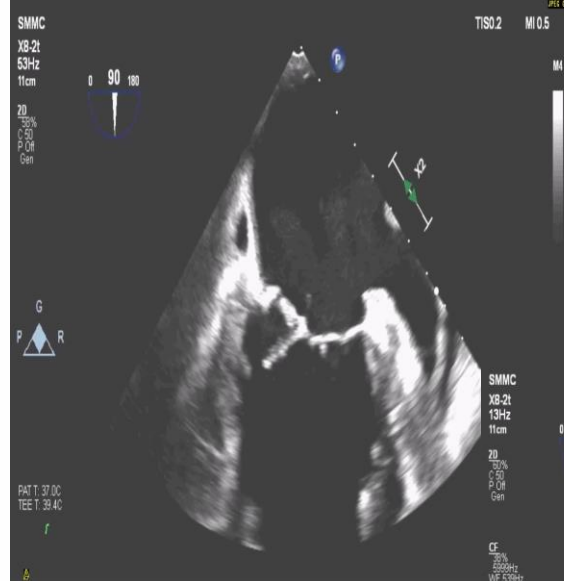
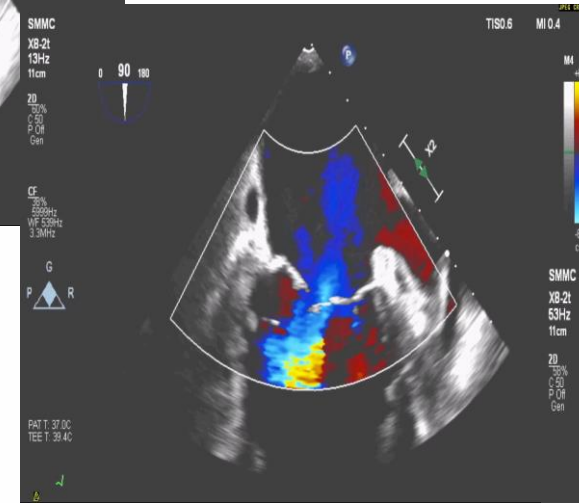


Presentation

- A 76 year-old male with a history of Diabetes mellitus, liver adenocarcinoma on chemotherapy (expected survival > 1 year) was referred by his oncologist for NYHA class III dyspnea and TTE findings suggestive of aortic stenosis and mitral regurgitation with preserved LV function.
- TEE was performed showing severe primary mitral regurgitation with flail P3 segment (PISA radius 1.1 cm and ERO of 0.72cm²). Aortic valve had moderate stenosis with valve area of 1.5cm² on 3D planimetry.

