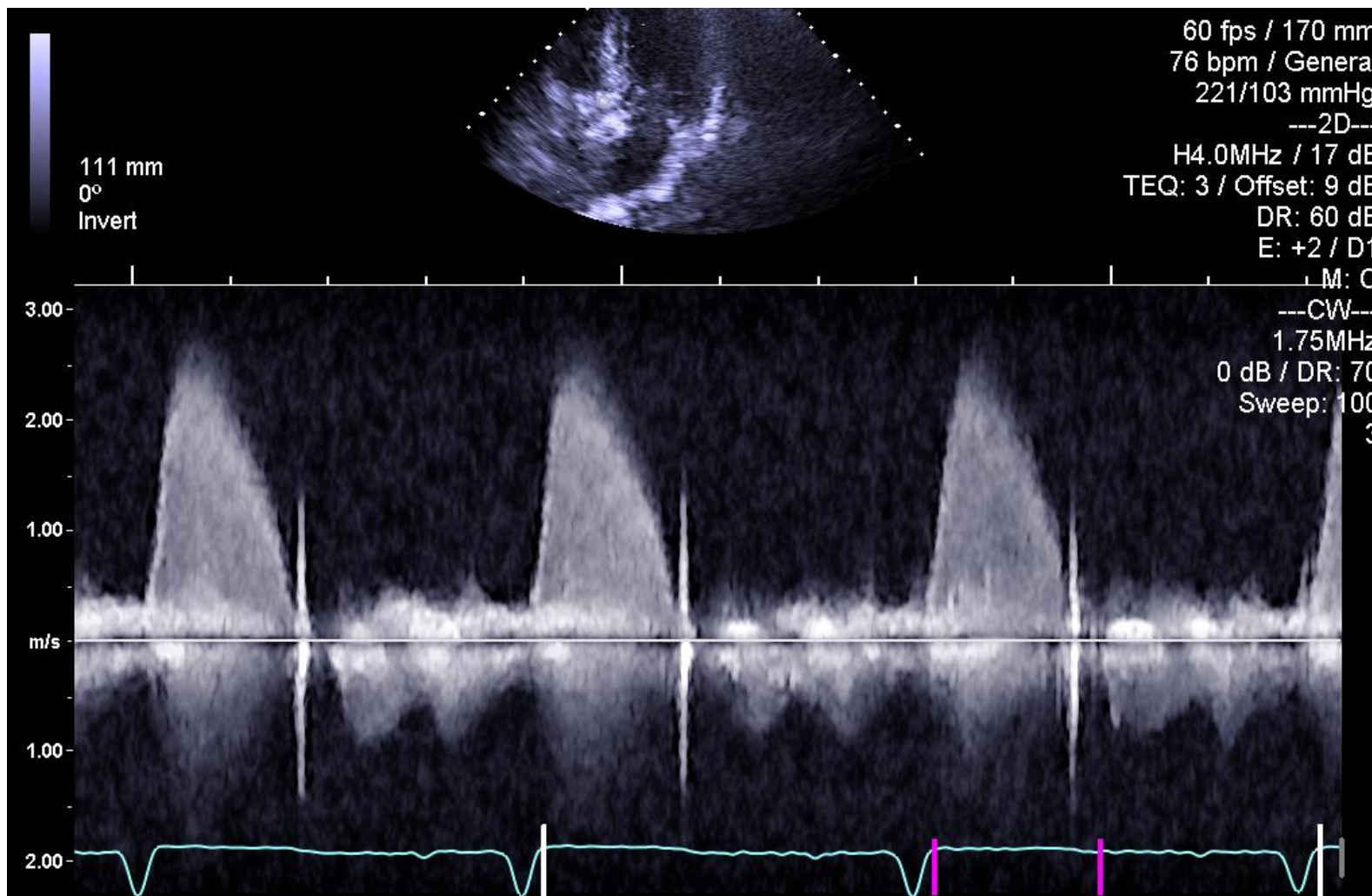
---



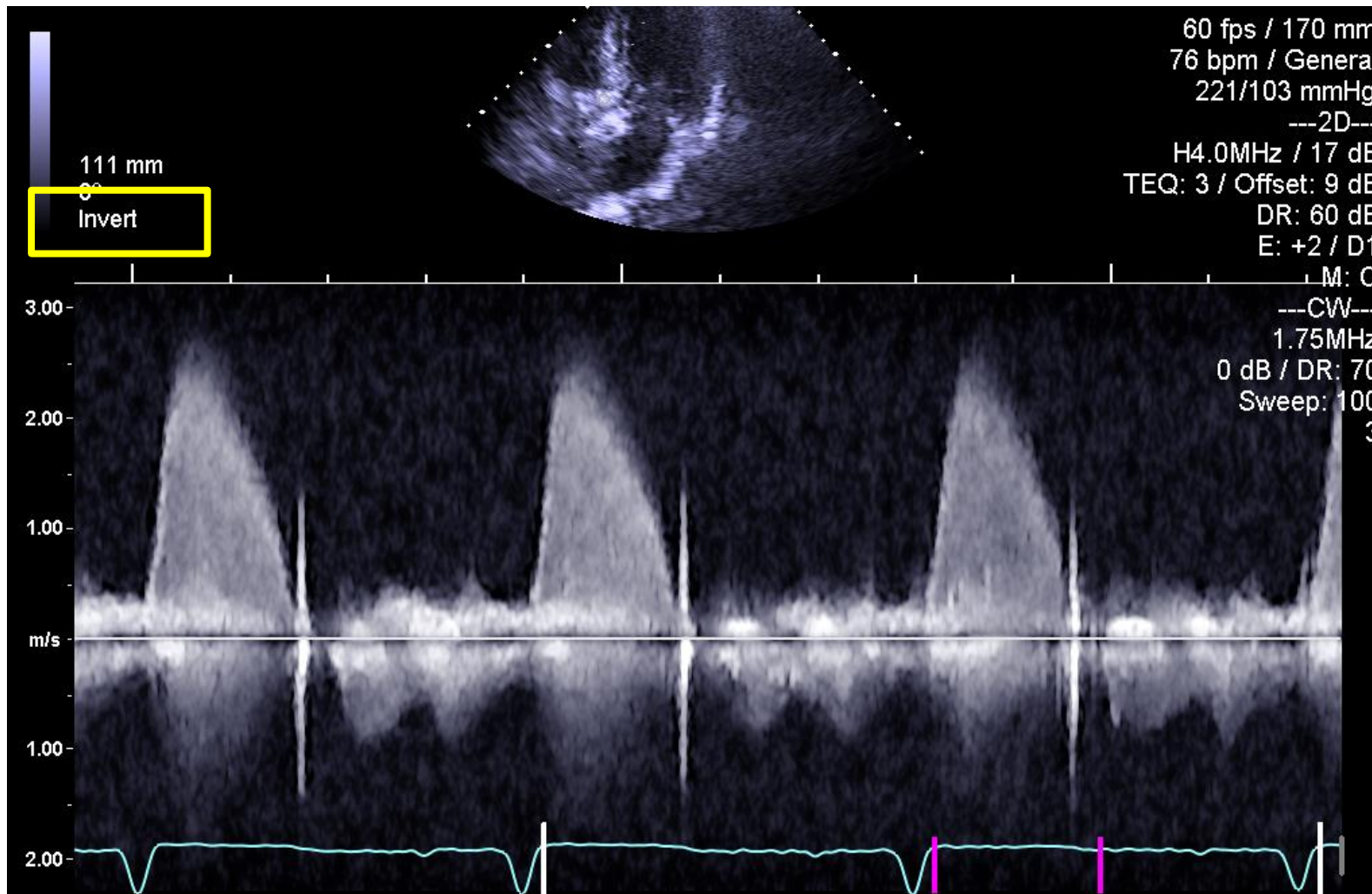
# A5C View



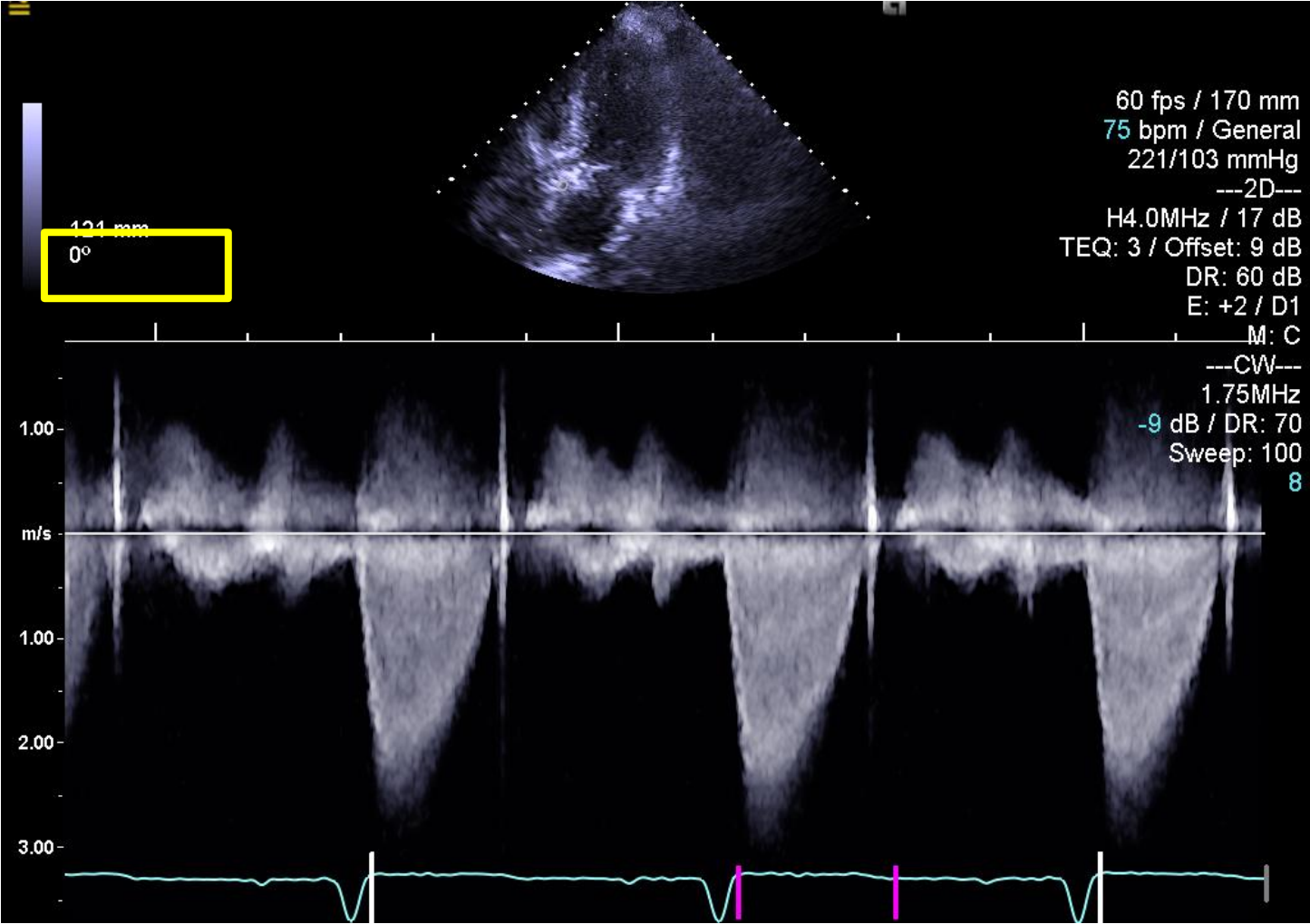
# Spectral Doppler in A5C View



# Spectral Doppler in A5C View



# Spectral Doppler in A5C View



# Question

---

How did the spectral tracings get inverted?

