Hospital Clínico San Carlos

My Best case of Mitral Valve Edge-to-Edge repair

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Interventional Cardiologist / Structural Heart Interventions

My best TEER case? Difficult to say

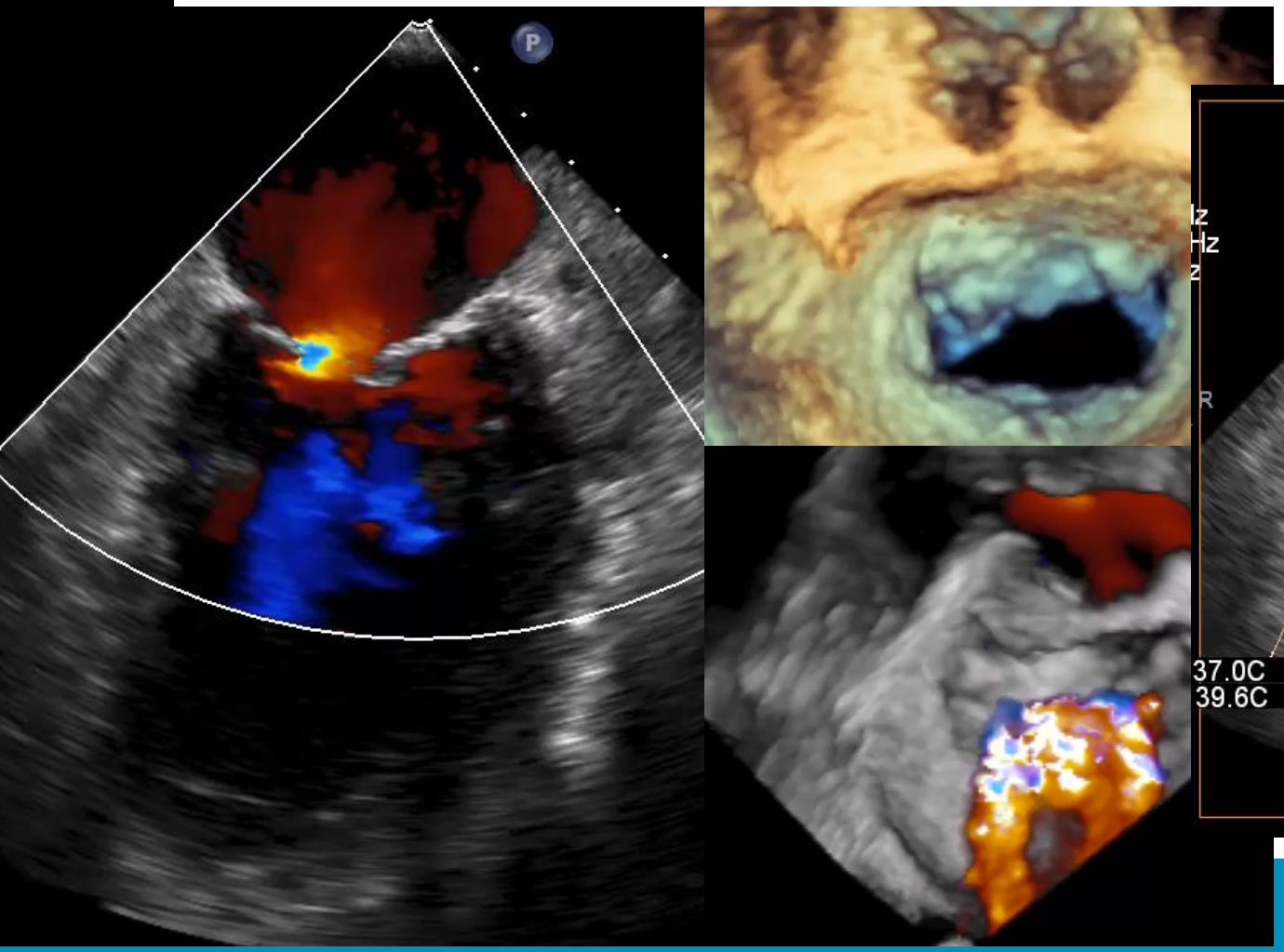
Some cases that I can remember:

- "Straight forward" case ending a nightmare
- Complex anatomy expected to be long and difficult finishing in <1 hour
- Long procedural time with final nice result
- Unexpected findings during the procedure
- Complications during the procedure
- Good echo result, but specially, good clinical result

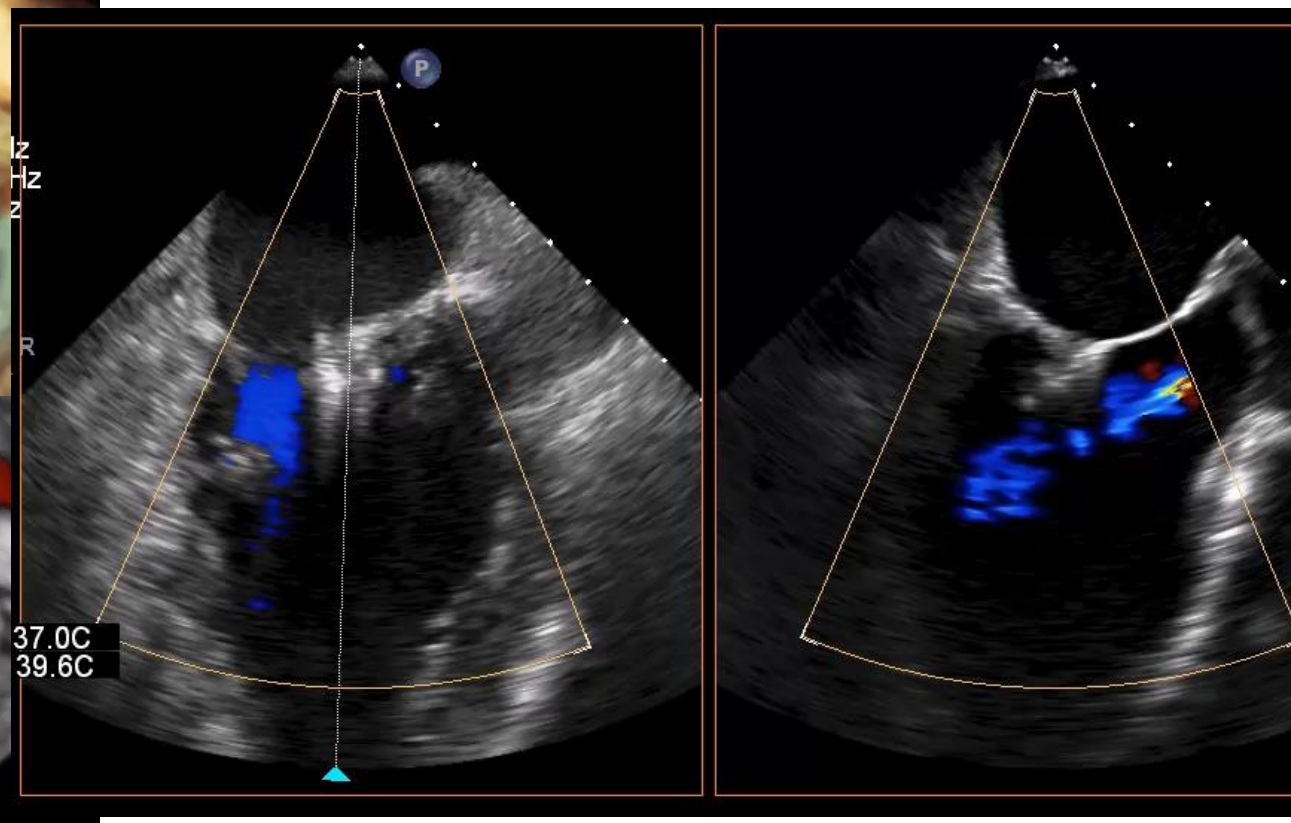
Some mitral TEER cases to remember

Complex MR with multiple jets –> Good result

Pre

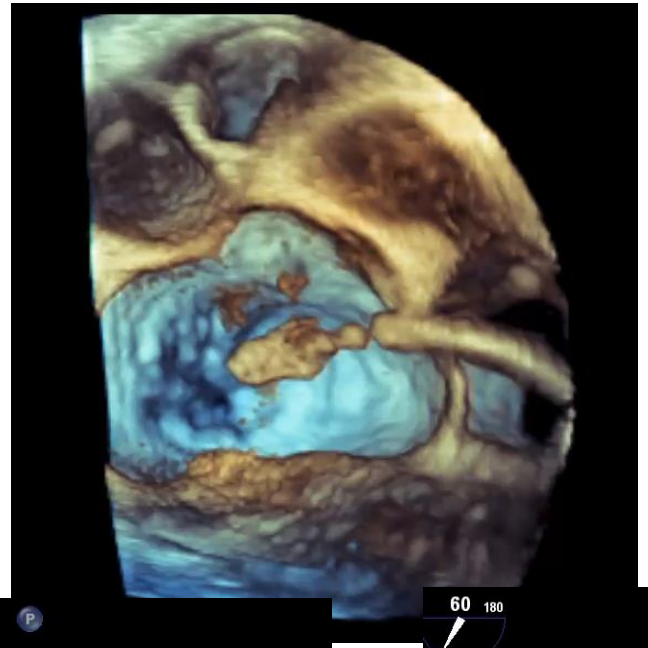


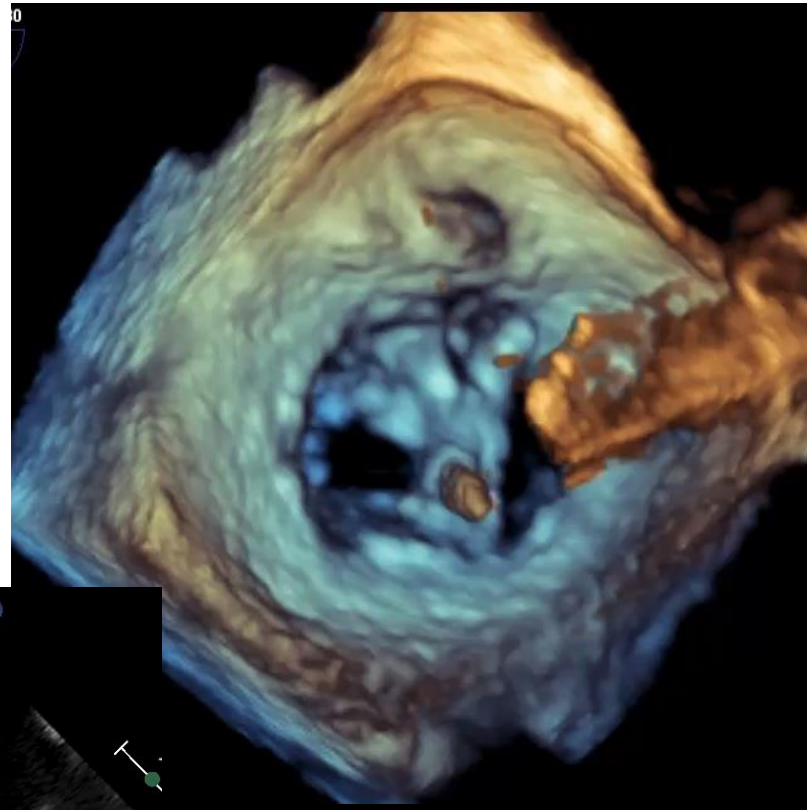
Post Mitraclip x2

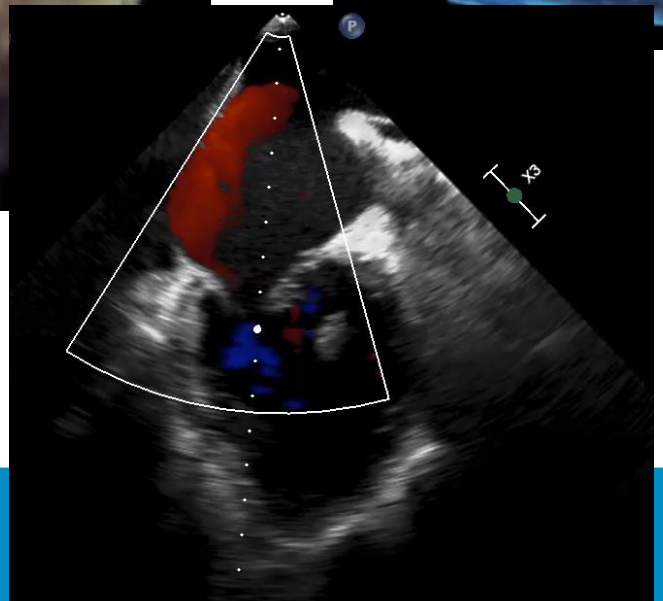


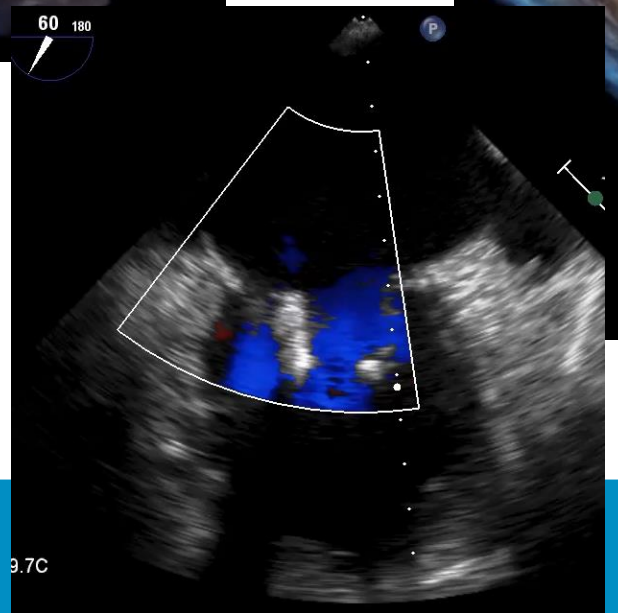
Some mitral TEER cases to remember

Mitral valve that looks like a tricuspid valve









After 1 pascal Ace

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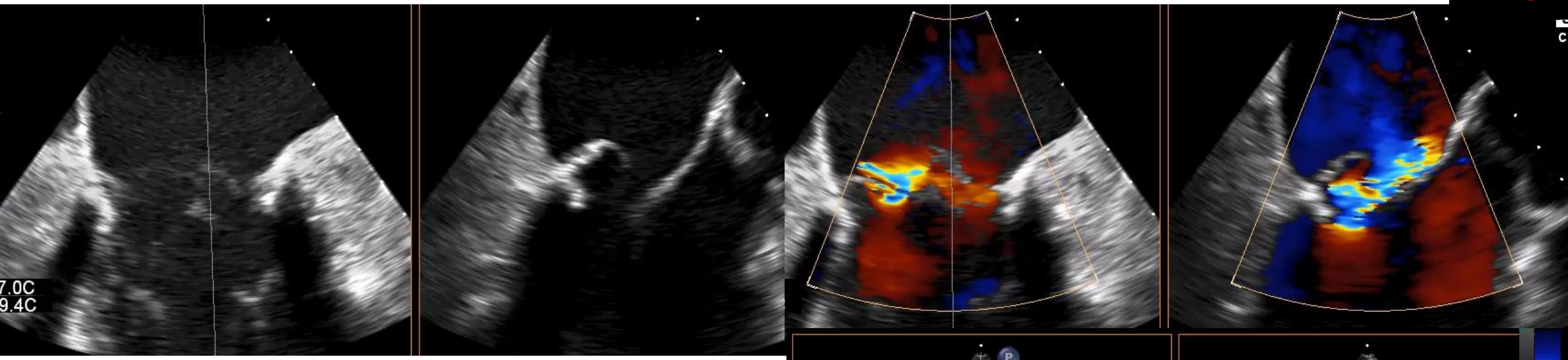
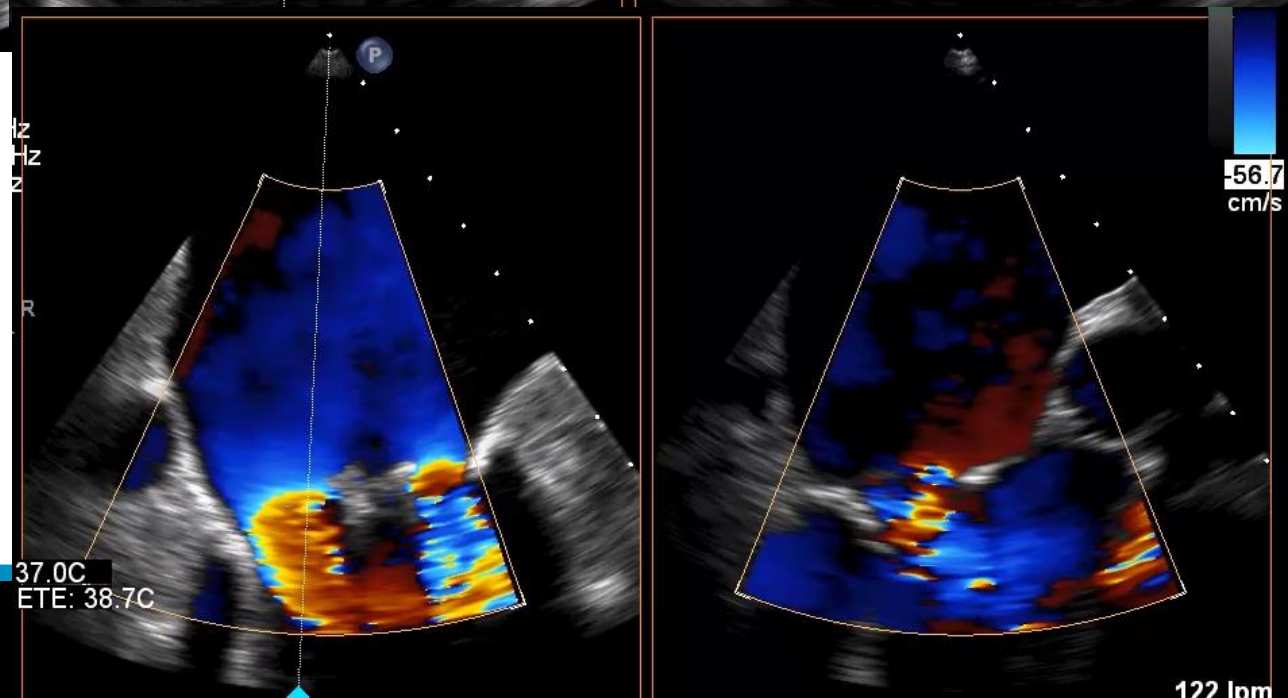
Some mitral TEER cases to remember

