14th AICT

ASIAN INTERVENTIONAL CARDIOVASCULAR THERAPEUTICS

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A case of a dislodged MitraClip: An unpleasant complication

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Slides courtesy of Dr Yeo KK

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SingHealth

Potential Conflicts of Interest

I have the following potential conflict(s) of interest to report:

- Receipt of honoraria/consultation fees: Abbott Vascular

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Case Description

- 83 year old, Male
- Presented with symptomatic degenerative mitral regurgitation from MVP
  - NYHA Class II, CHF admissions x 2
- Past medical history
  - Stage 3 Chronic kidney disease
  - Idiopathic thrombocytopaenic purpura

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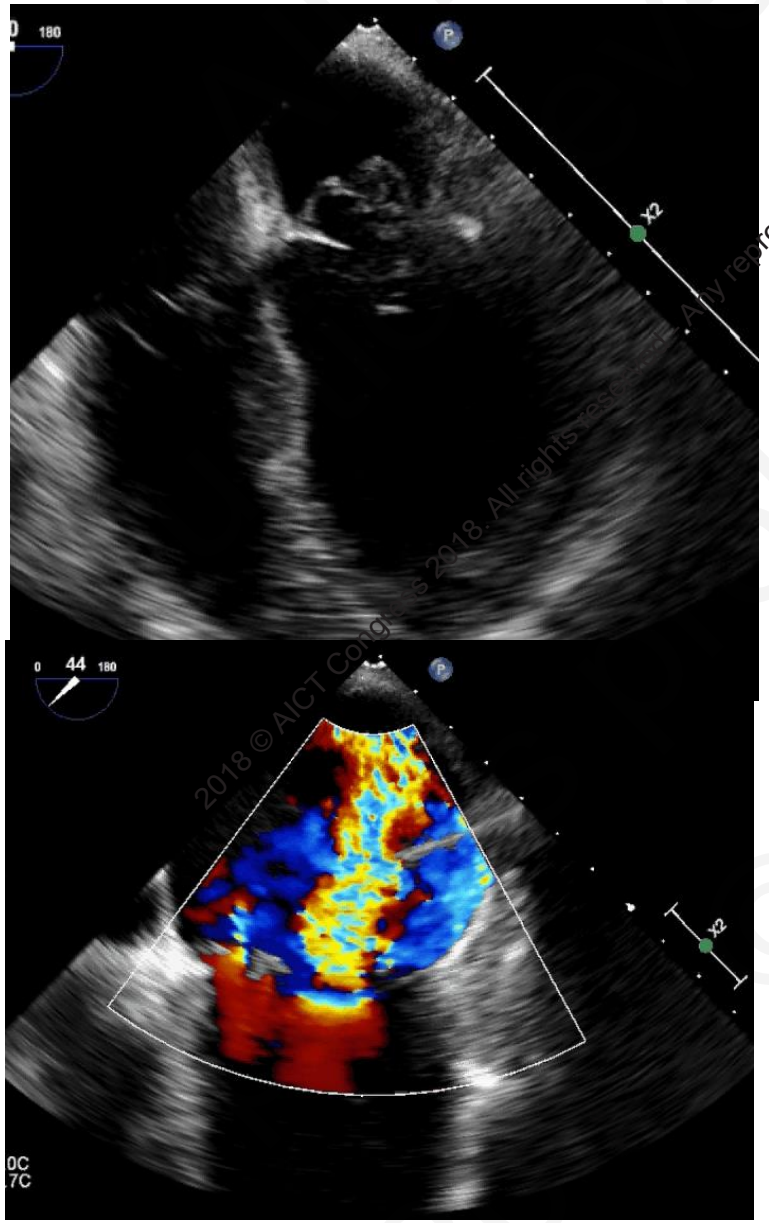
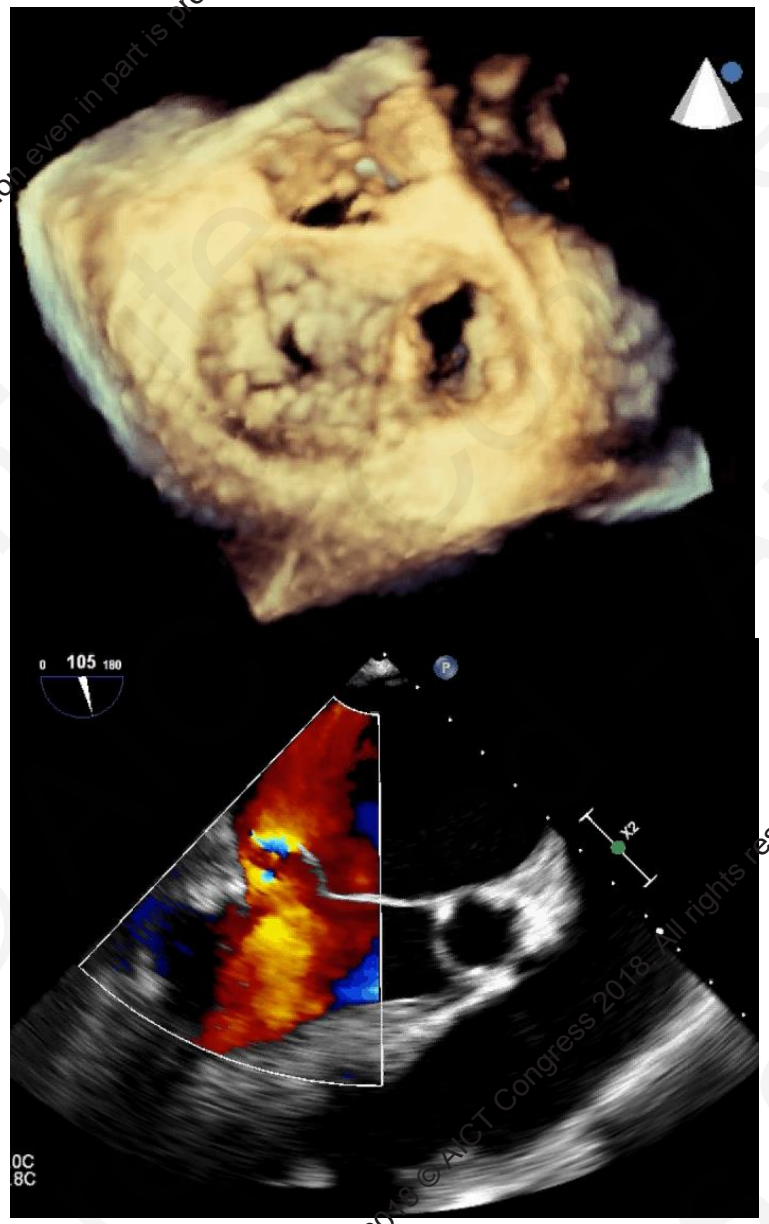
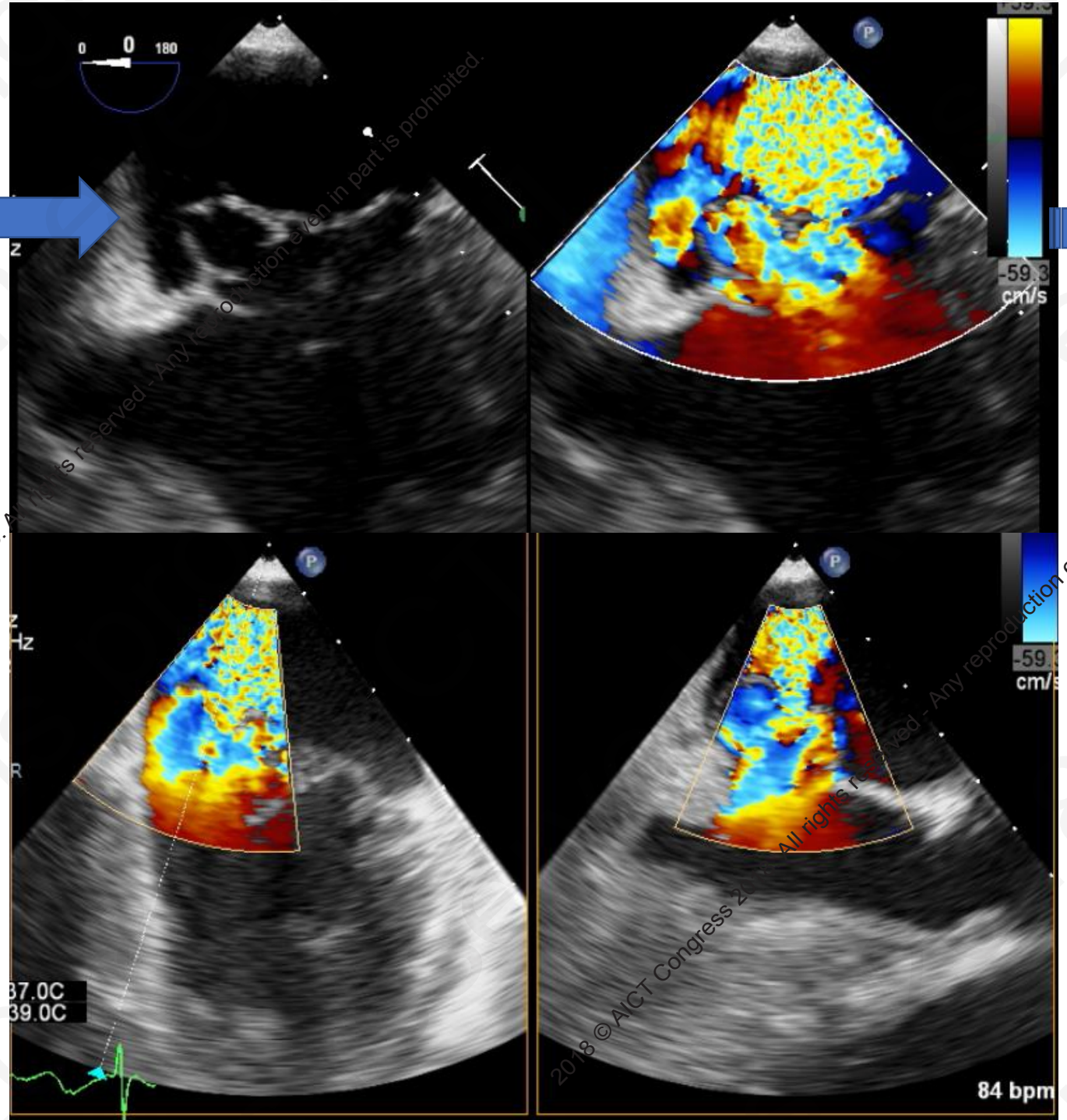
Echocardiogram