# Ultrasound System Keyboard

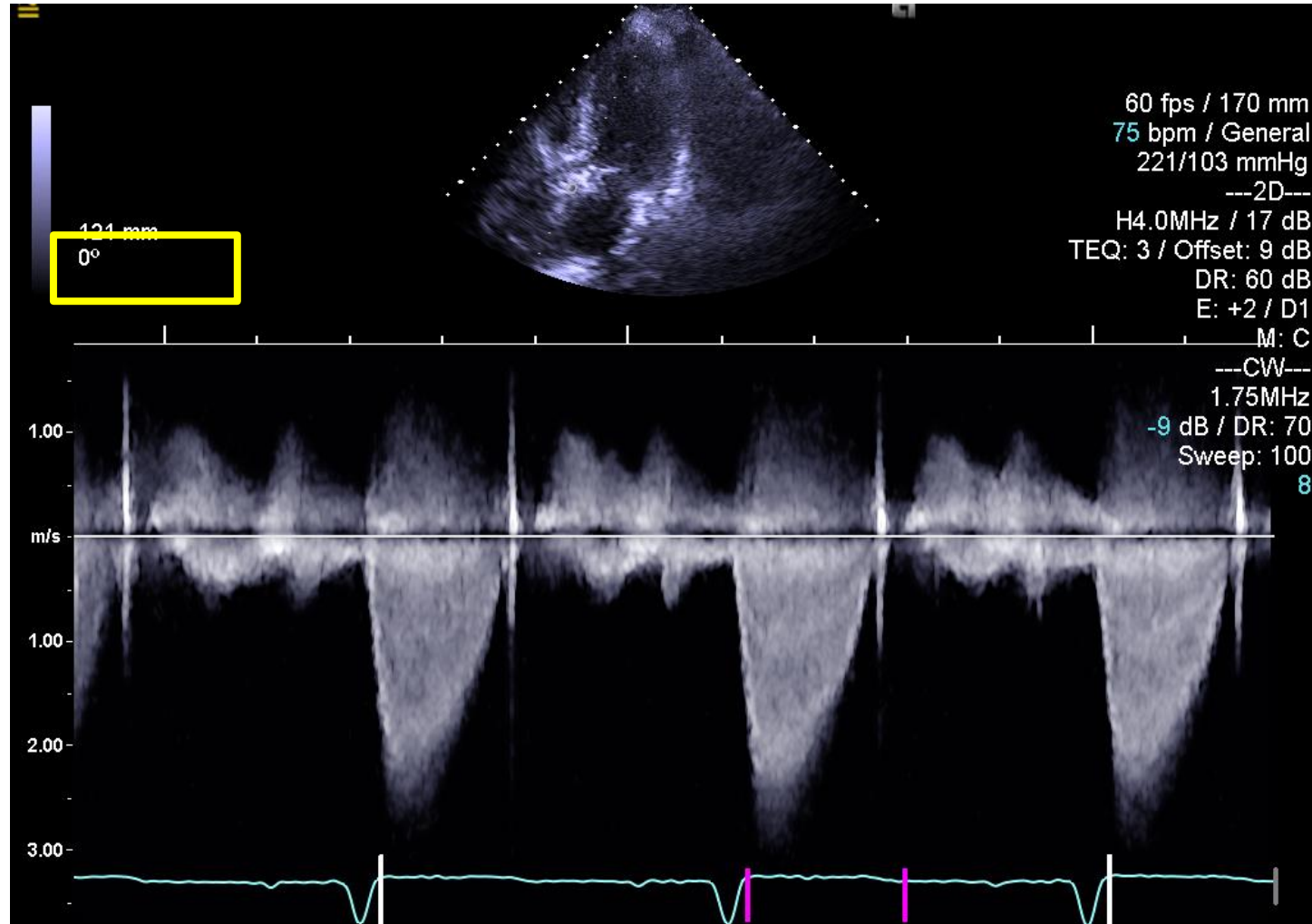


# Ultrasound System Keyboard

---

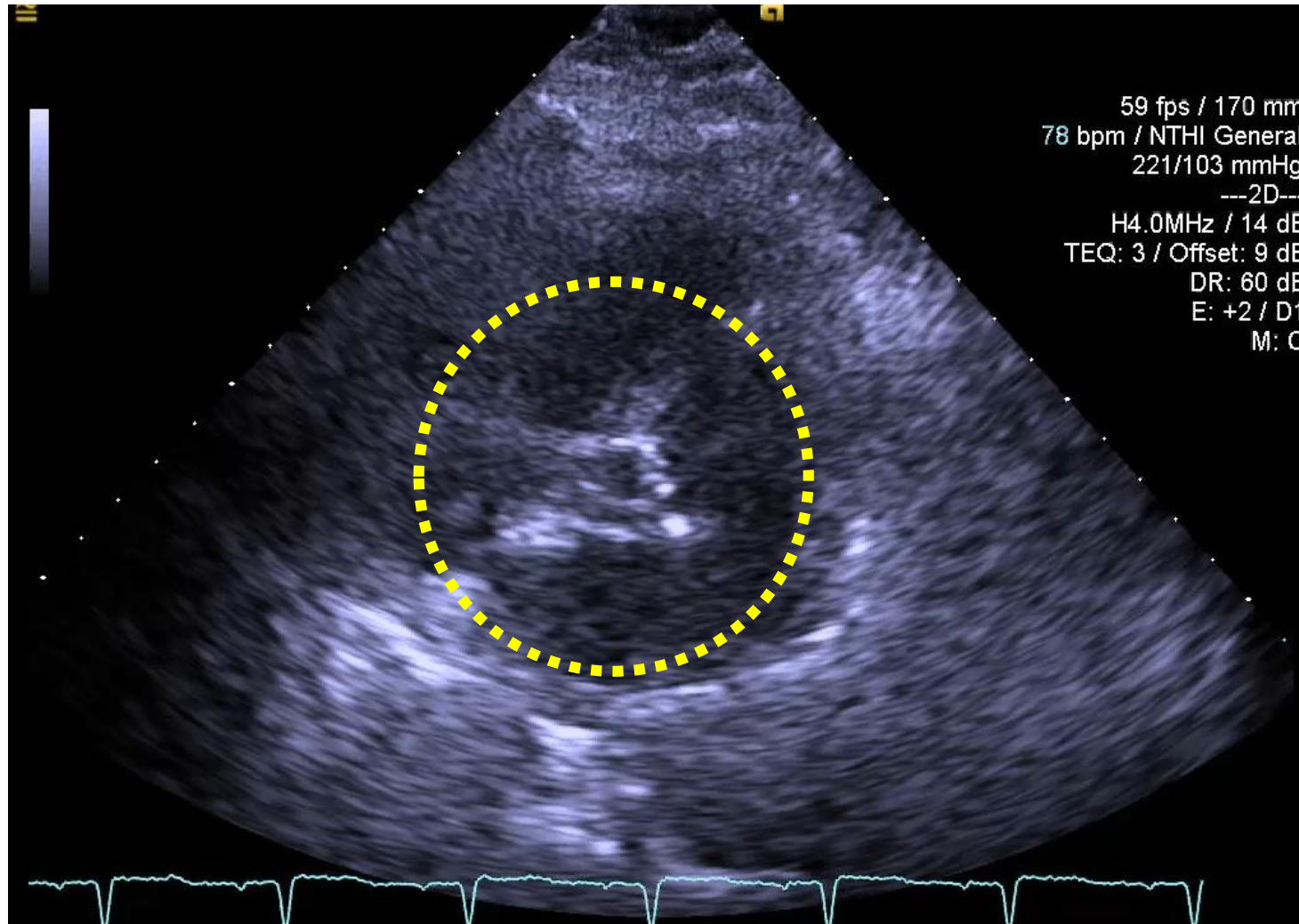


# Spectral Doppler in A5C View: Right Side Up



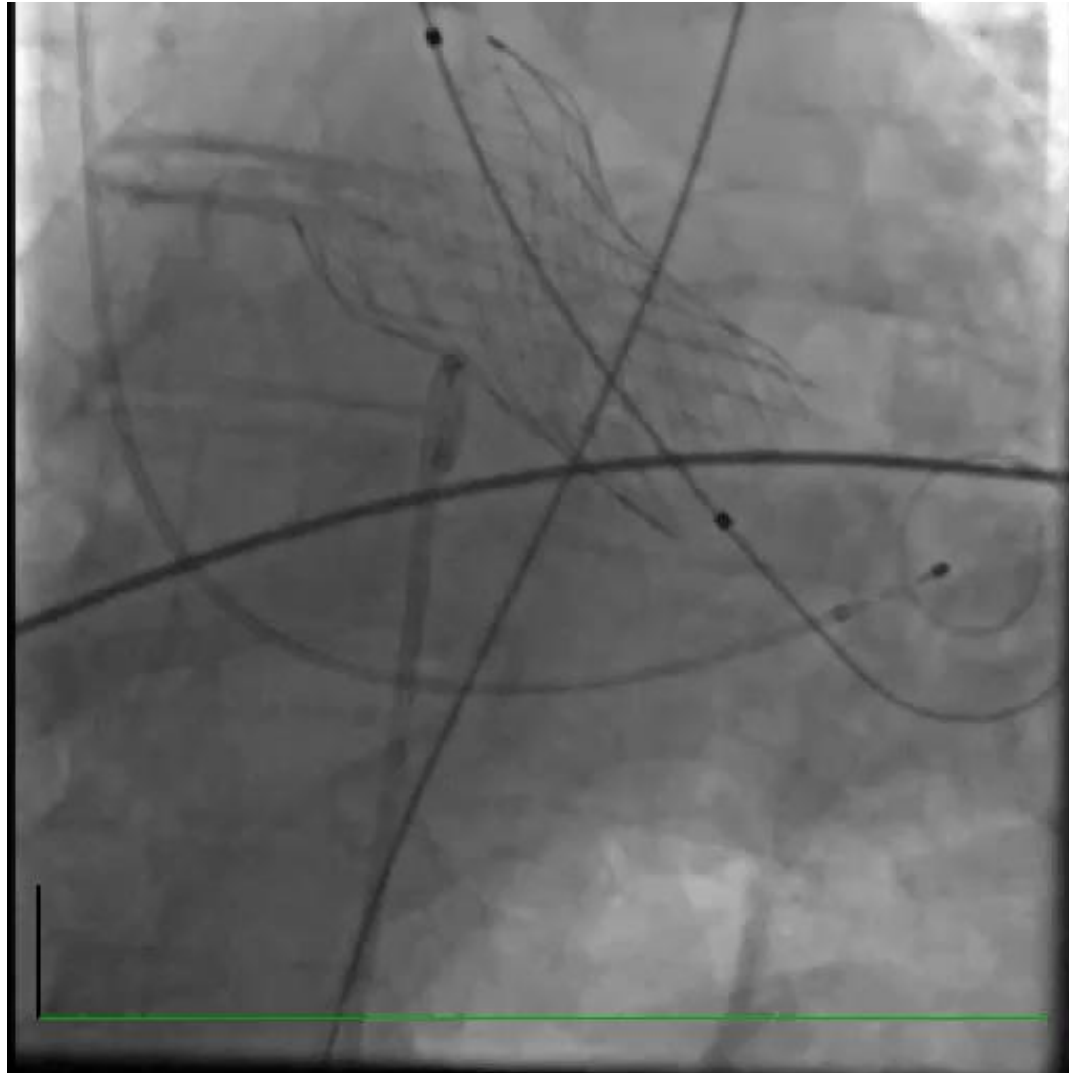