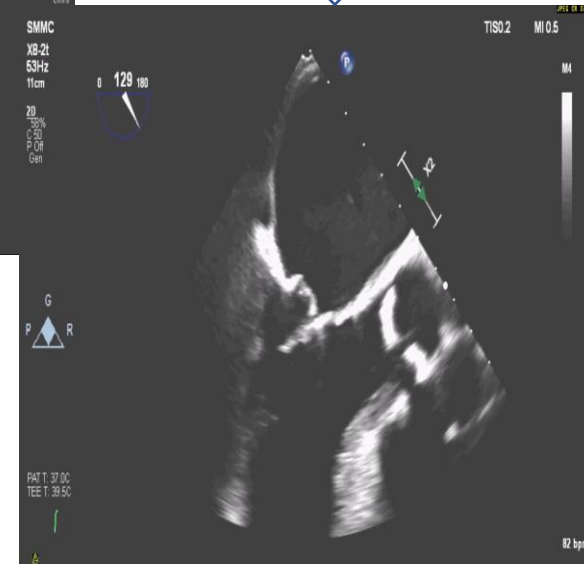


2D TEE, Bi-commissural view



2D TEE, long axis
Flail P3 + calcific AS

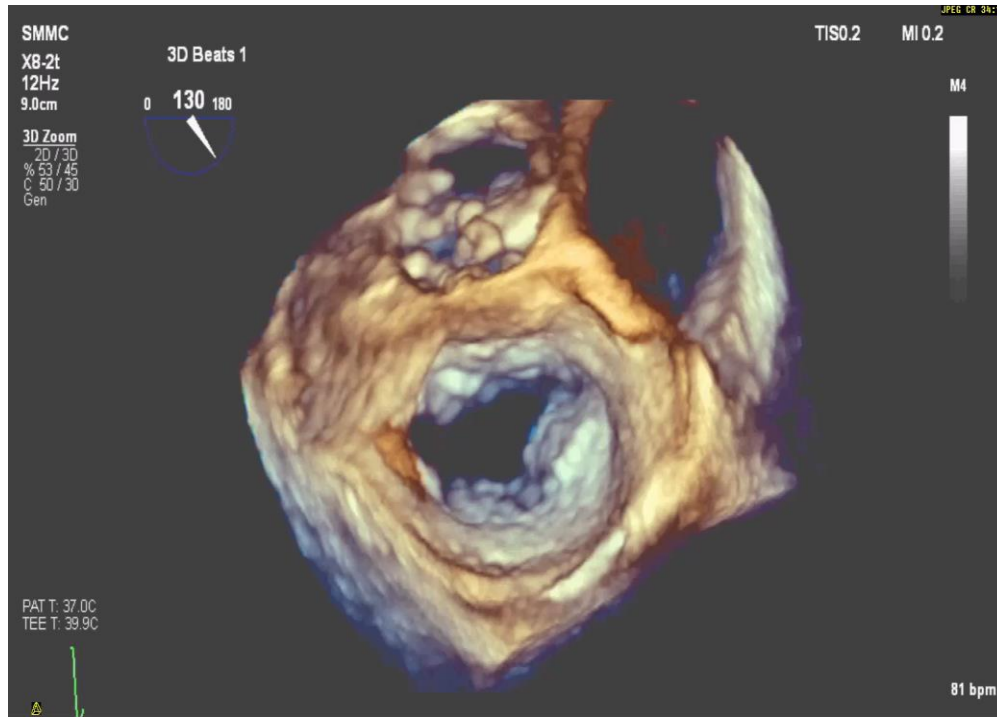
2D Color Doppler TEE ,
Bi-commissural view



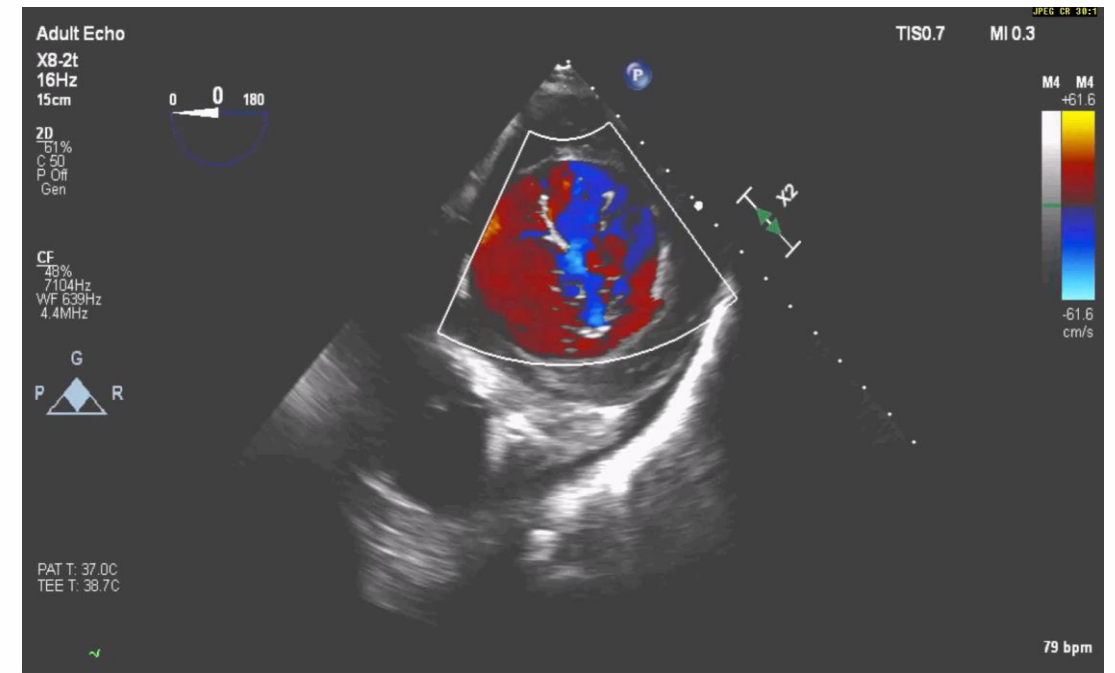
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3D en face TEE showing flail P3 segment with torn cord