Very “ugly” valve –> suboptimal echo result –> Great clinical improvement

Pre

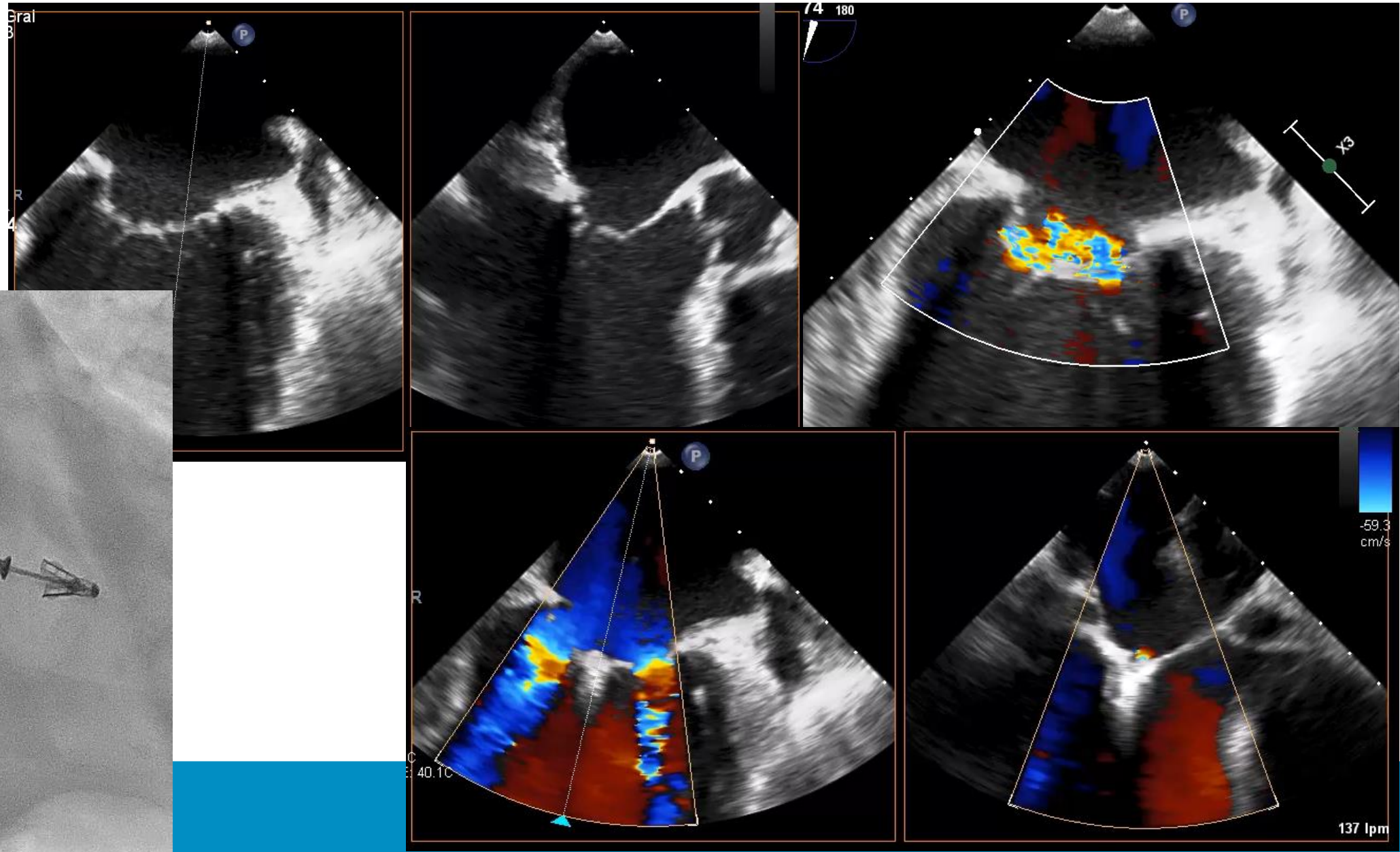


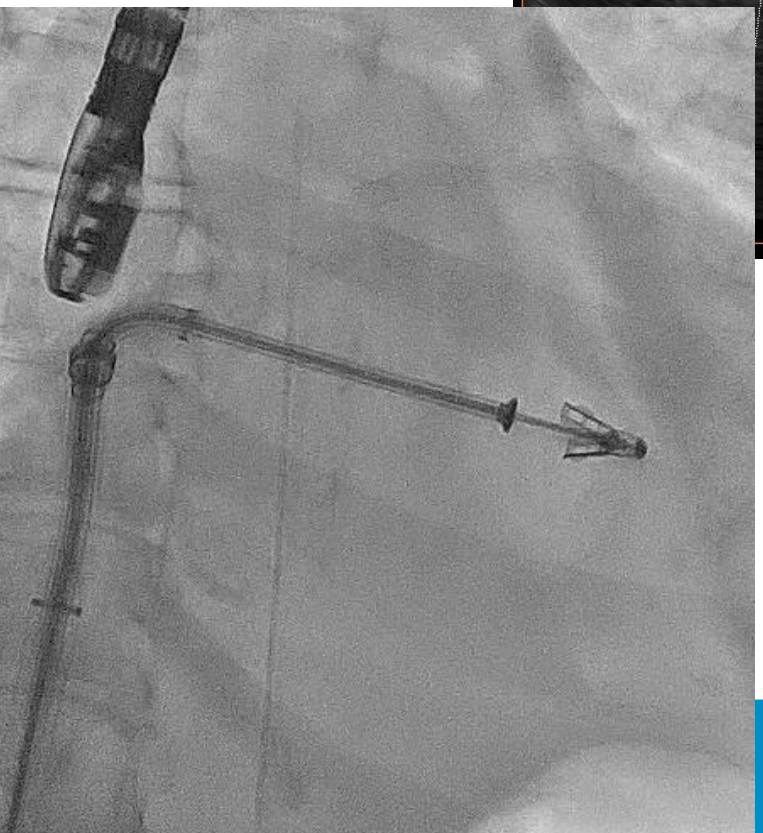
Post Mitraclip NTr x2



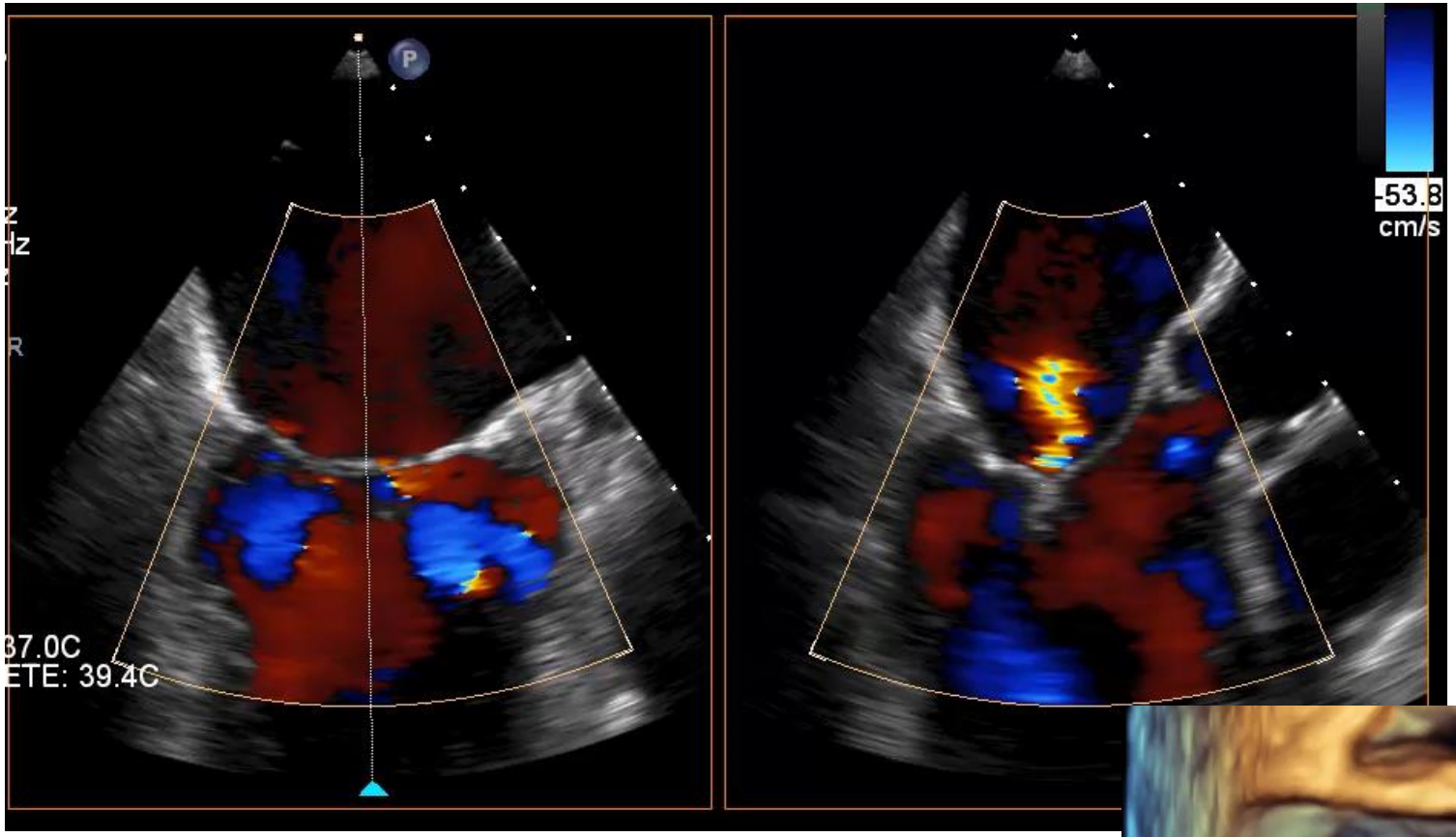
Some mitral TEER cases to remember

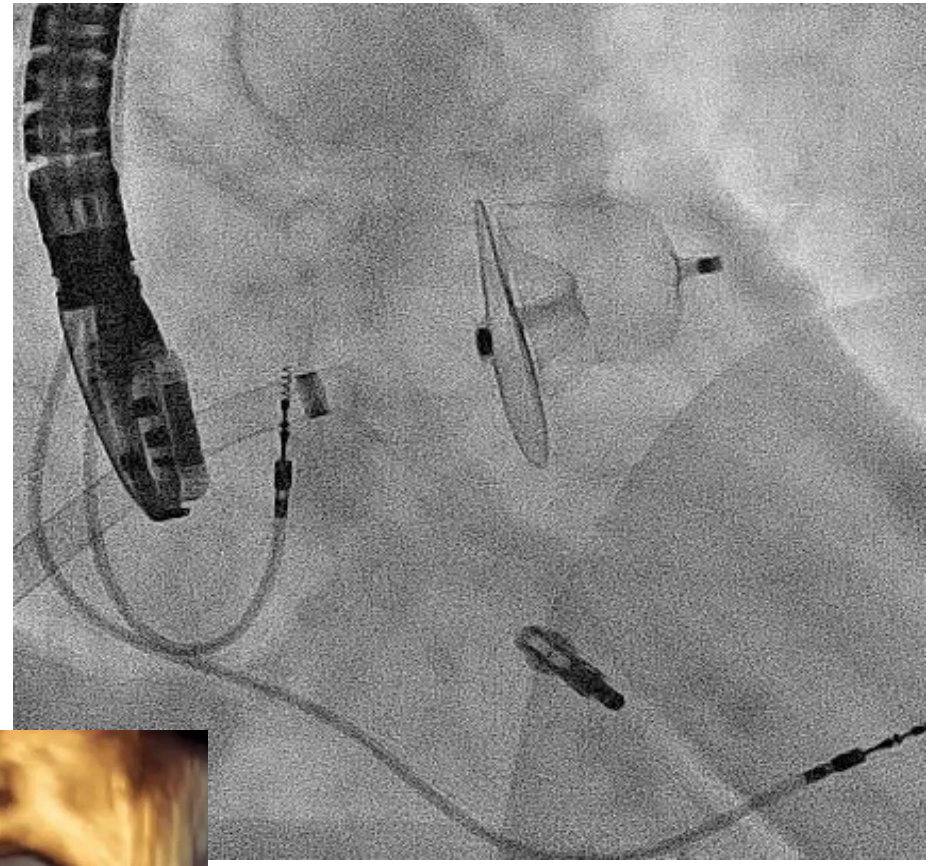
TEER in critically ill patients

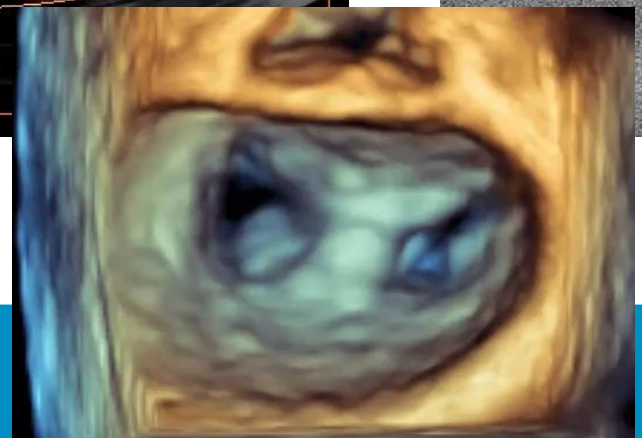




Combined procedure (mitraclip + amulet)