# Noncircular Short Axis of TAVR Valve

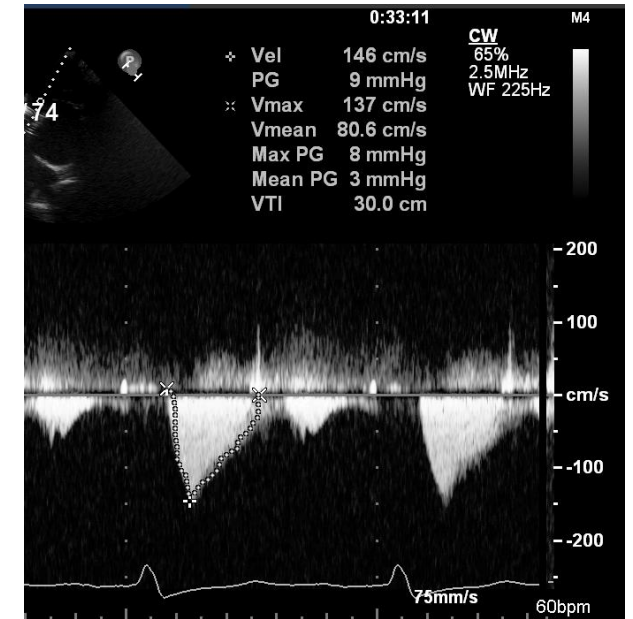
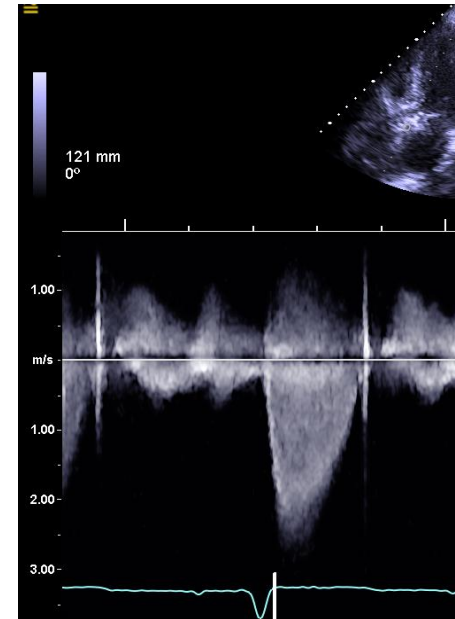
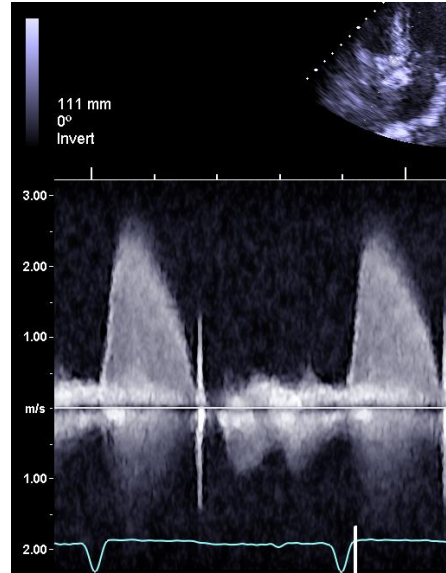
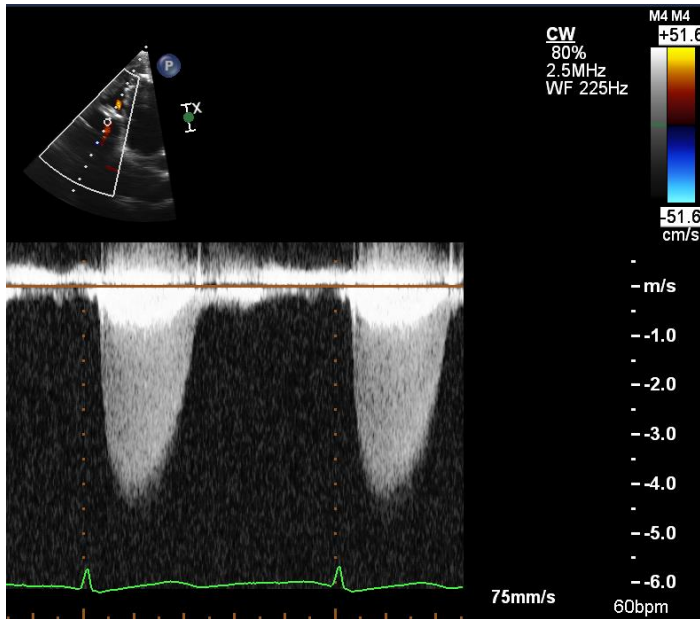