- **Barlow's type**, bi-leaflet MVP involving A2/P2, A3/P3, with predominant prolapse of the A3/P3 segments and small ruptured chord at tip of the posteromedial segment → Severe and eccentric MR
- **LVEF 65%** with mildly dilated LV; **PASP 55** mmHg

Flail segment



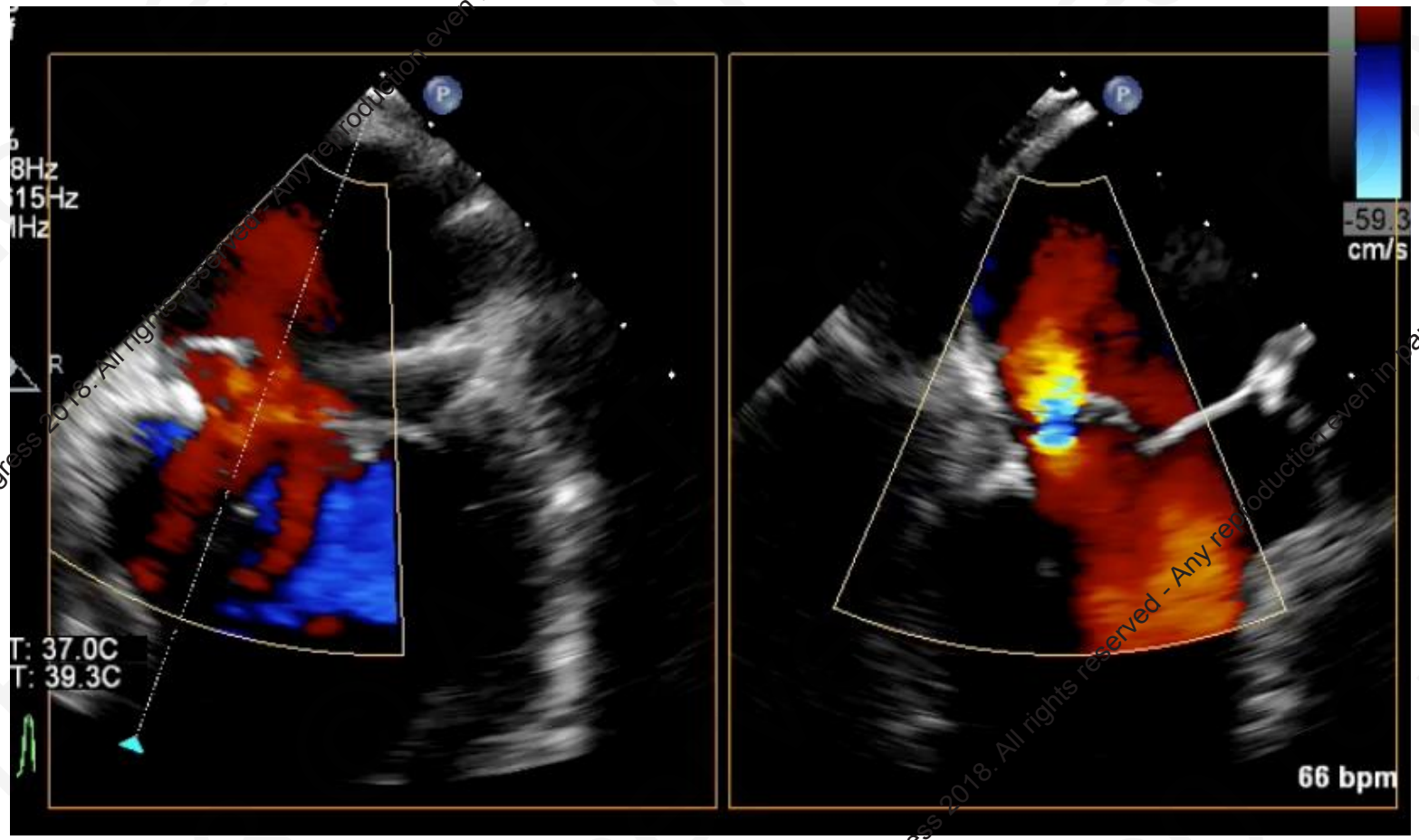
Torrential MR