Transgastric short axis TEE view showing medial origin of MR



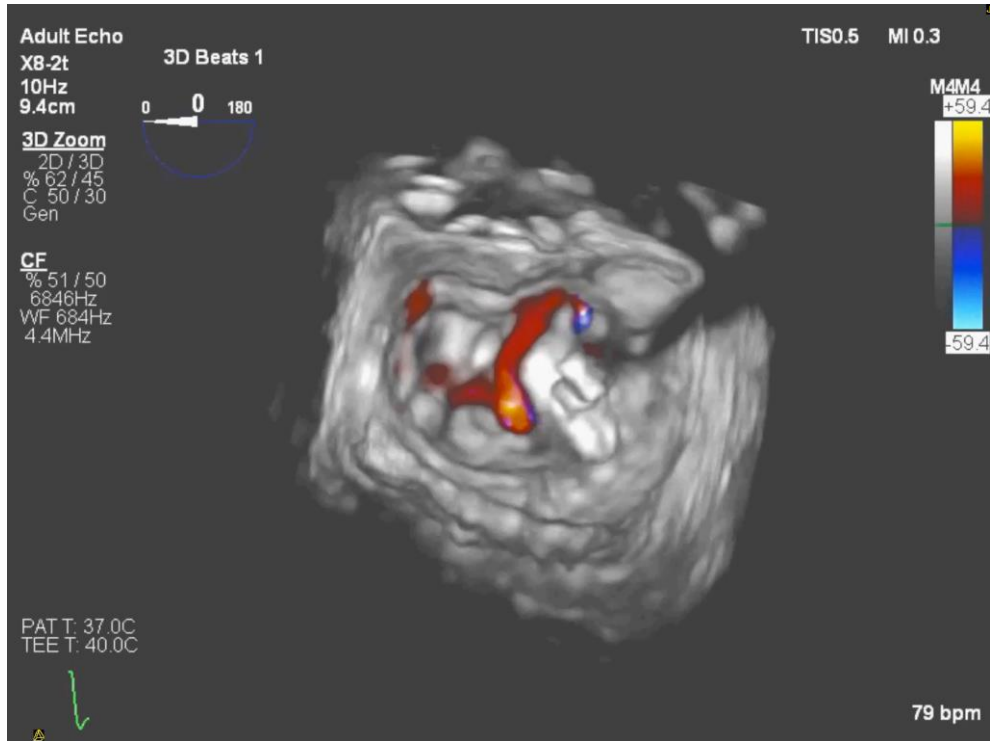
Patient was evaluated by a multidisciplinary heart team and considering ongoing chemotherapy needs (with life expectancy > 1 year) and marked HF symptoms, recommendation was made to consider transcatheter edge to edge mitral valve repair using the Mitraclip system and surveillance/follow up of his aortic valve disease.