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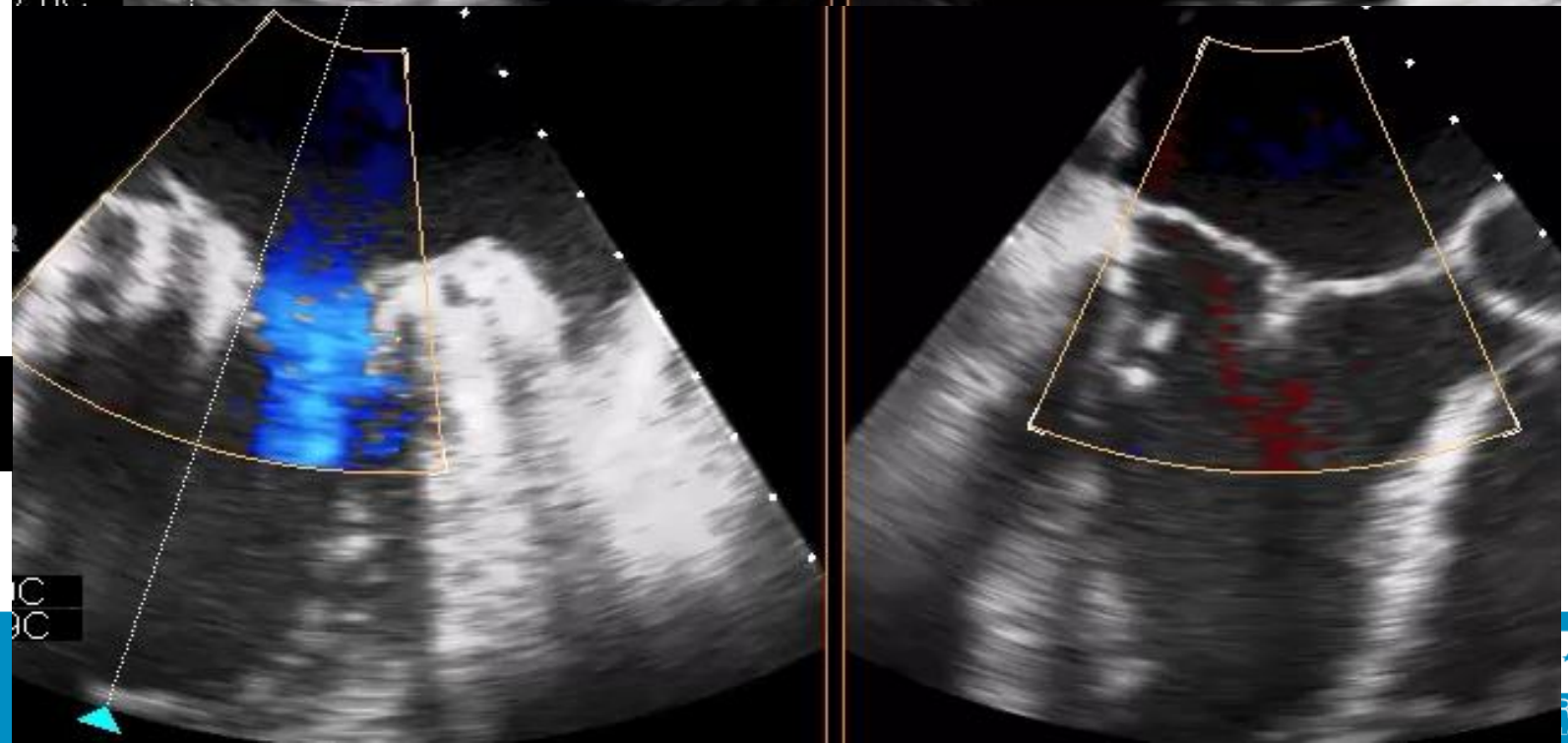
Medial commissural jet

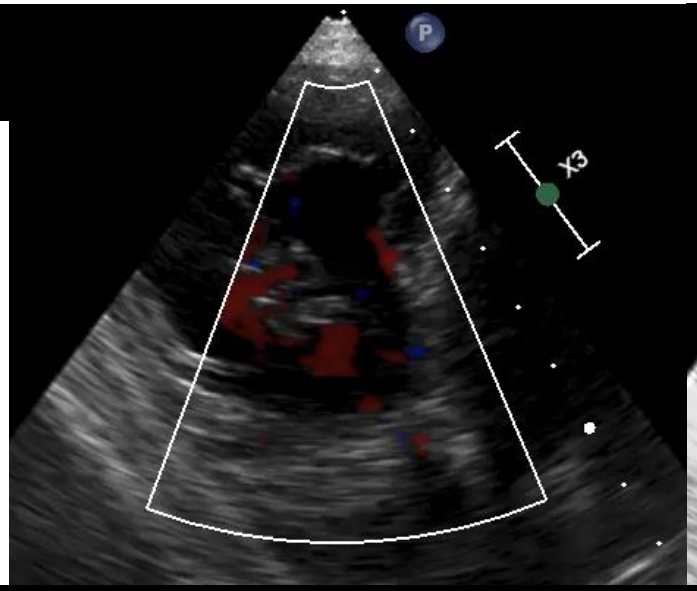
Pre

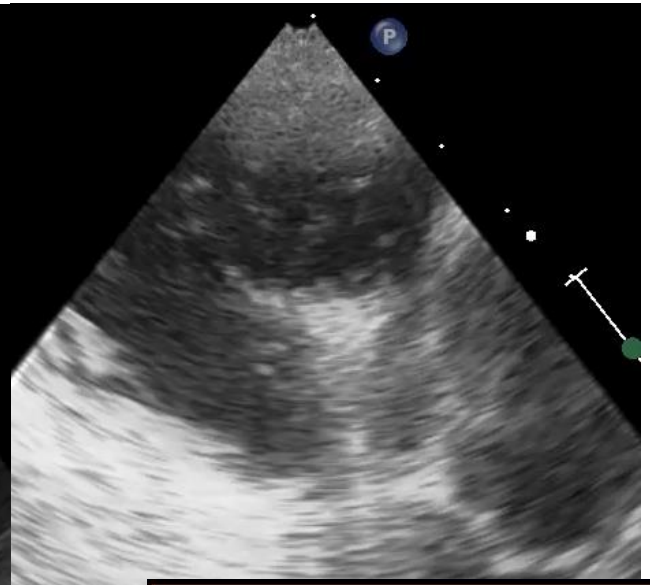
Post Mitraclip NT+NTW

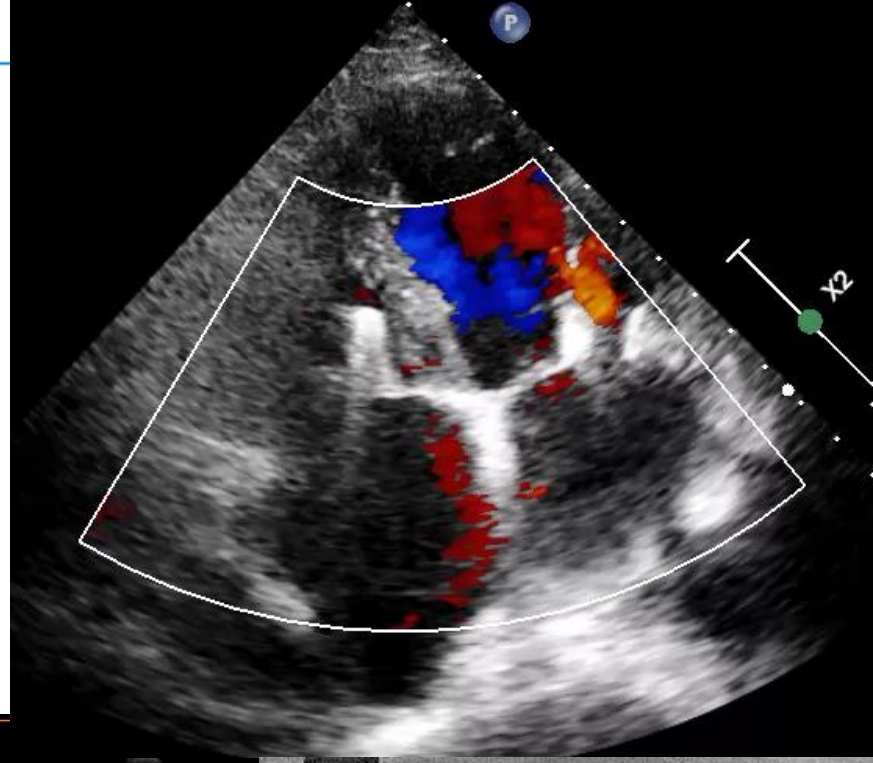


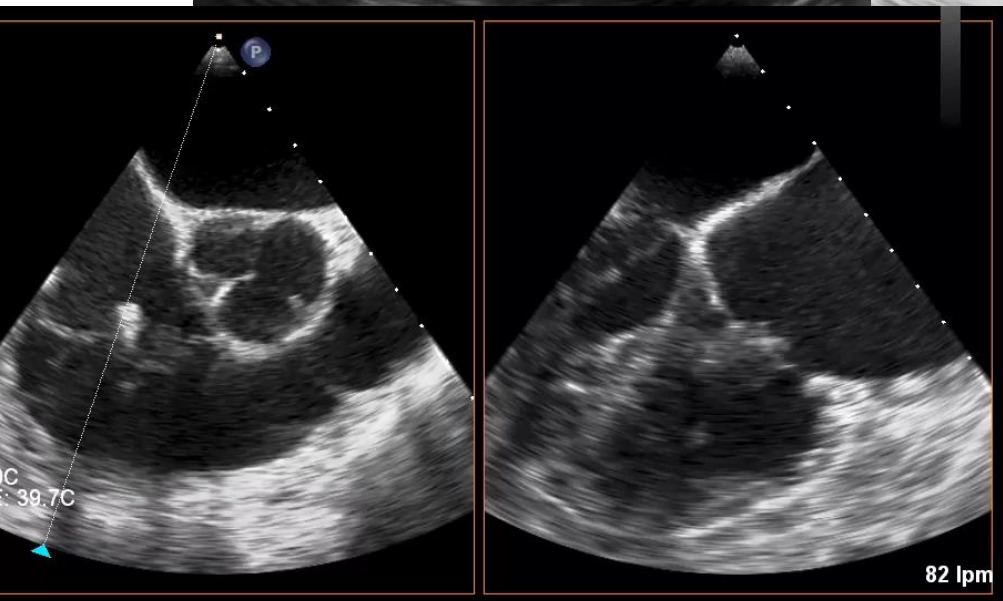
Double valve repair

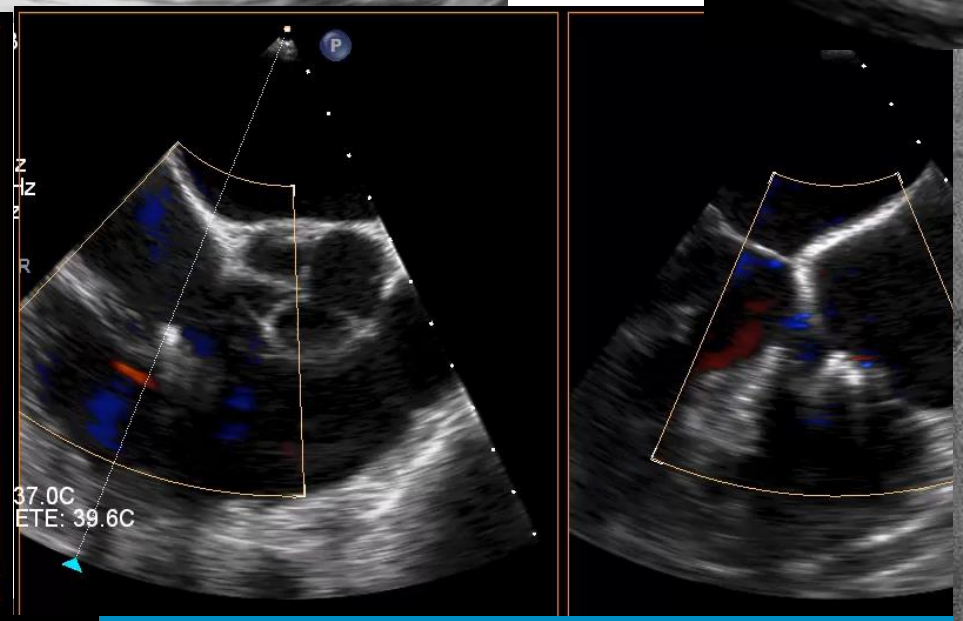
Pre

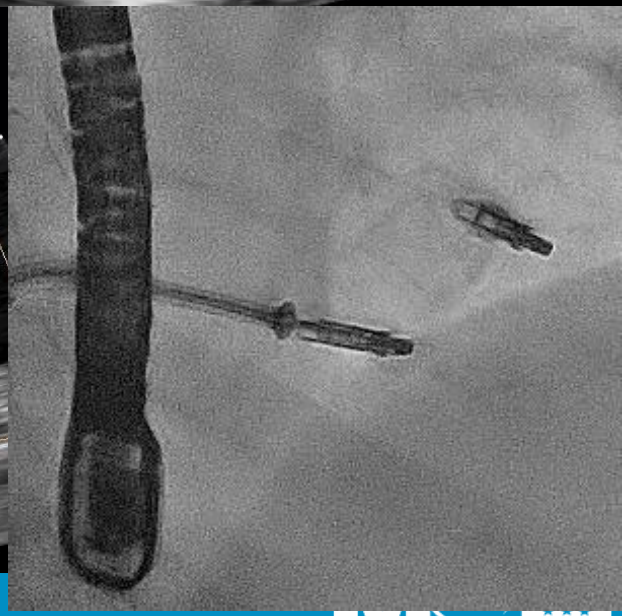












Post Mitraclip NTW + Triclip NT

Case of Mitral TEER

87 y/o, 58kg ; 154m ; BSA 1,56m^2

Comorbidities

- CVRF: Diabetes, Hypertension, dyslipidemia, obesity

Clinical data

- Shortness of breath since 3-4 months, NYHA III, no heart failure rehospitalization
- Medical treatment: Furosemide (80mg/day), enalapril (10mg/day), simvastatin (40mg/day), sitagliptin/Metformin, diamicron,
- Lab test: creat 1.47 (eGFR 32ml/min); Nt-proBNP 1217

Surgical risk assessment

- STS 2,26%, EuroScore II 1.46%, Log Euroscore: 12.08%
- Fragile (Fried 3/5)
- 6MWT: 145m

TTE:

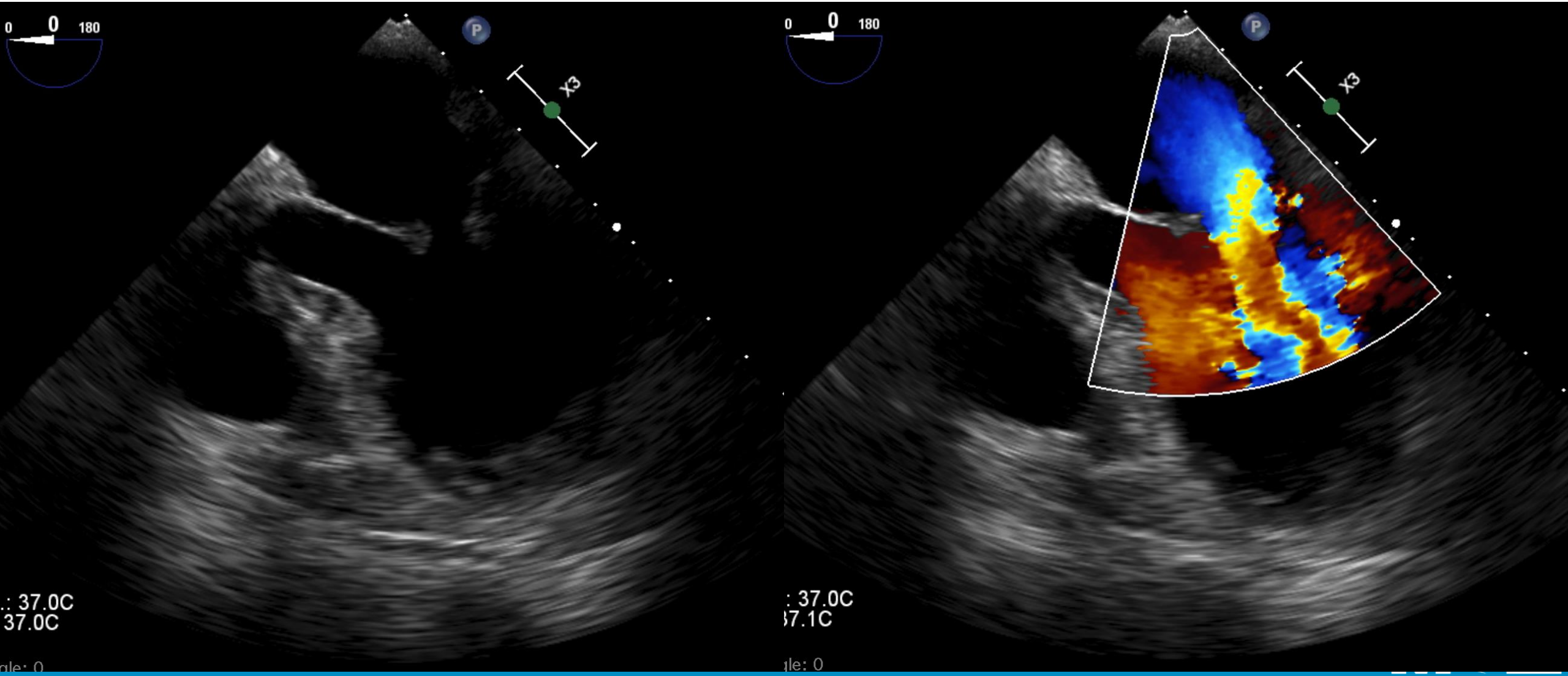
- Normal dimension and function of LV and RV
- Severe MR: eccentric jet due to a posterior leaflet mitral valve prolapse
- No TR