# Solution: Postdilatation

---



# Summary



**Baseline**  
Severe Native Aortic Stenosis

**Goof**  
Inverted Spectral Doppler

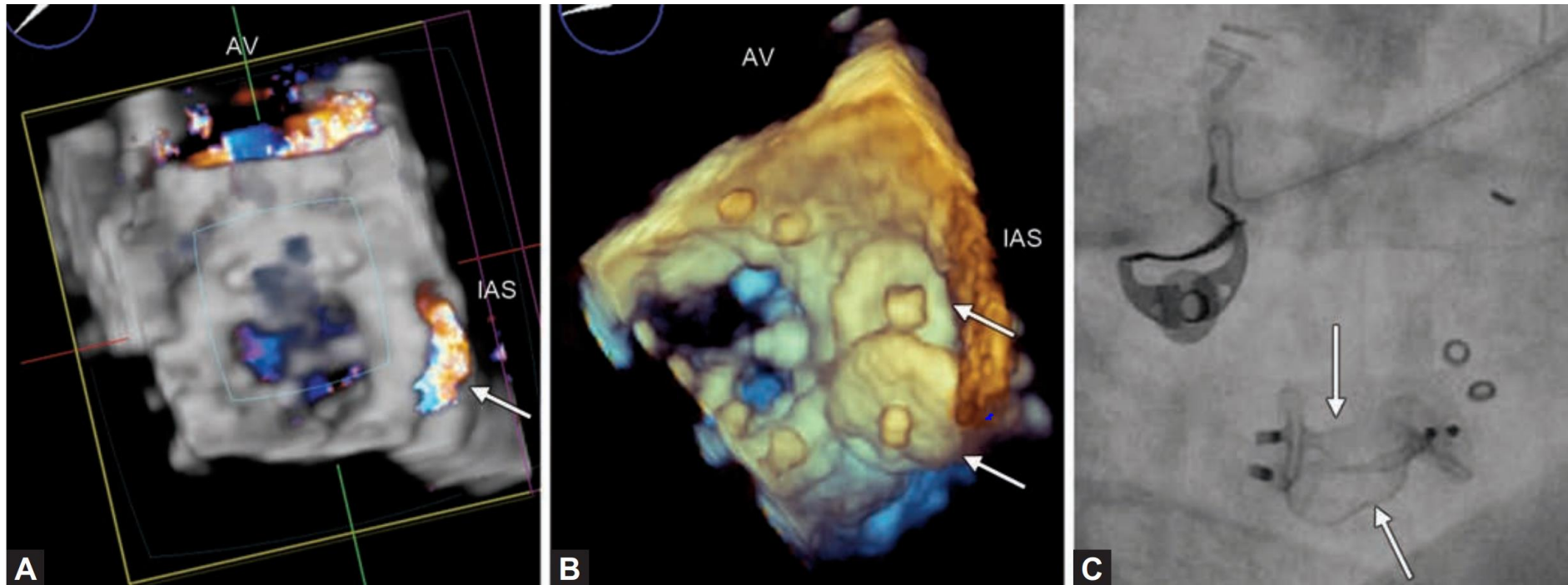
**After Postdilation**  
Normal TAVR Function