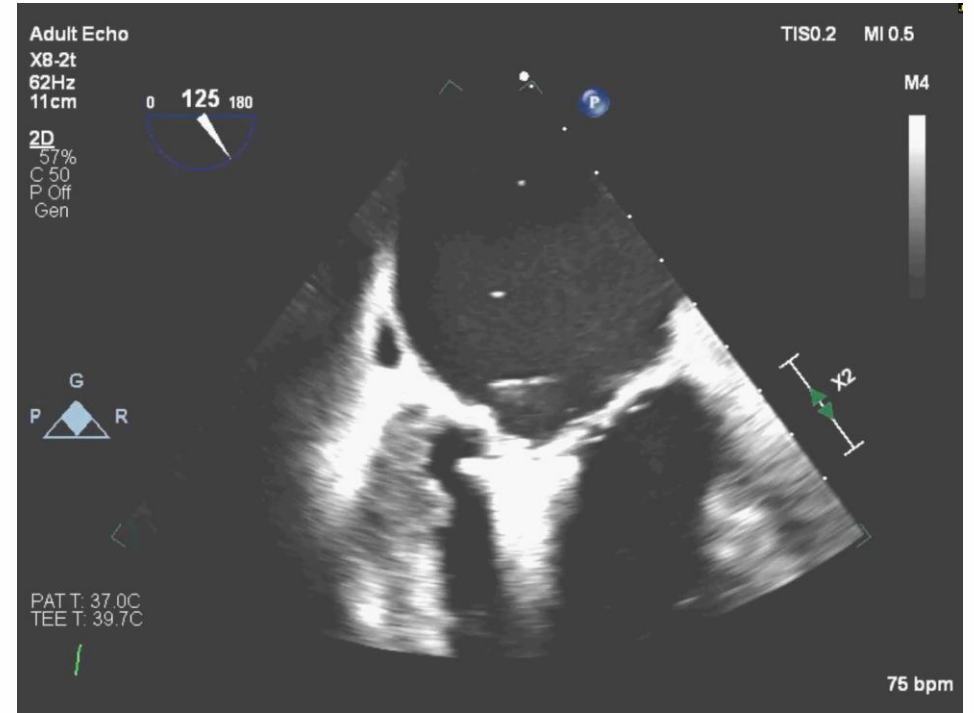
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NTR Clip alignment perpendicular to line of coaptation at medial commissure in 3D en face color TEE



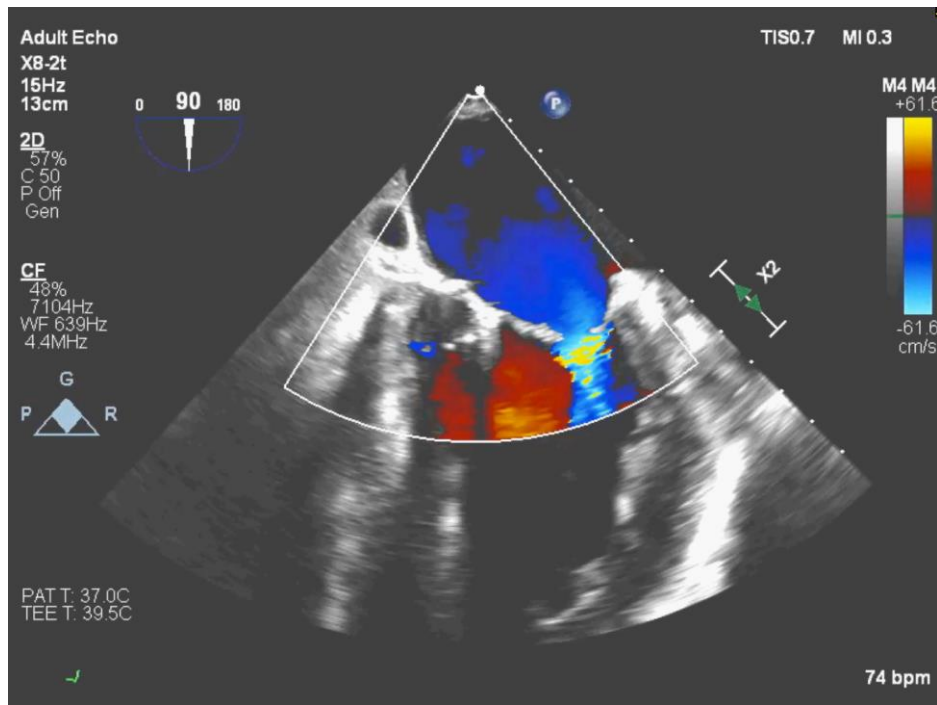
Leaflet grasping in 3D Long axis TEE view