RHC

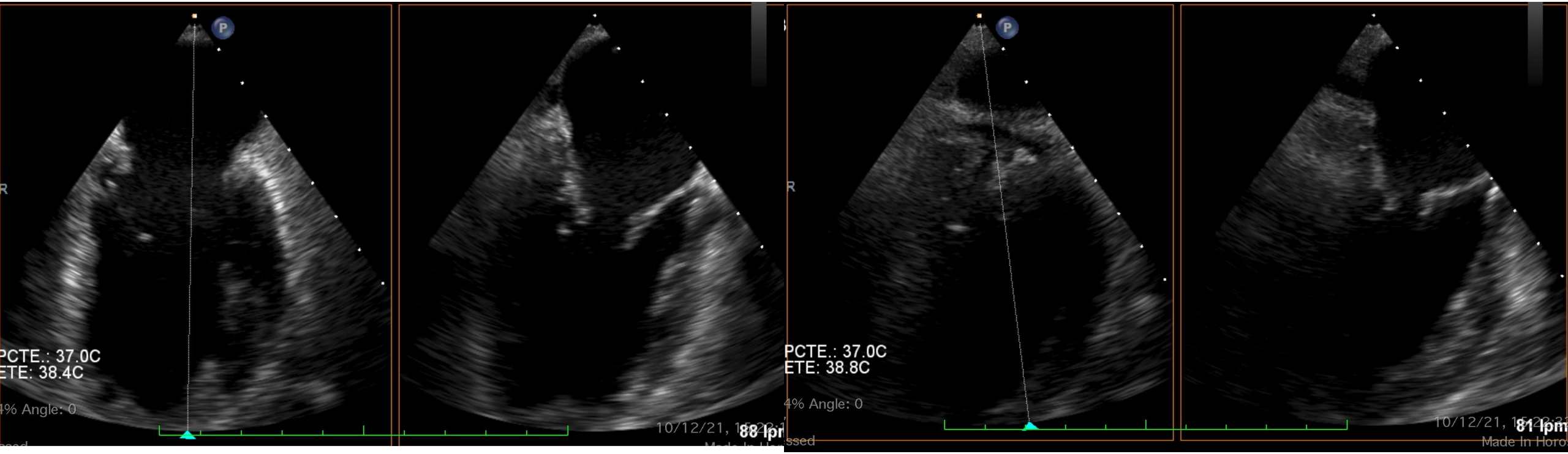
- Pulmonary pressure: 33 / 16 / 22 mmHg
- Wedge: 19mmHg
- RV / RA pressures: 33/5 and 6mmHg
- Cardiac output: 4,8 L/min