# Goof Case #2

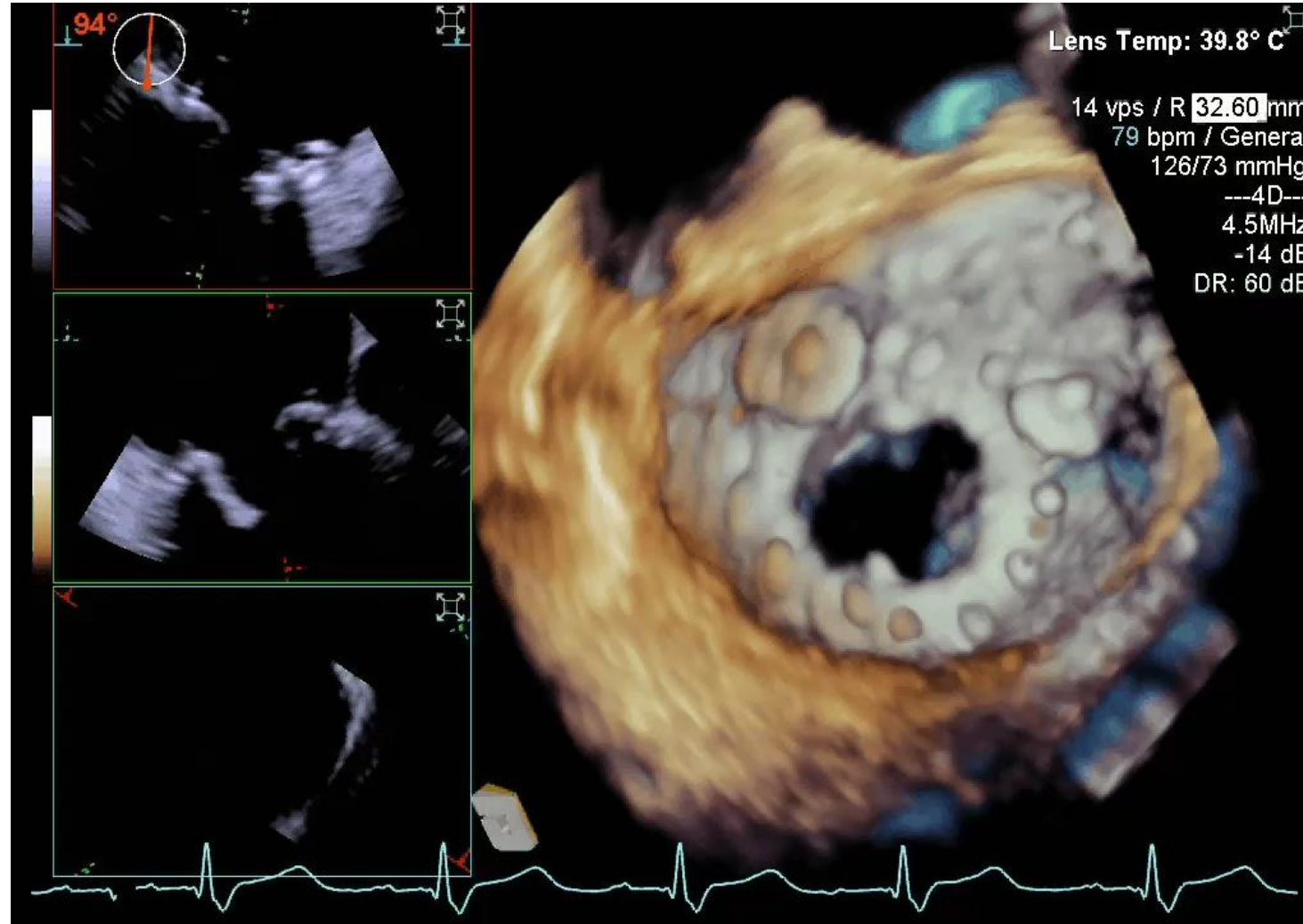
---

# Background

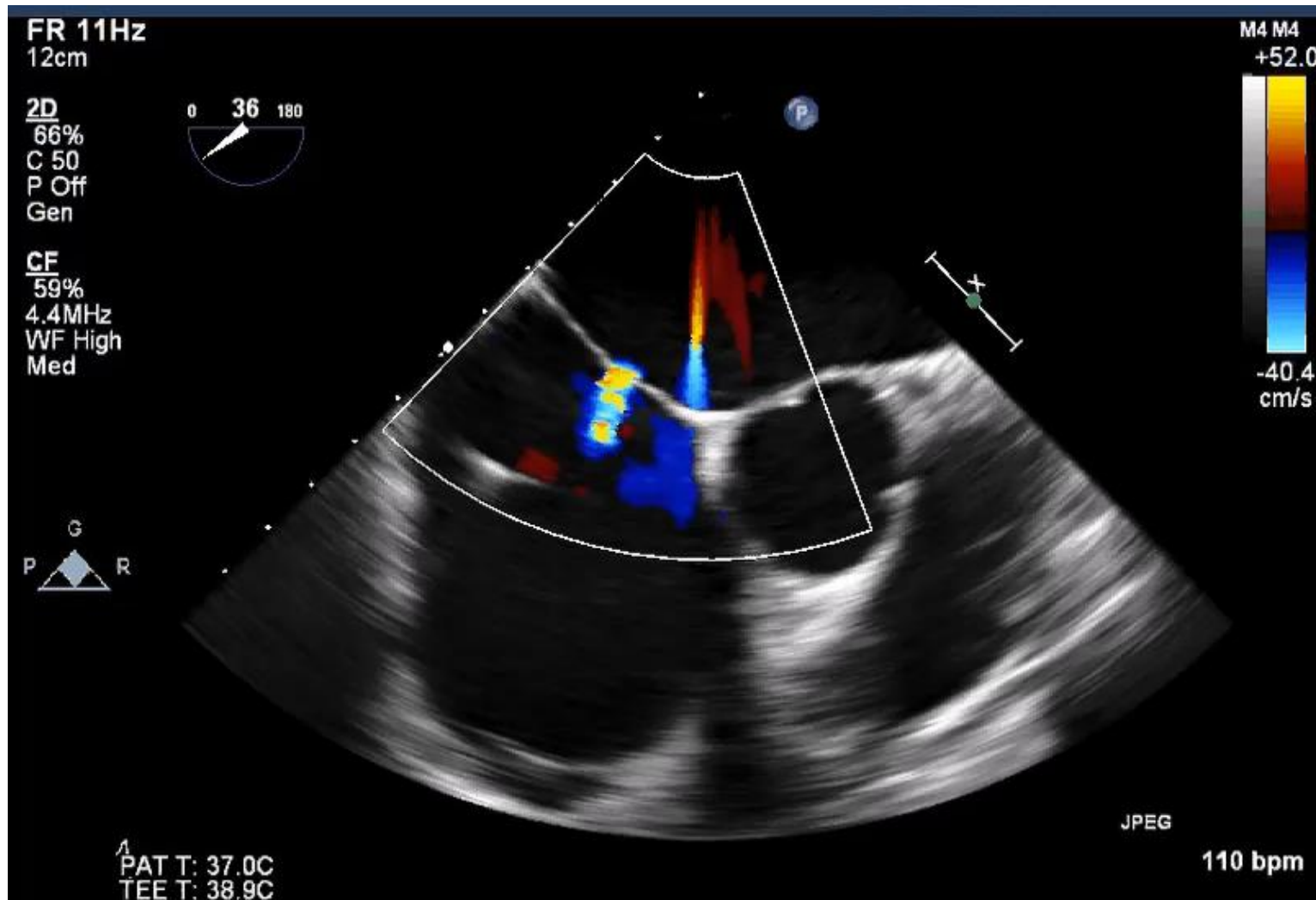
Percutaneous closure of prosthetic paravalvular leaks using devices is an established therapeutic option.