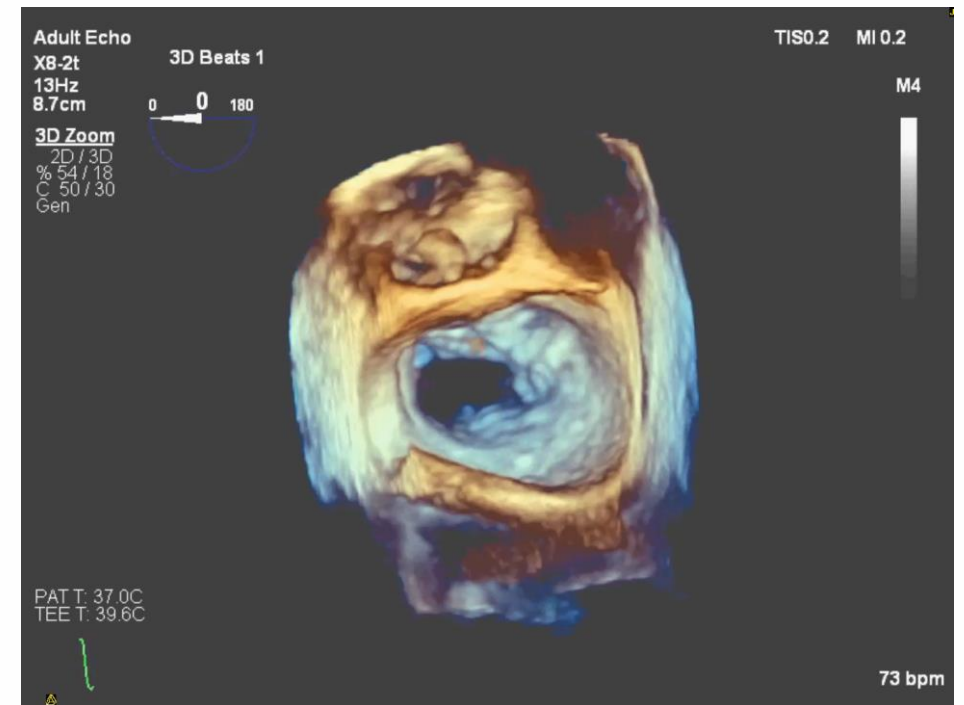
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Trace residual MR in 2D bi-commissural view with color