Case of Mitral TEER

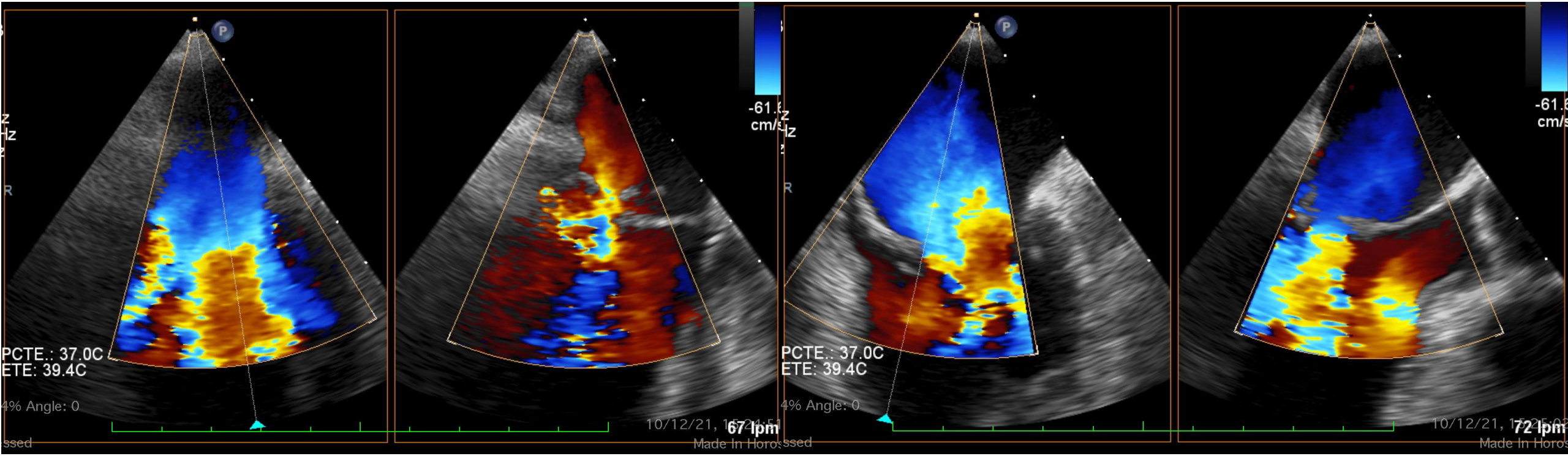
Transesophageal echocardiogram



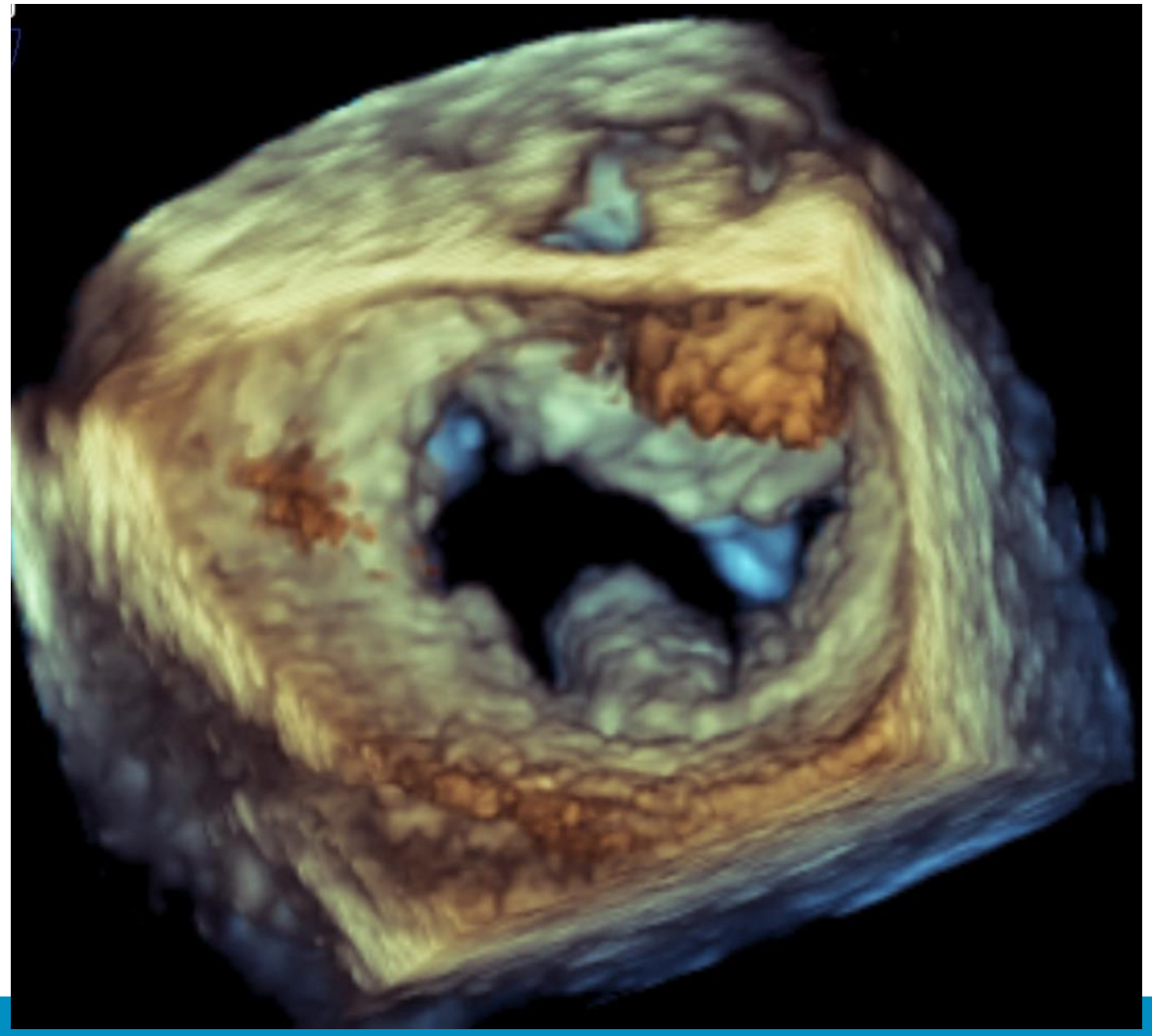
Transesophageal echocardiogram

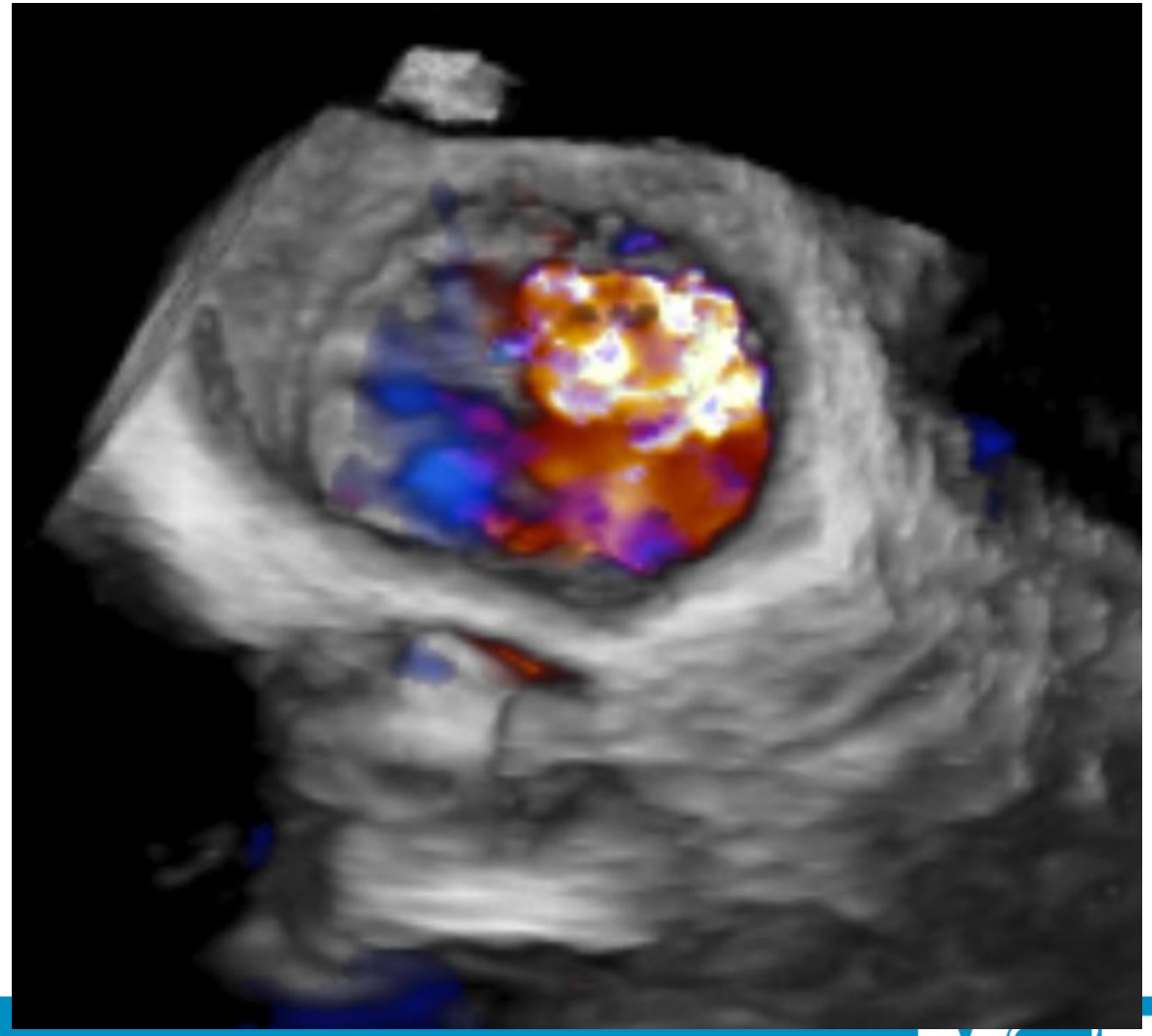


Transesophageal echocardiogram



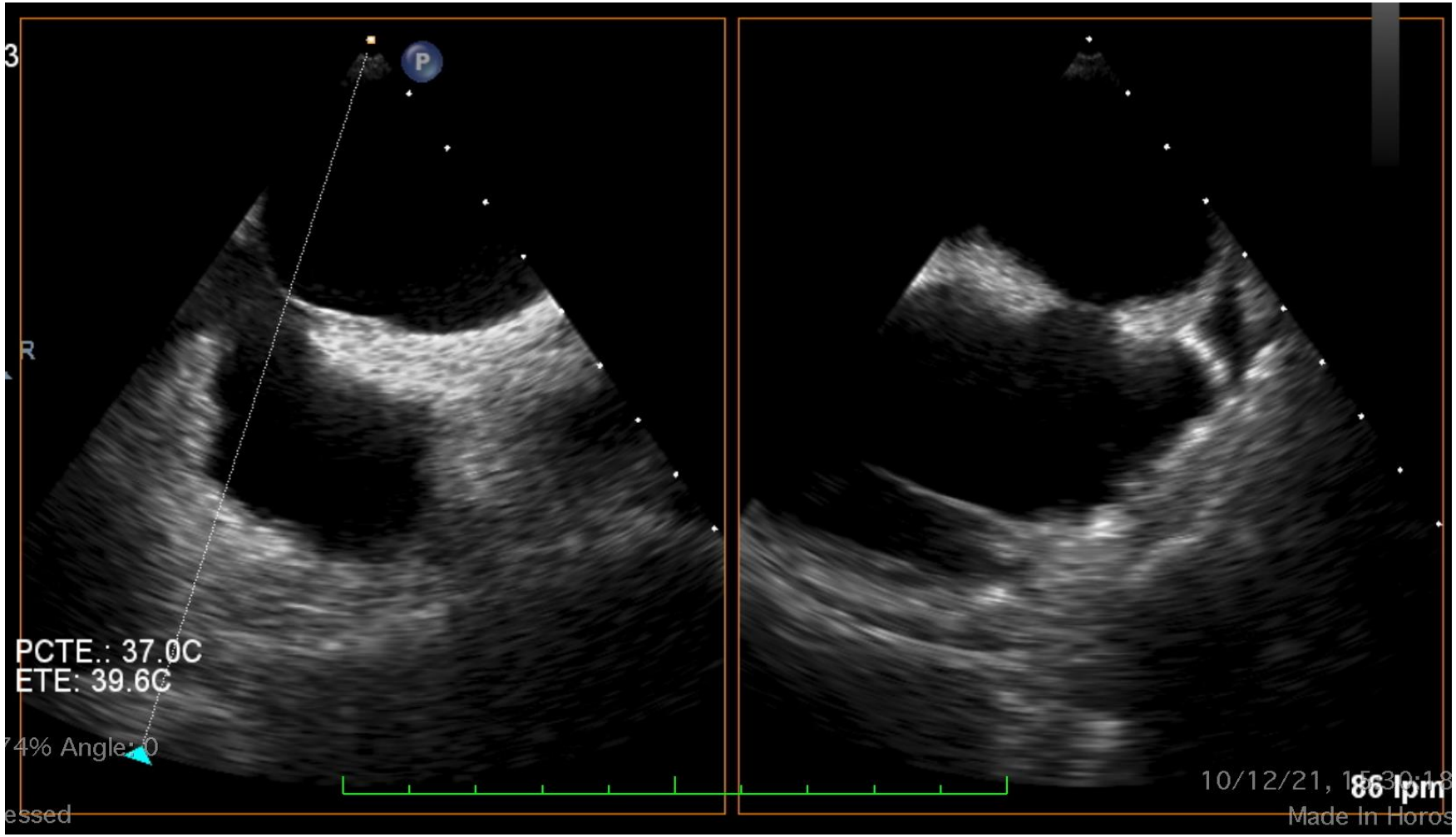
Transesophageal echocardiogram





Case of Mitral TEER

Transesophageal echocardiogram



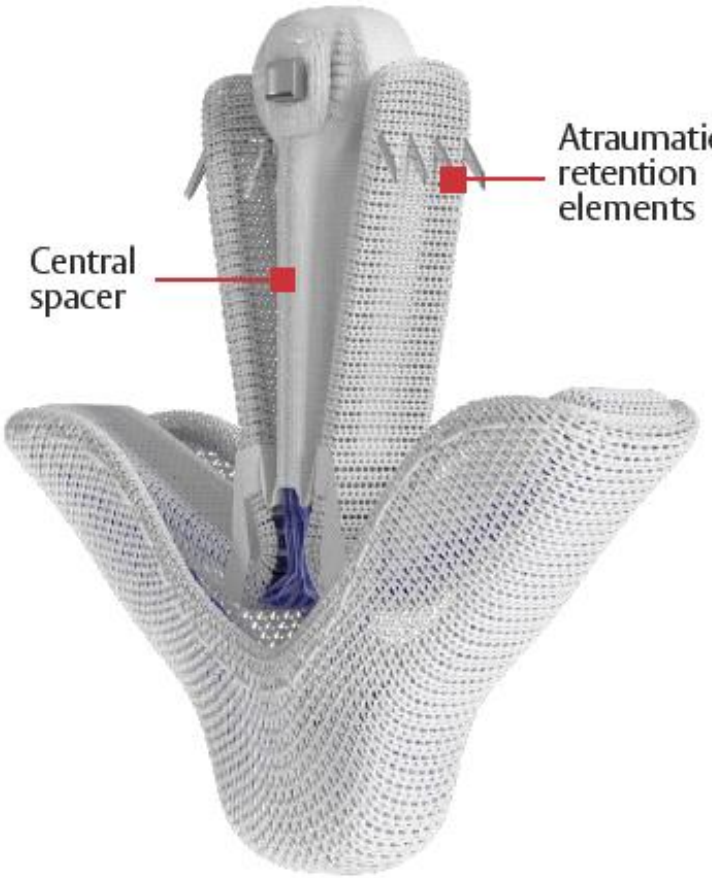
Case of Mitral TEER

87 y.o. women

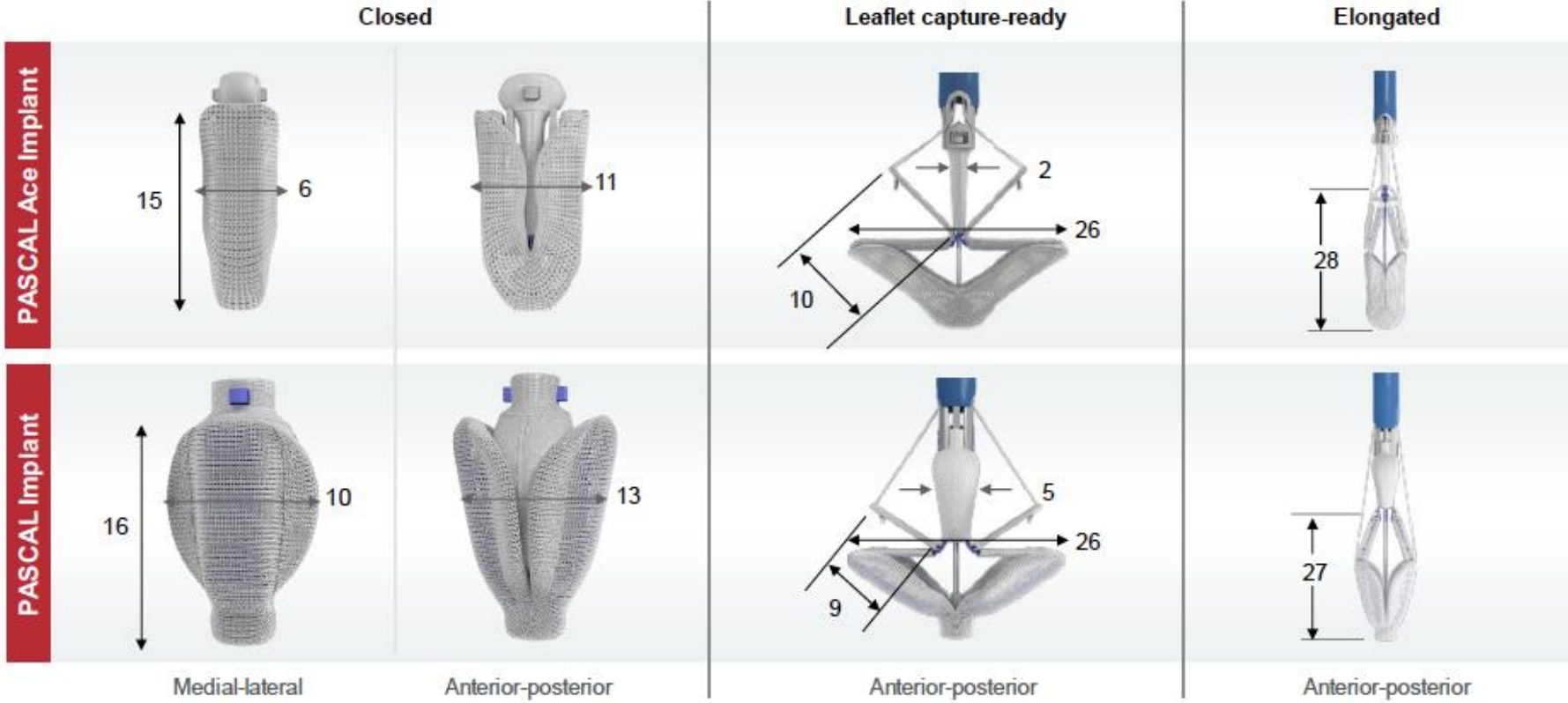
TEE:

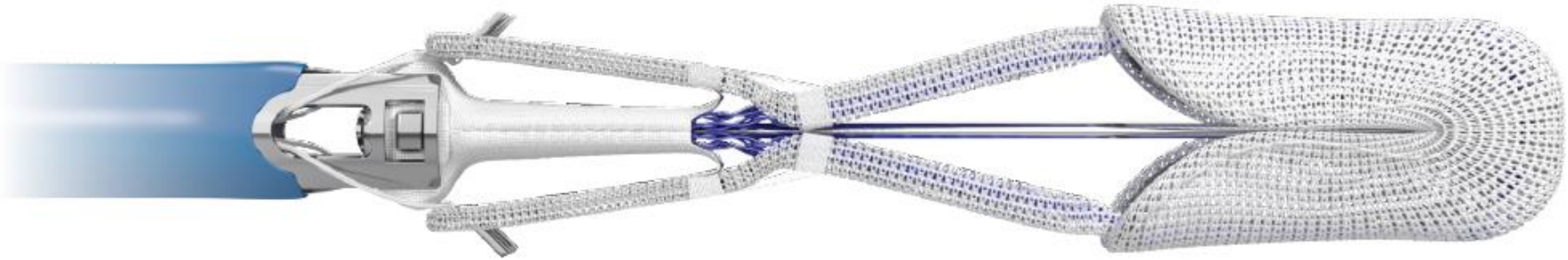
- Primary MR due to flail of the posterior leaflet (P1-P2) with chordal rupture.
- Severe regurgitation: vena contracta 7.5mm, PISA 10mm, EROA 0.59cm^2, Reg Vol 91ml.
- Prolapse height and width: 7mm and 8mm
- 3D MVA: 4.2cm^2
- LVESD: 25mm ; LVEDD: 42mm;
- LVEF: 68%
- Fossa ovalis to coaptation plane: 40mm
- Lipomatous hypertrophy of the interatrial septum