# Device Closure of Mitral Prosthetic PVLs



# Residual ASD Post Transseptal Puncture



# Case Presentation

---

## **66-year-old woman**

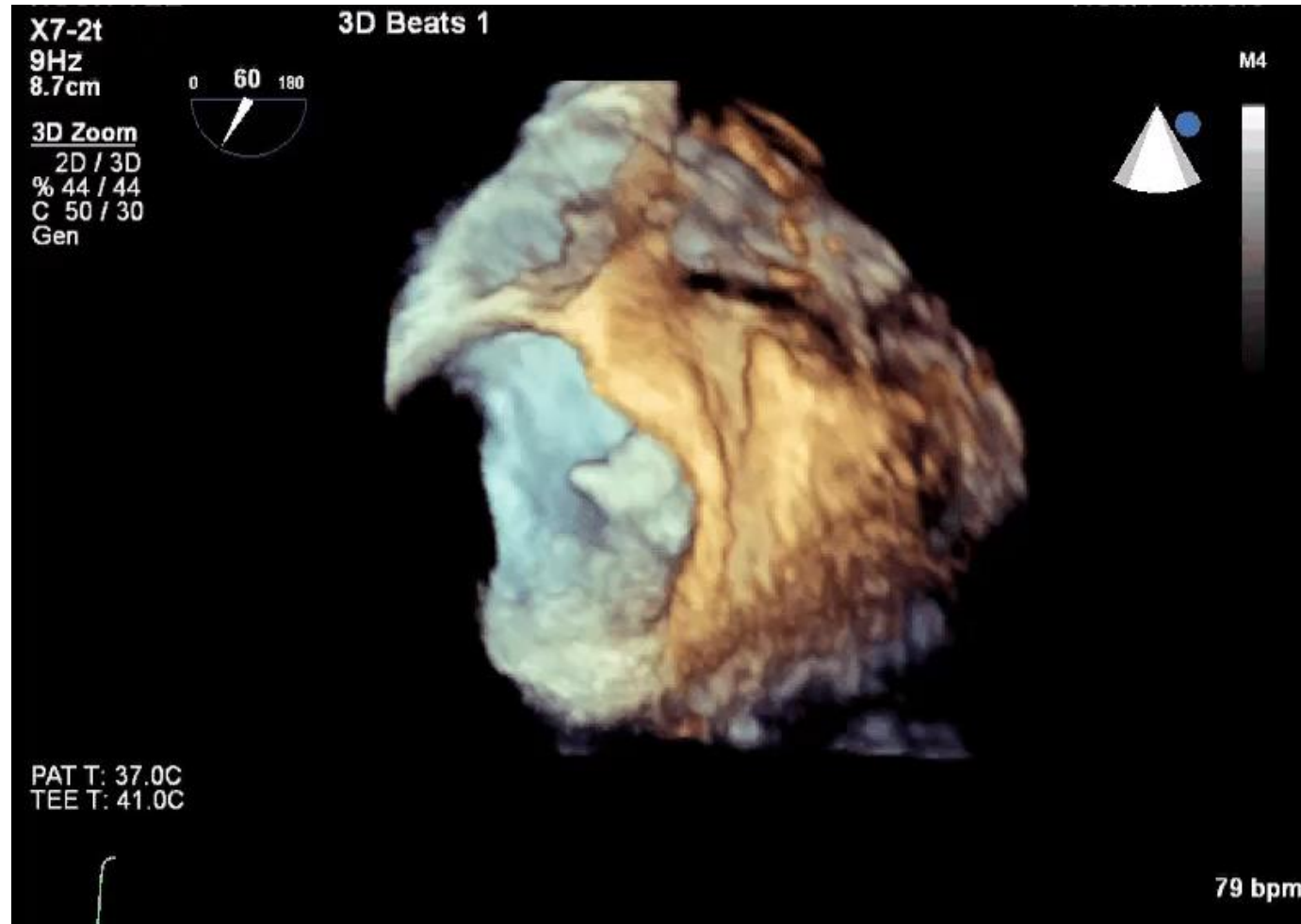
- Chronic exertional dyspnea
- Coming for second opinion
- Brings outside TTEs & TEEs