Heart Team Discussion

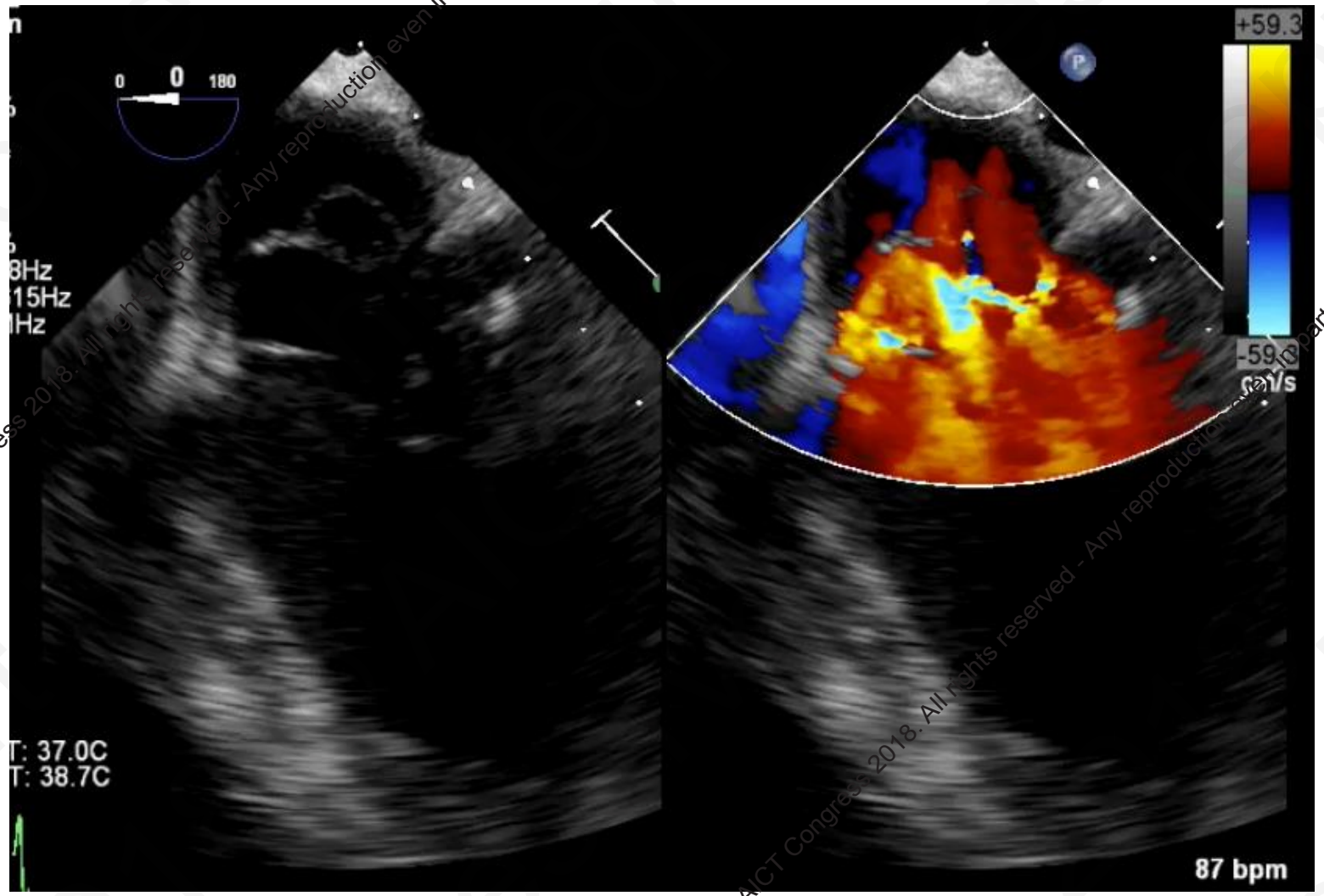
- Indication for MR intervention
  - Symptomatic severe MR
  - Dilated LV
  - Pulmonary hypertension
- Deemed high risk for surgical treatment in view of age, renal impairment and thrombocytopaenia
- Referred for MitraClip

- Meets indication but case that surgeons rather not do..