Single residual orifice after A3-P3 NTR Clip 3D en face TEE

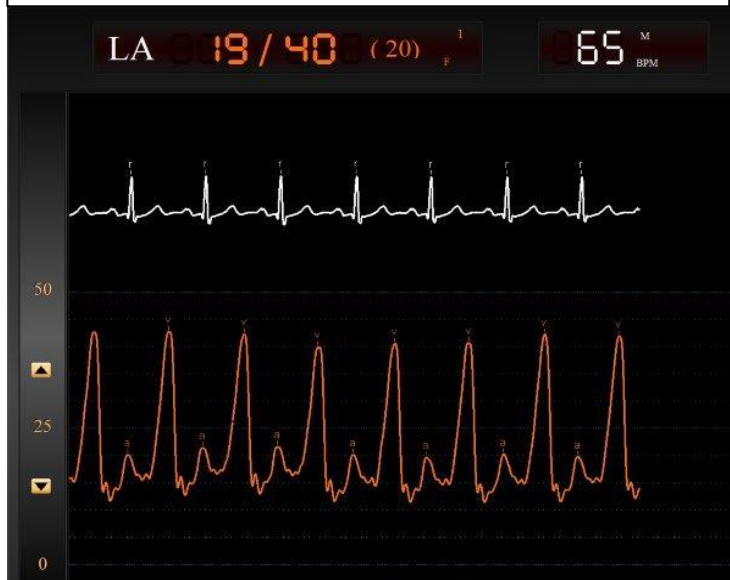


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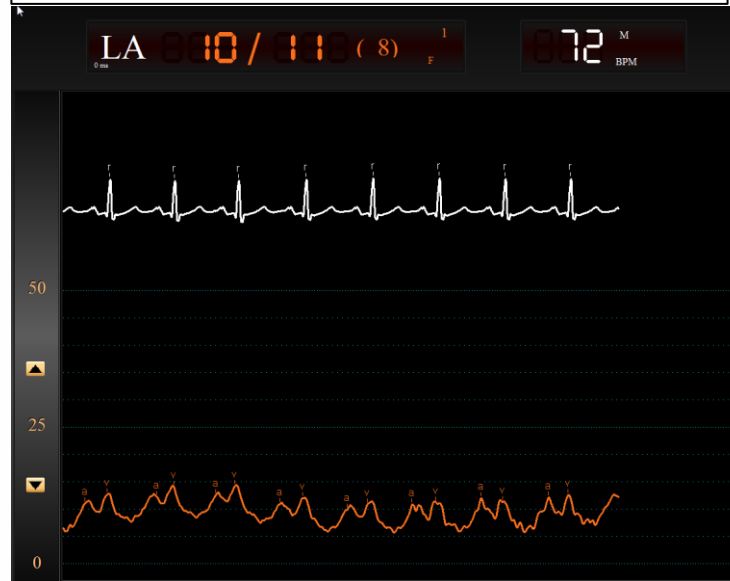
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Left Atrial Pressure Tracing

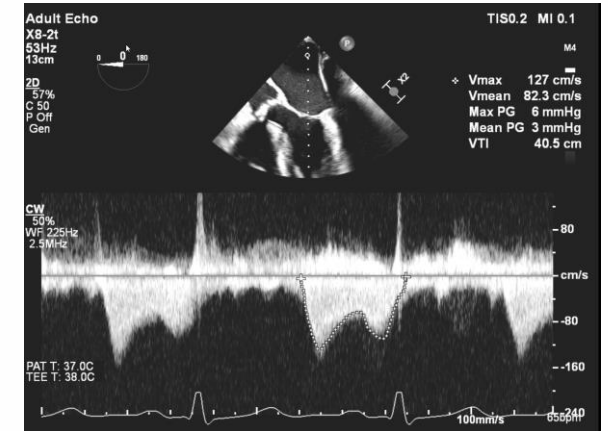
Pre Mitraclip mean LA = 20 mmHg



Post Mitraclip mean LA = 8 mmHg



Final diastolic gradient = 3 mmHg



FOLLOW UP

- Patient continues to have no dyspnea at 1-month follow-up.
- Continues chemotherapy treatment under oncology guidance
- Surveillance studies for residual aortic valve disease to continue depending on response to cancer treatment



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Question

- Which of the following statements is true?
 - a) Degenerative mitral regurgitation originating from Non-A2/P2 location treated with MitraClip is associated with higher grades residual MR
 - b) 3D TEE en face view with color Doppler is essential in clip arm alignment perpendicular to coaptation line with commissural, non-A2/P2 locations
 - c) 20% of MitraClips are implanted at Non-A2/P2 location
 - d) Implantation of MitraClip at Non-A2/P2 is more likely to lead to entanglement in chordae(> 120 second manipulation to free mitraclip)
 - e) All of the above



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Conclusions/Answer key

- MitraClip implantation in Non-A2/P2 location is reported in 20% of cases.
- Non-A2/P2 location implants are more likely to lead to entanglement (> 120 seconds manipulation to free mitraclip during withdrawal).
- Non-A2/P2 location implants are associated with higher grades of residual MR
- 3D –TEE guidance with color doppler is critical to align MitraClip arms over origin of MR, perpendicular to line of coaptation

Sorajja et al. Journal of American College of Cardiology. 2016;67(10):1129-40

Avenatti et al. CASE: Cardiovascular Imaging Case Reports. 2018;2(1):2-5

Esteves-Loureiro et a. Journal of American College of Cardiology. 2013;62(25):2370-7



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