Transcatheter edge-to-edge repair was scheduled with Pascal device



PASCAL Ace

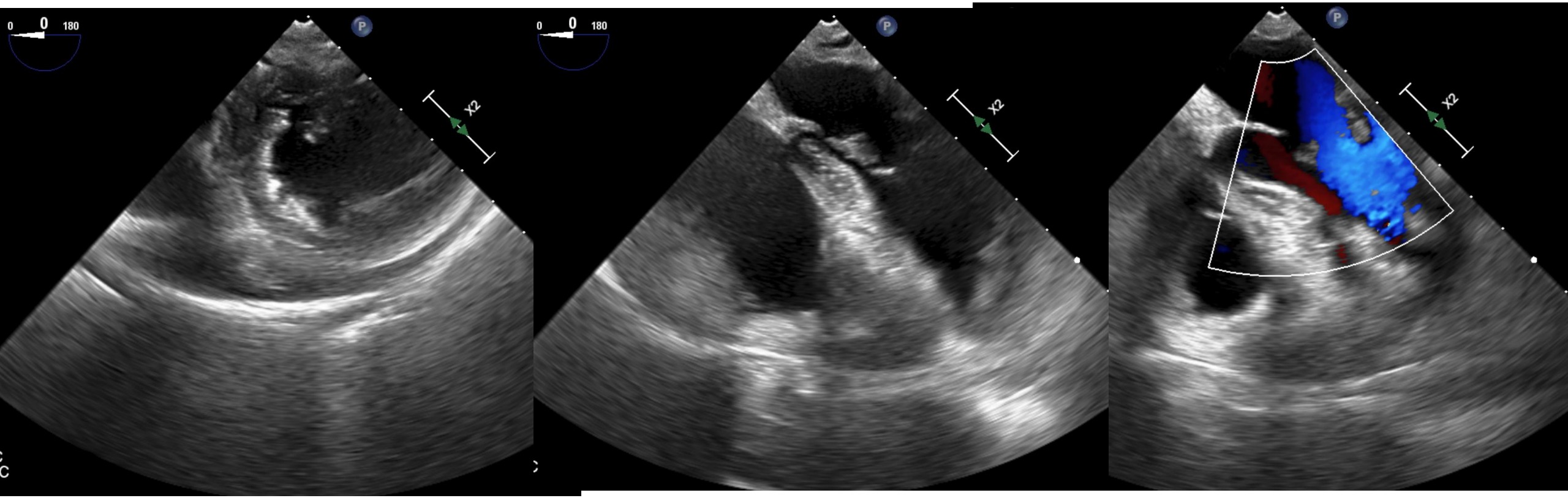




PASCAL and PASCAL Ace feature implant elongation

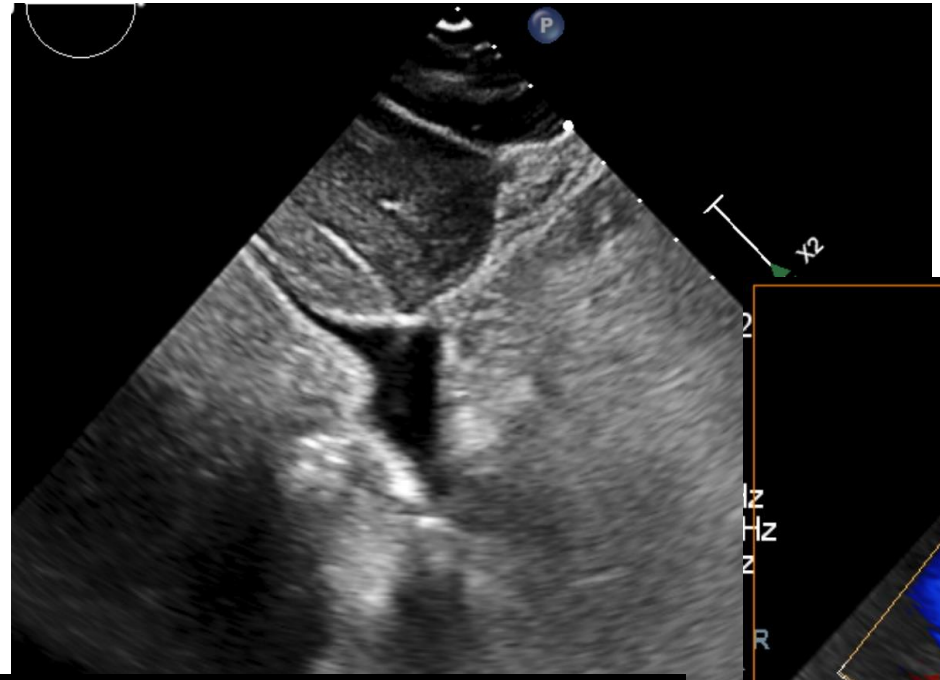
Case of Mitral TEER

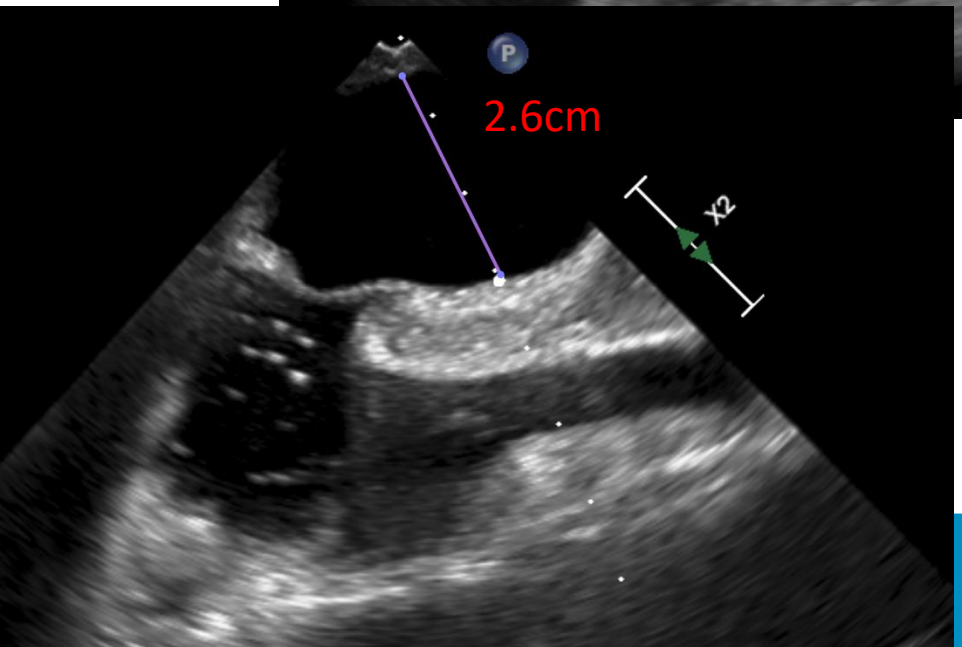
Intraprocedural TEE

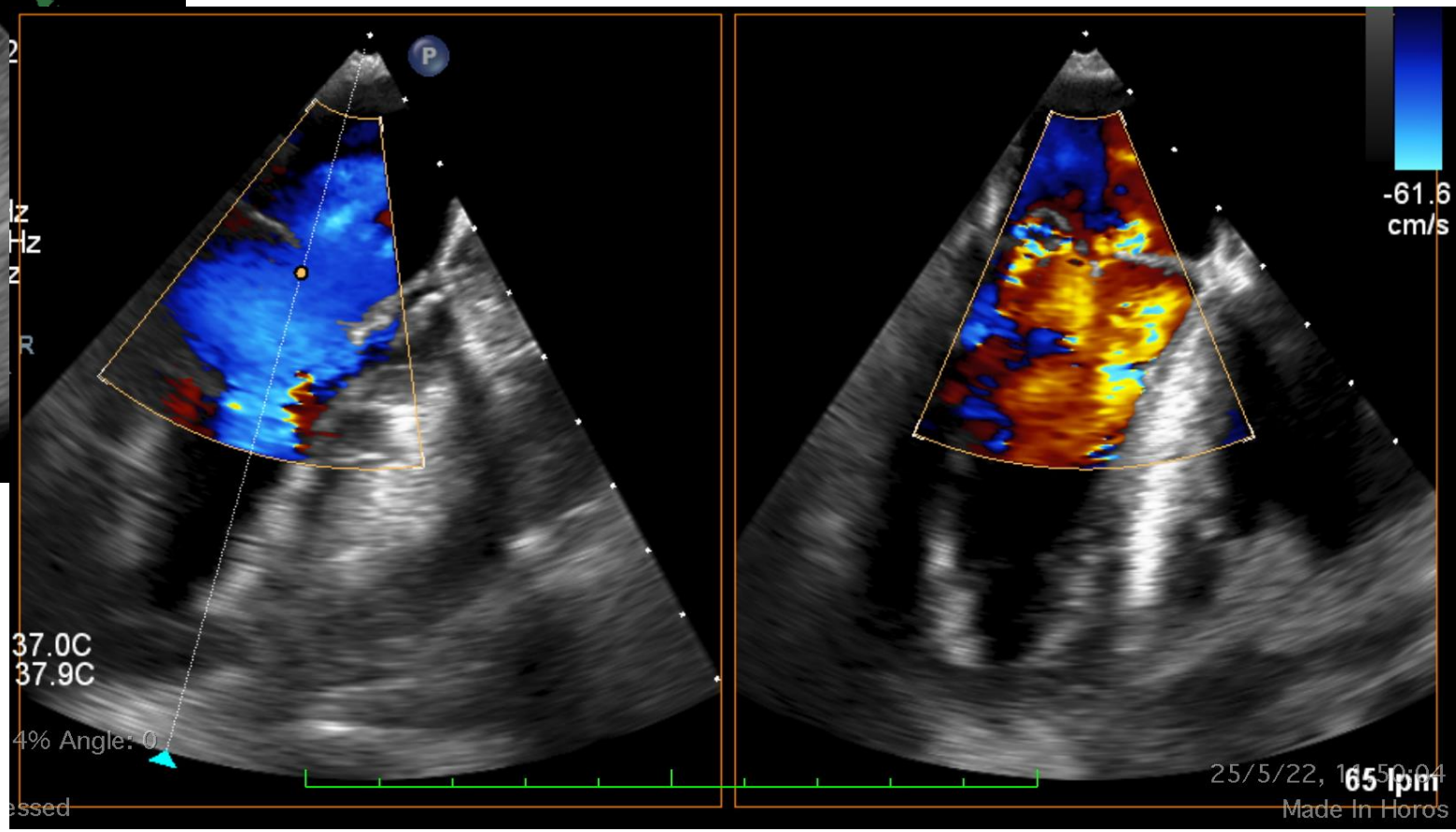


Case of Mitral TEER

Intraprocedural TEE

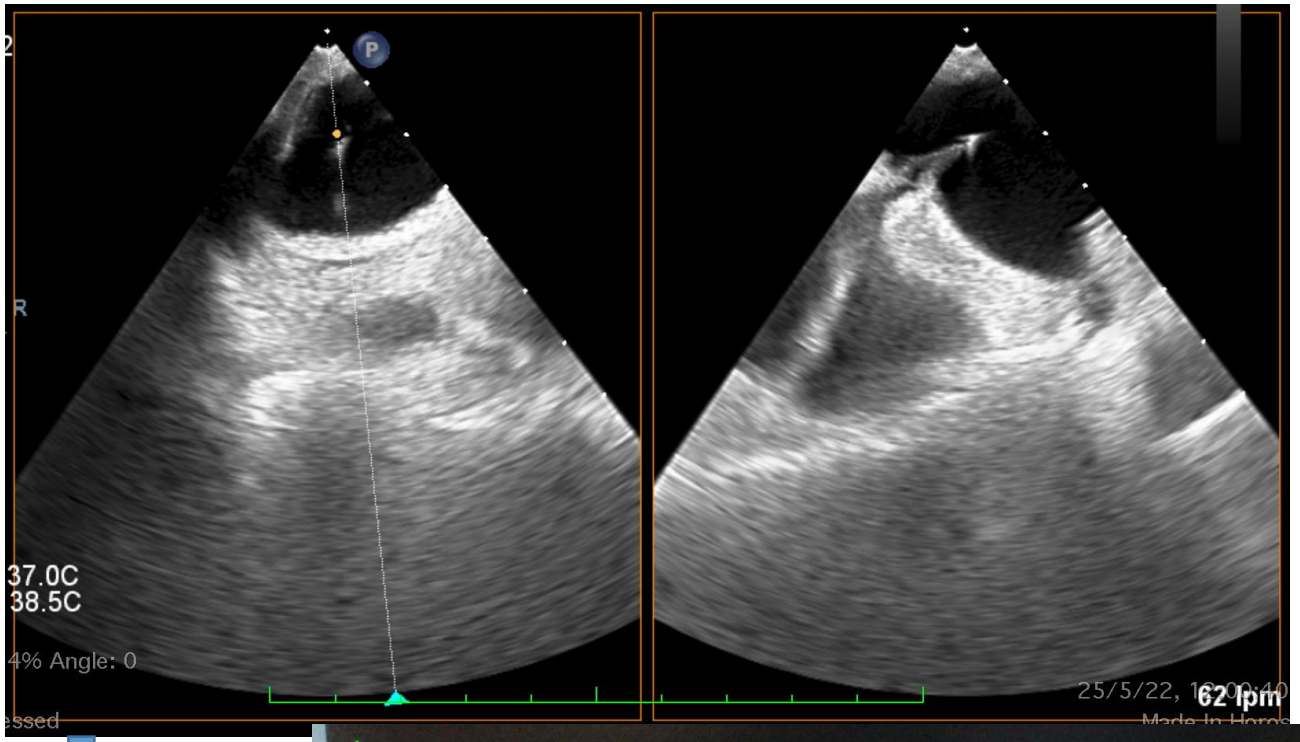


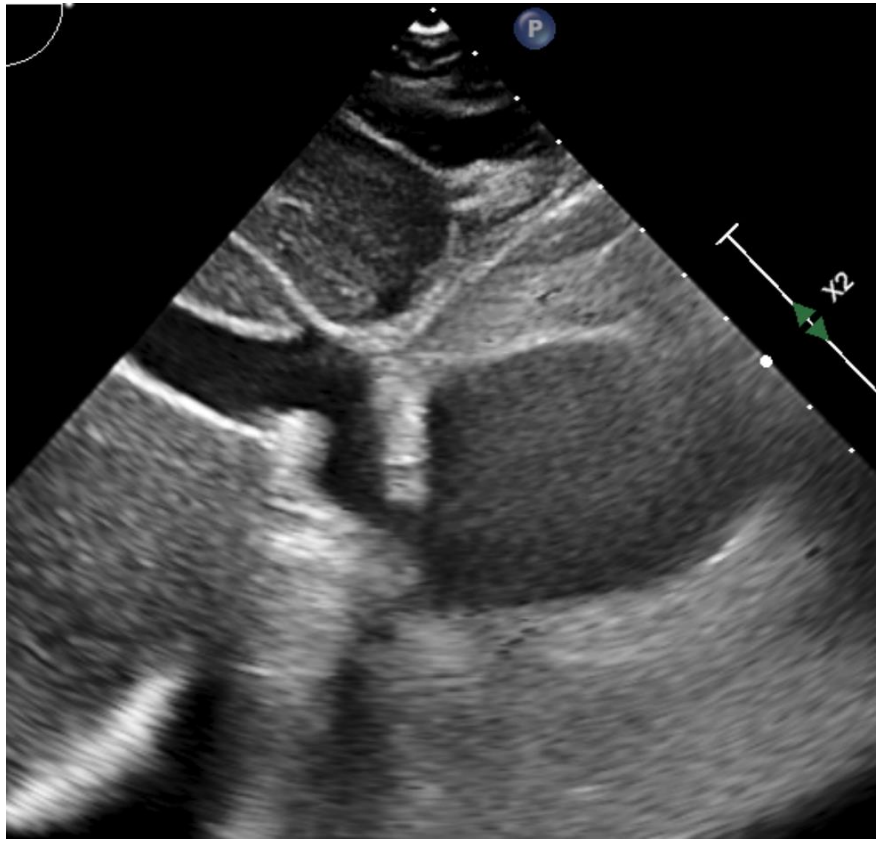




Case of Mitral TEER

Intraprocedural TEE





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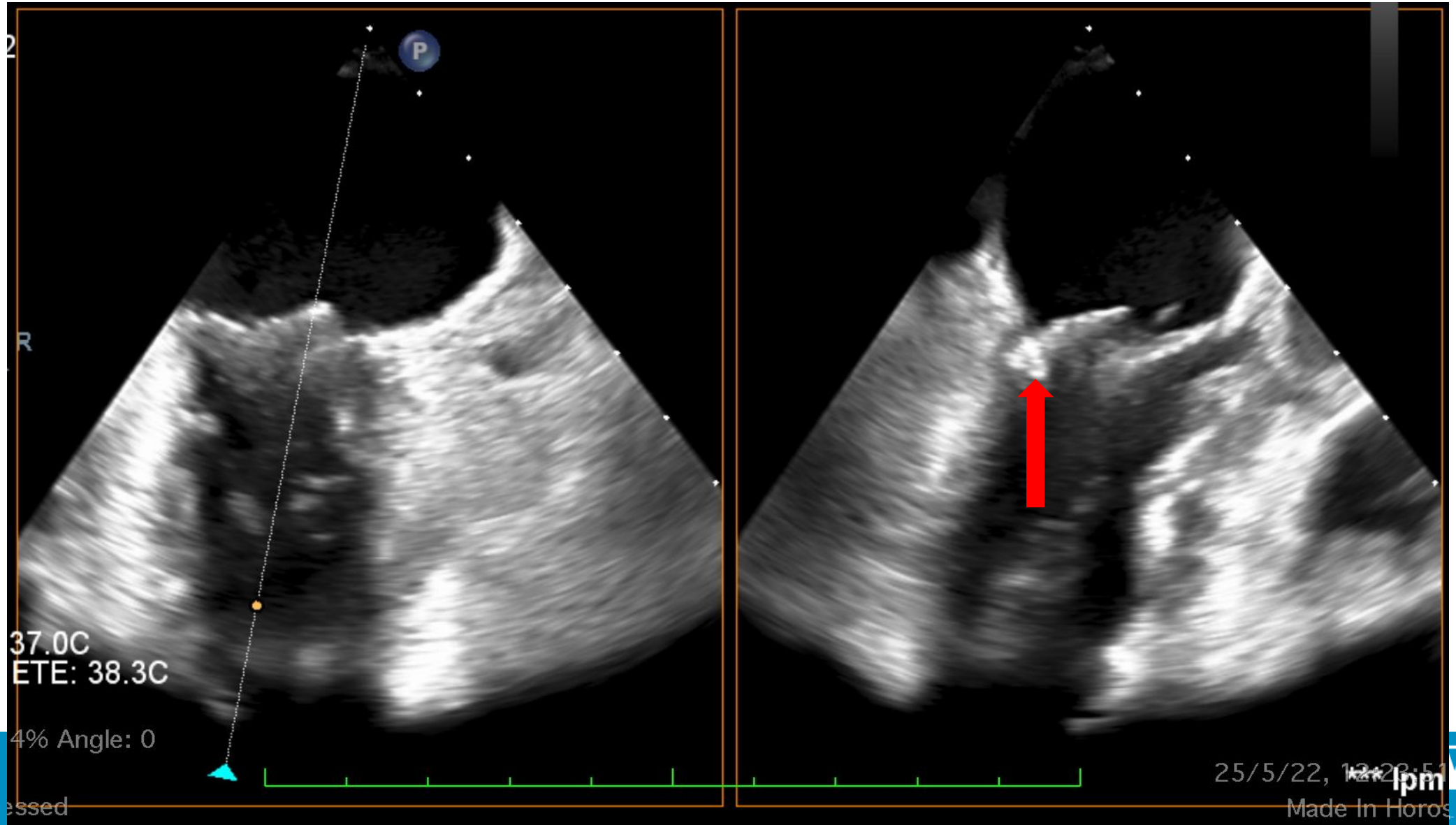
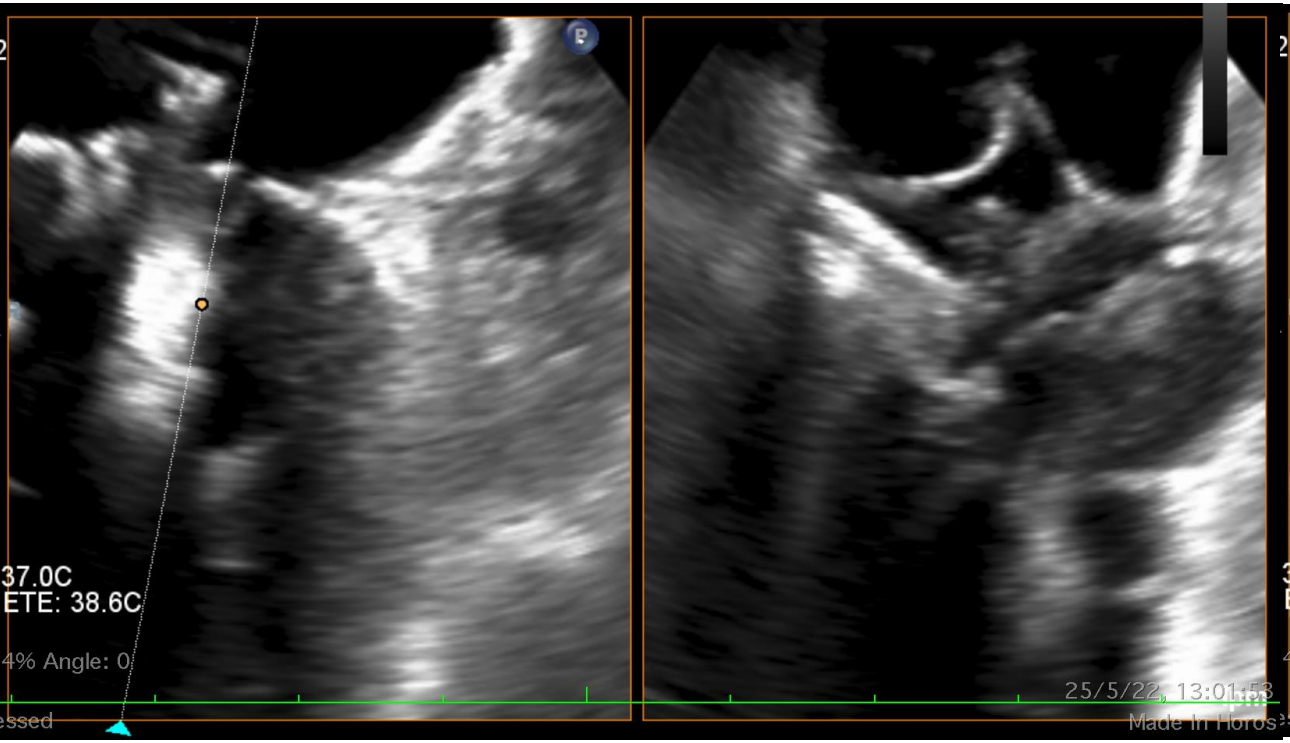
Intraprocedural TEE