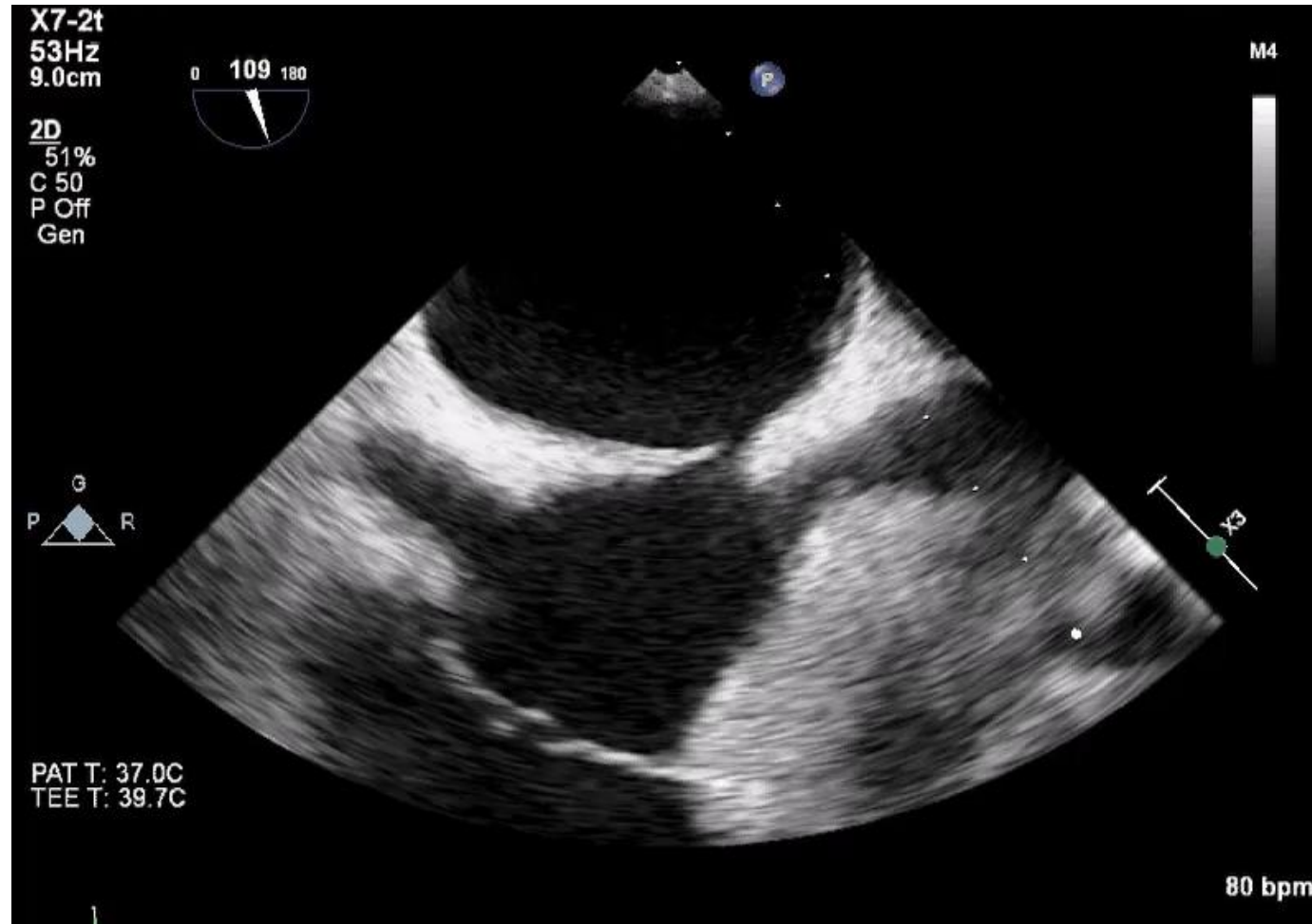
# 3D TEE: Surgical View of Mitral Valve



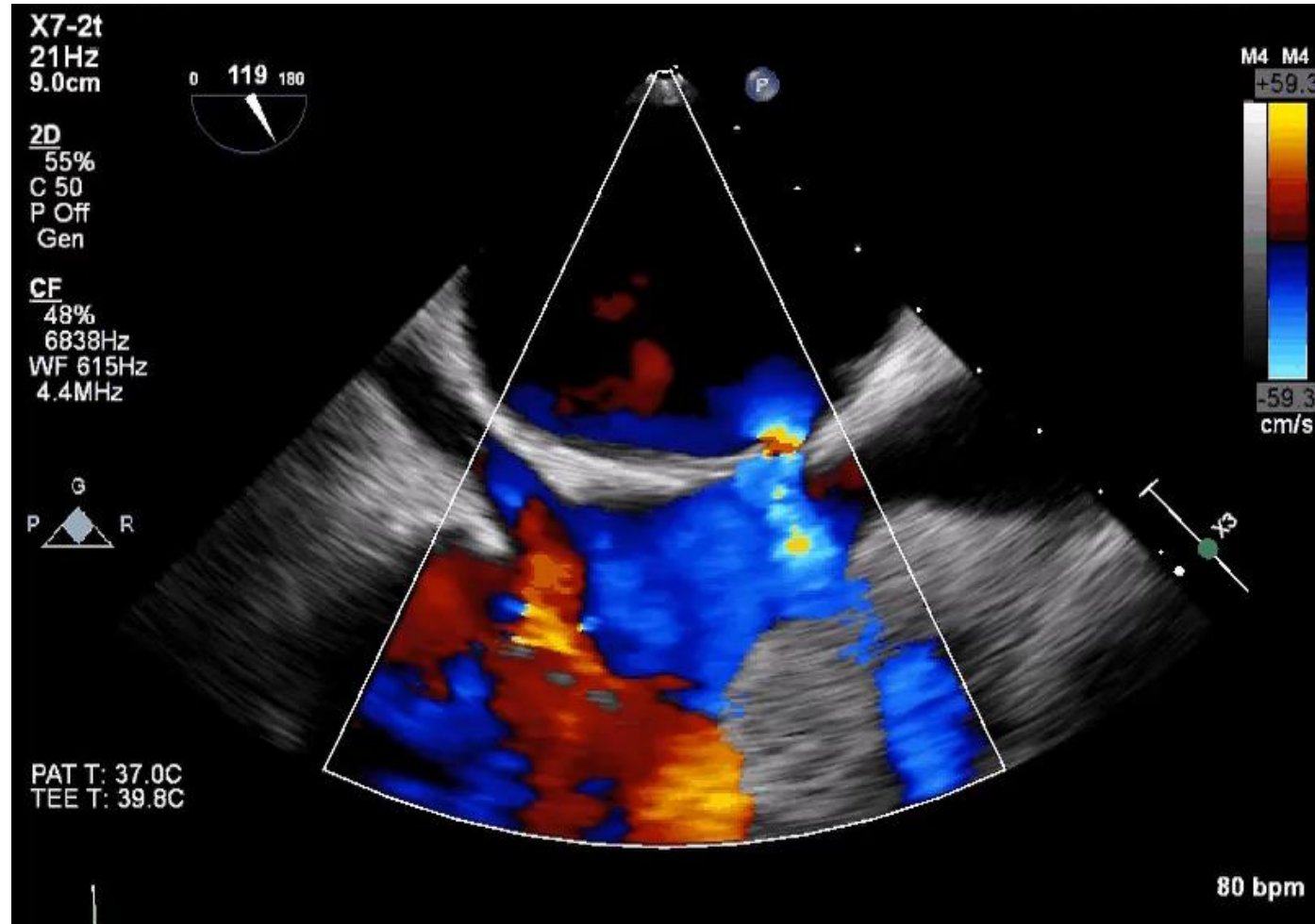
# 3D TEE: Surgical View of Mitral Valve



# TEE: Atrial Septal Defect



# TEE: Atrial Septal Defect



# Question

---

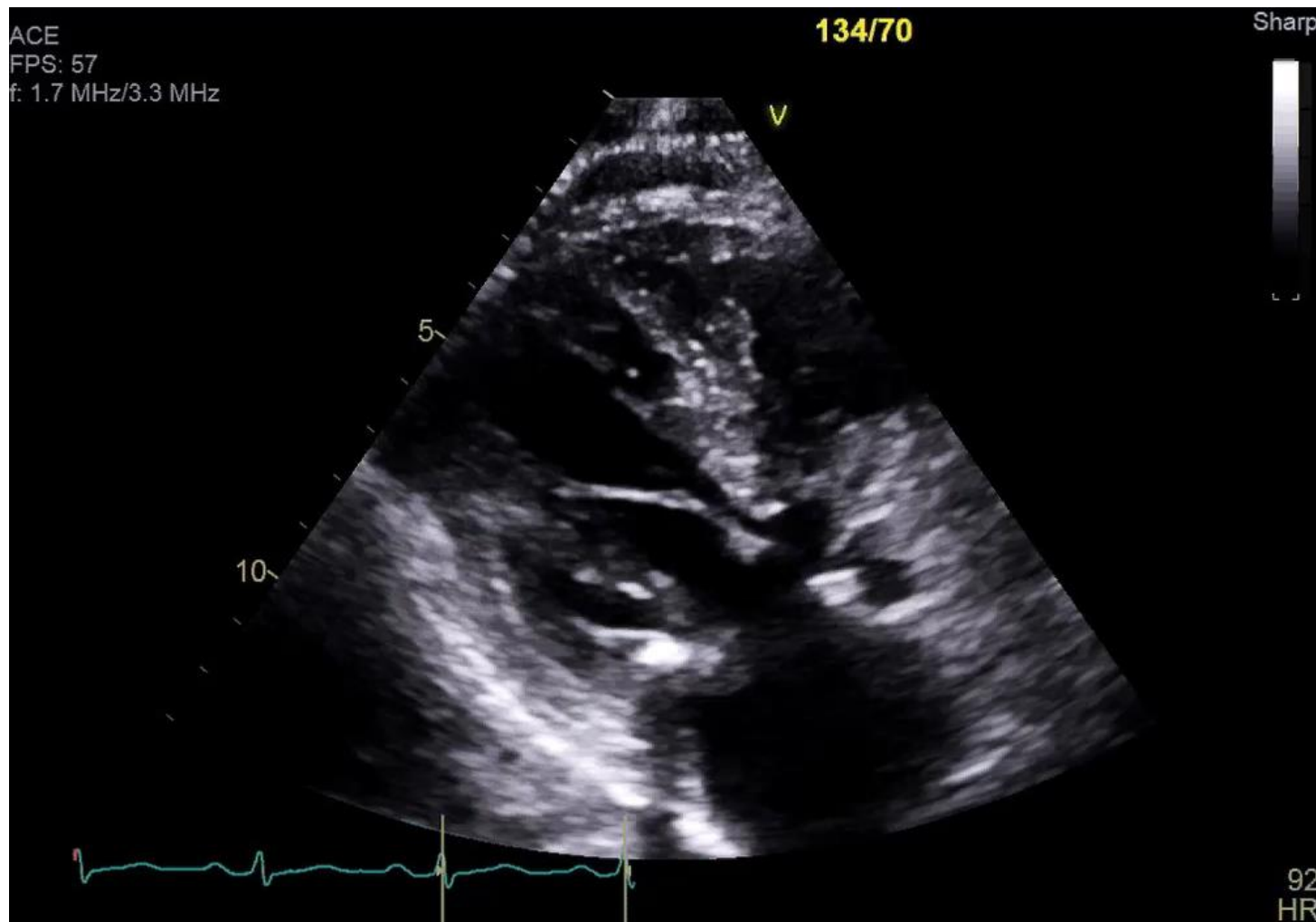
Does this patient have a vascular PLV plug on her mitral valve  