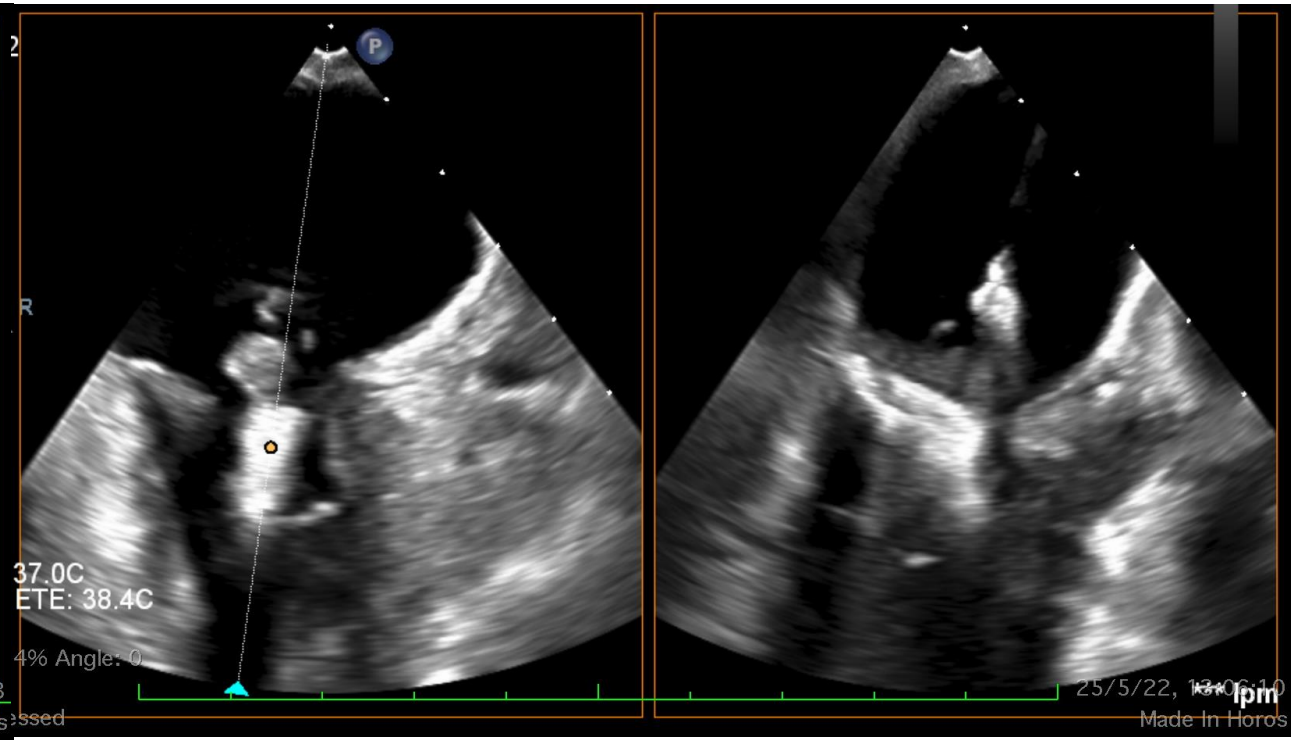


Case of Mitral TEER

1st Clasping

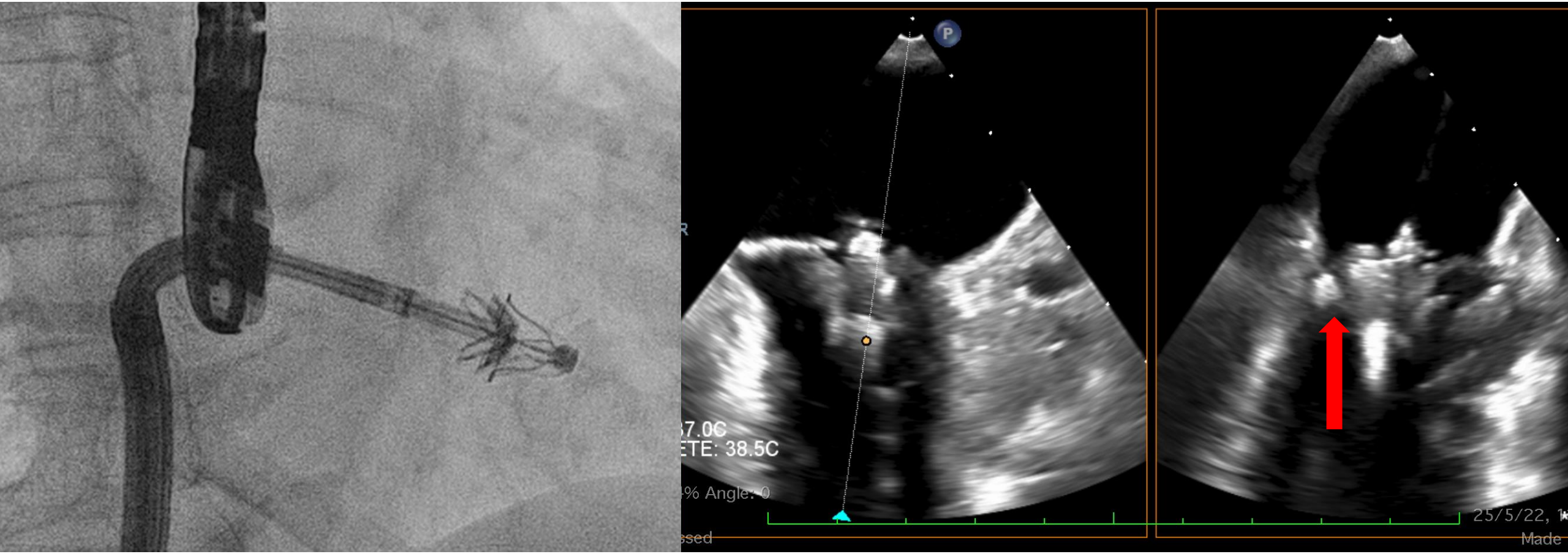


2nd Clasping

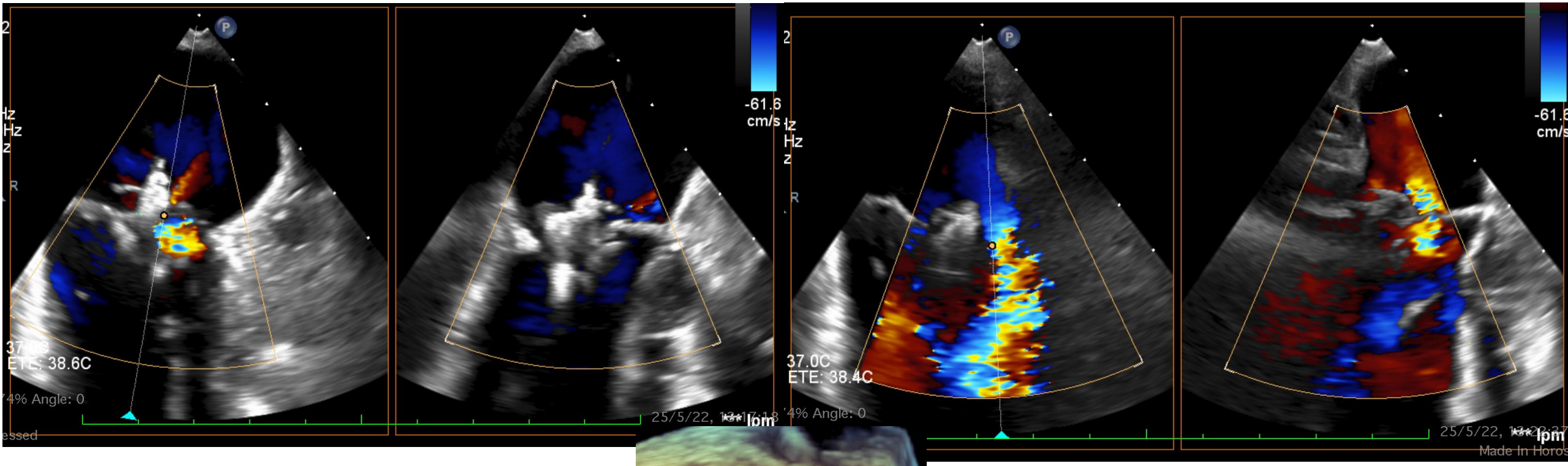


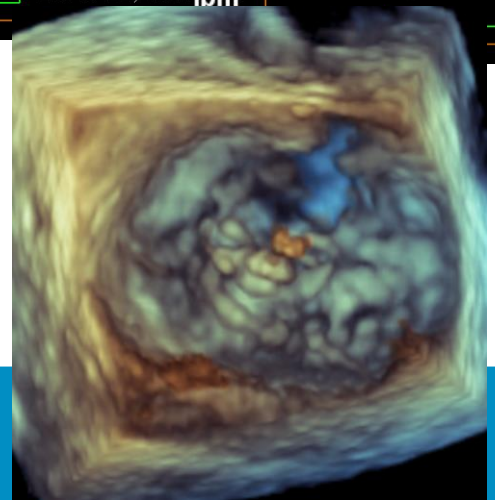
Case of Mitral TEER

3rd Clasping



3rd Clasping

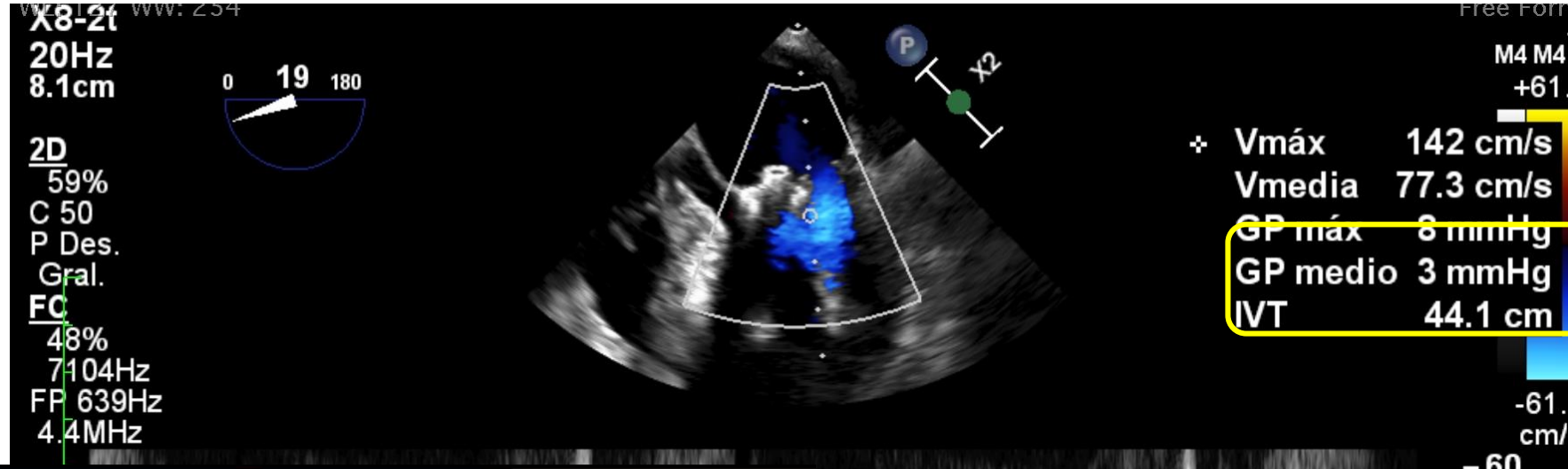


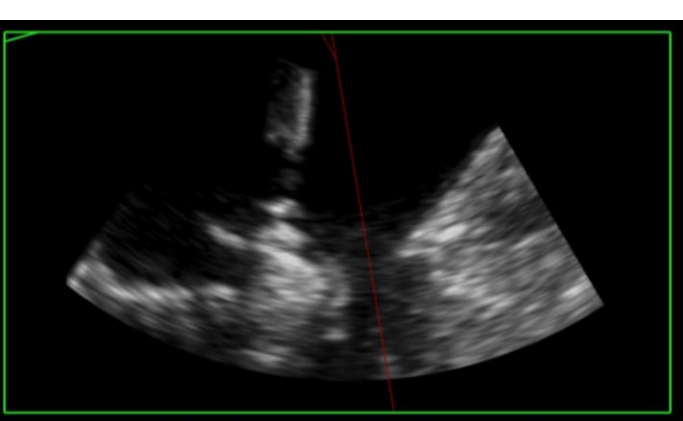


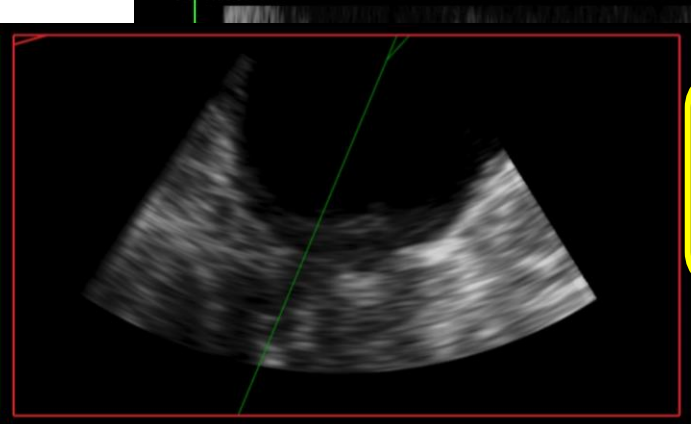
Case of Mitral TEER

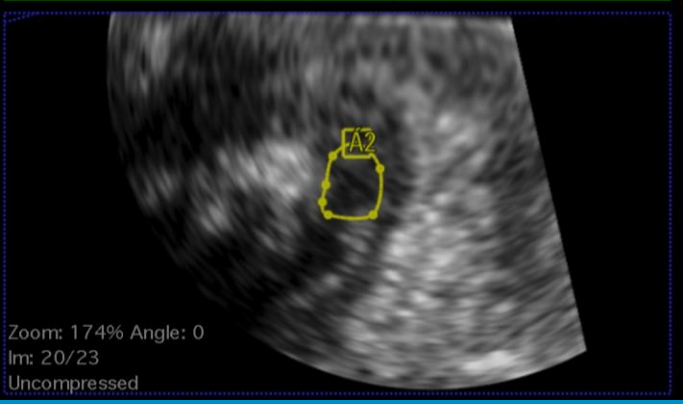
Pascal ACE evaluation

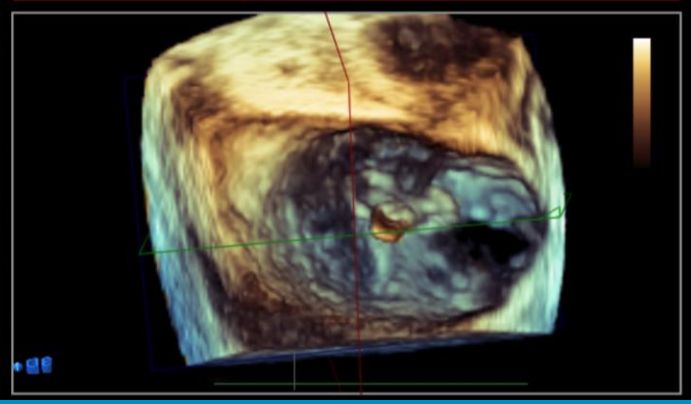
Area: 1.44 + 0.41 = 1.85cm^2
Mean gradient: 3 mmHg

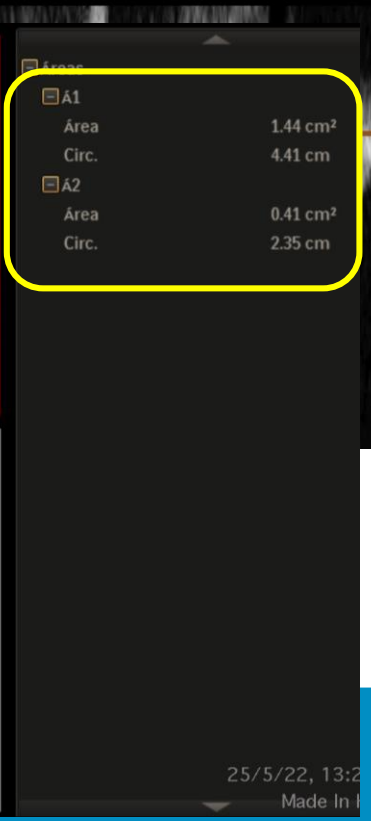


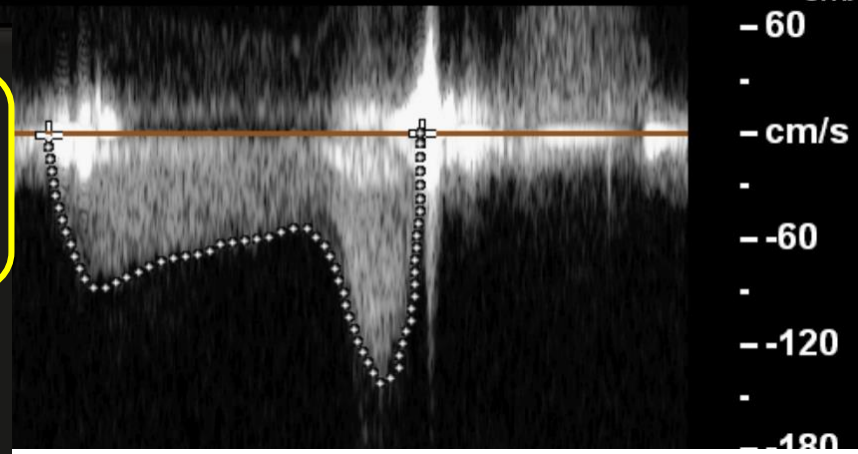






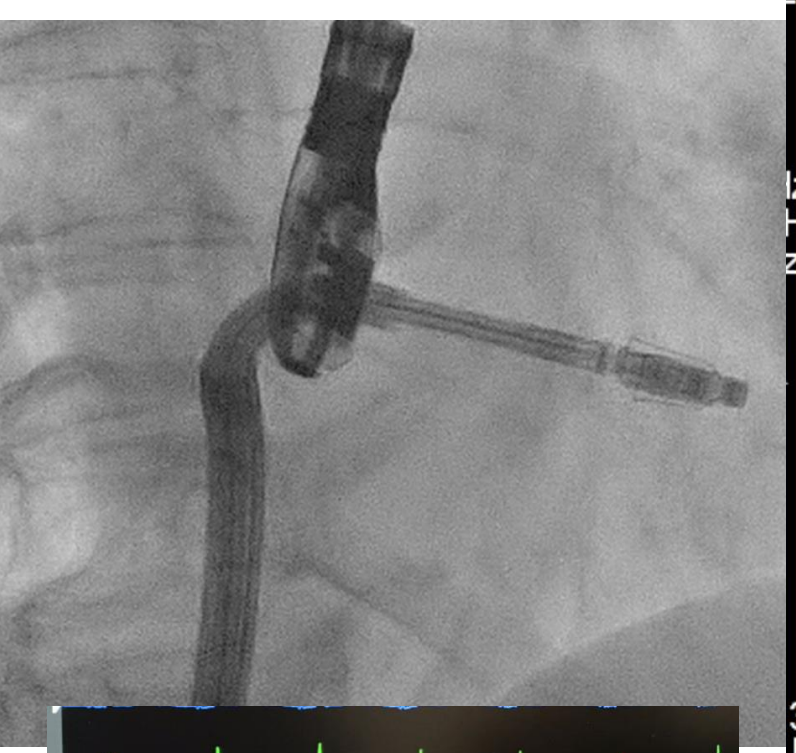


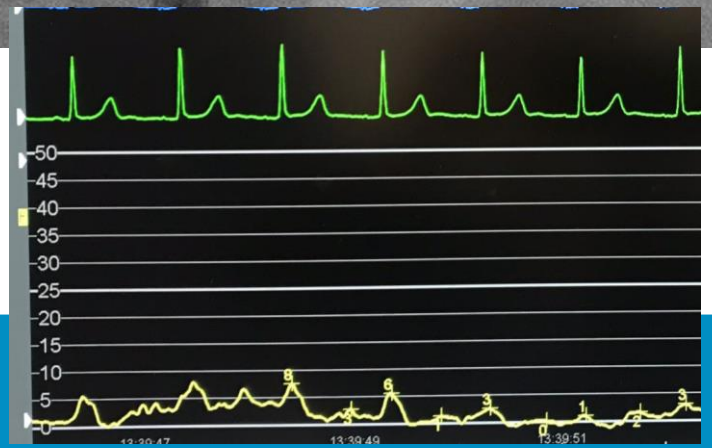


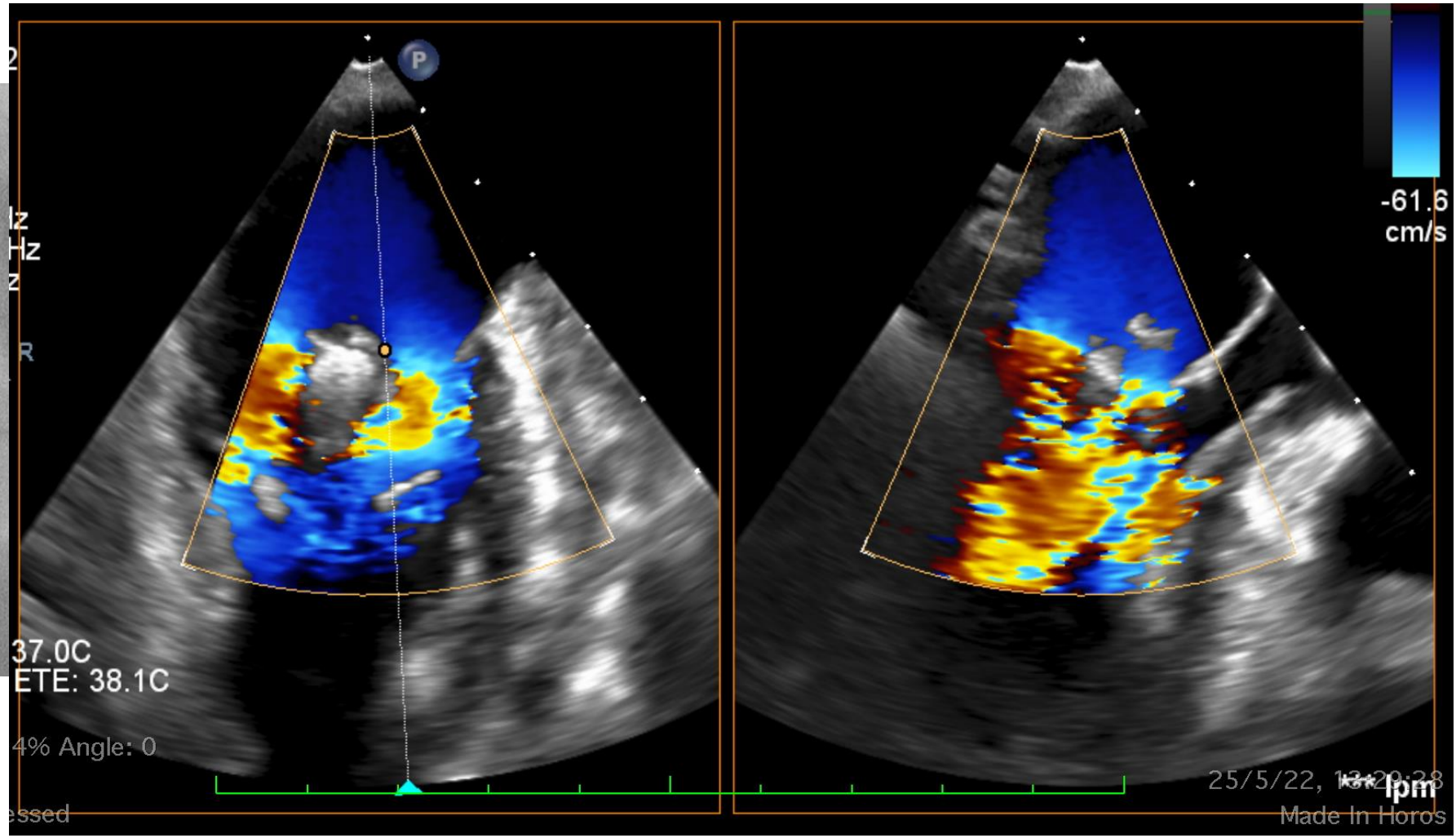


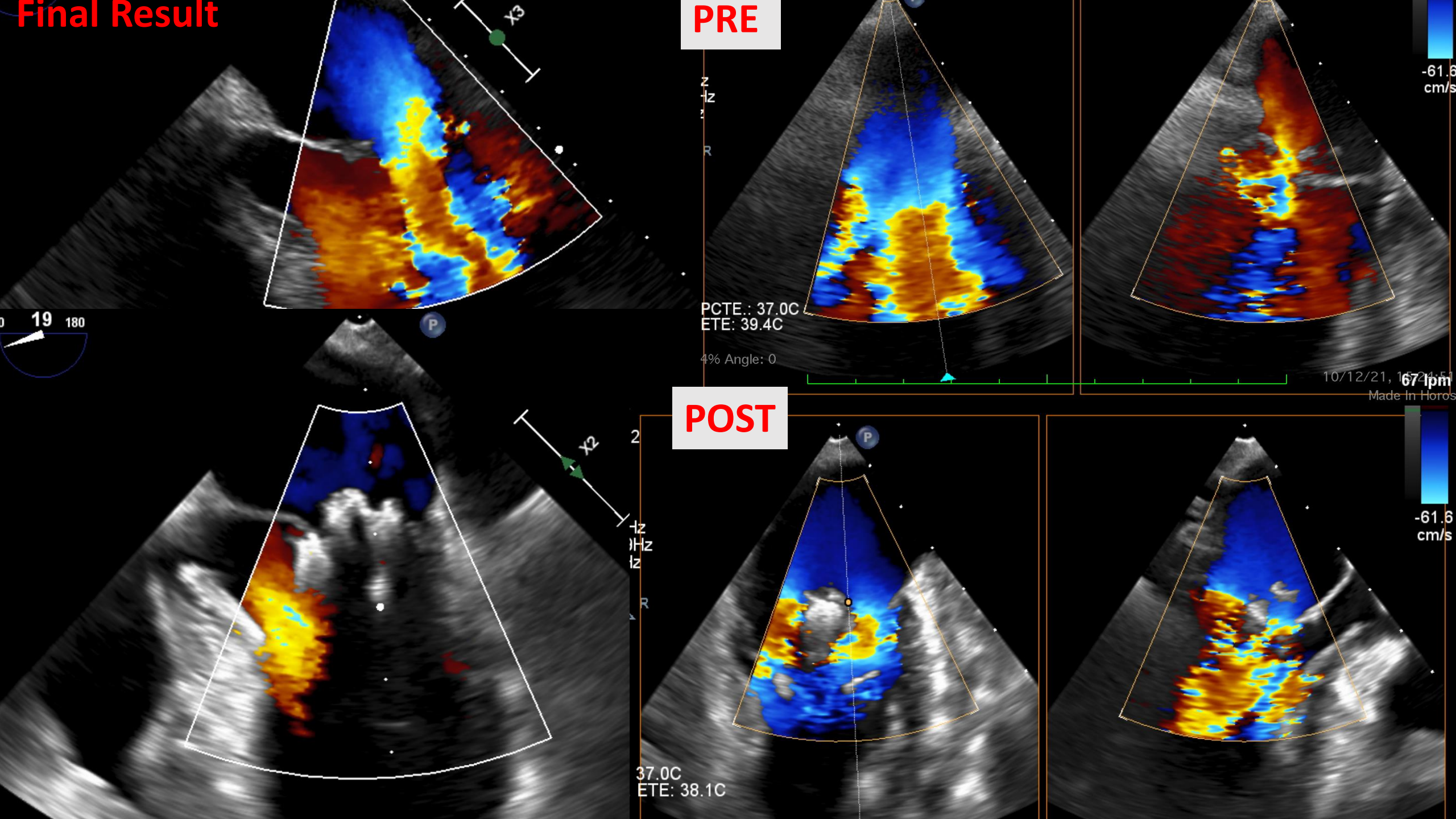
Case of Mitral TEER

Pascal ACE Release



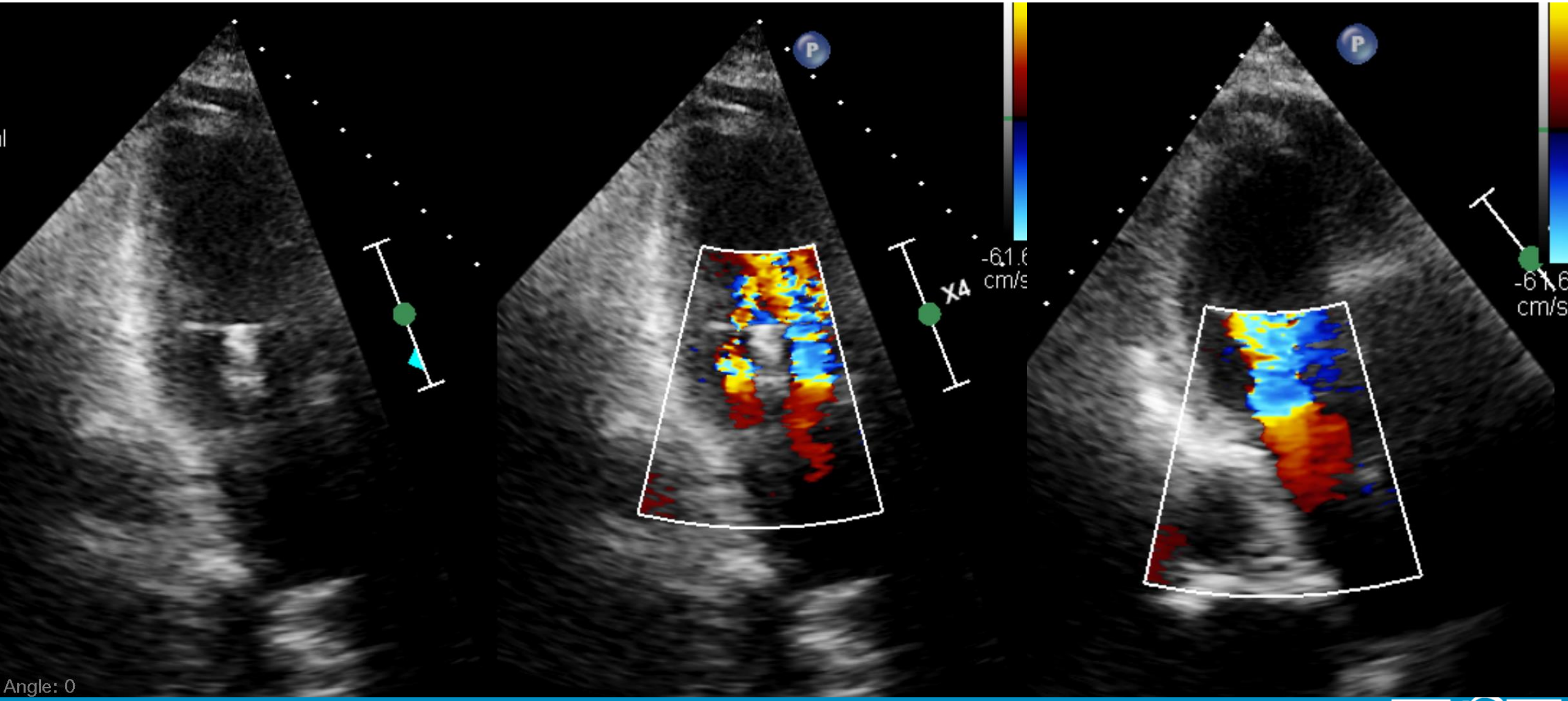





Final Result
PRE
POST
X3
X2
19
180
PCTE.: 37.0C
ETE: 39.4C
4% Angle: 0
-61.6
cm/s
67 lpm
Made In Horos
37.0C
ETE: 38.1C

Predischarge TTE

Case of Mitral TEER



CONCLUSIONS

- Optimal imaging evaluation of the baseline TEE is crucial for the procedure
- MR is very dynamic and we should adapt and change fluid conditions during the procedure
- New technical features (such as independent grasping) of the new generation TEER devices allow to treat complex anatomies.
- Pascal device is very flexible and atraumatic with the valve

Muchas Gracias

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