and a residual post-transseptal ASD?

# Answer

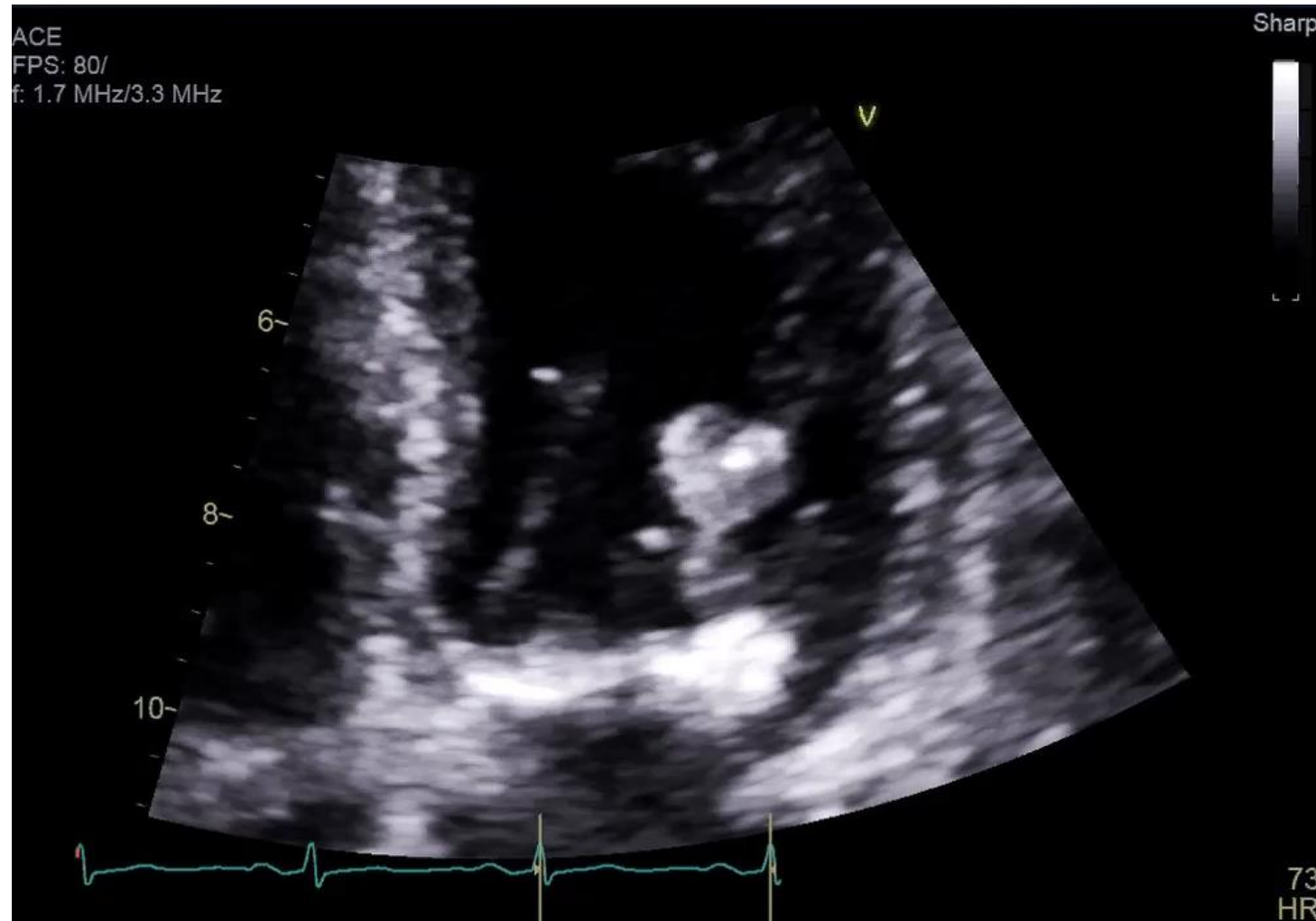
---

Patient denies ever having a percutaneous procedure.

# Possible Explanation



# Possible Explanation





# Conclusion

---

Unusual mitral annular calcification masquerading as a PVL plug.

# Thank You!

---



**New York University Langone Medical Center**