Echocardiogram: torrential MR

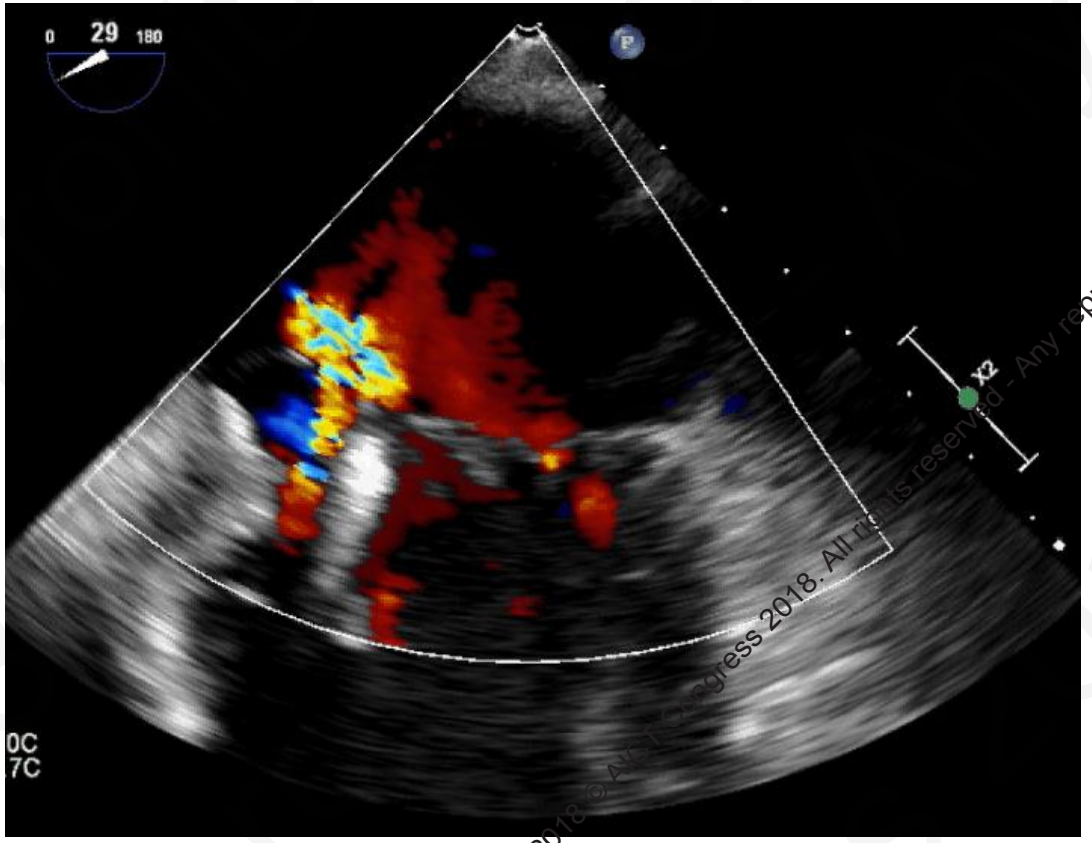


Echocardiogram: Clear Barlow's

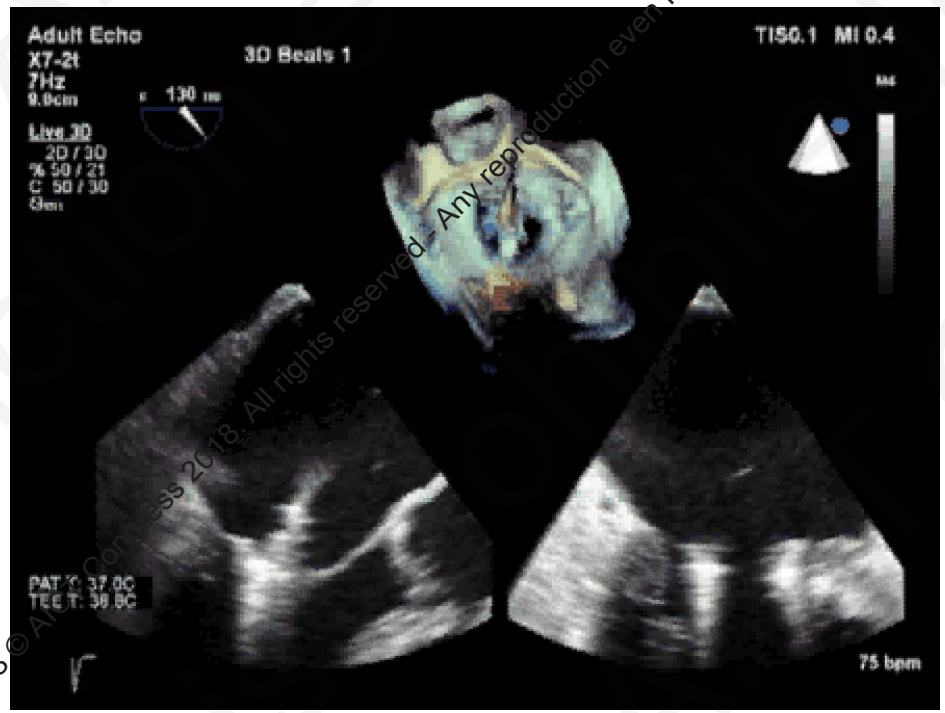


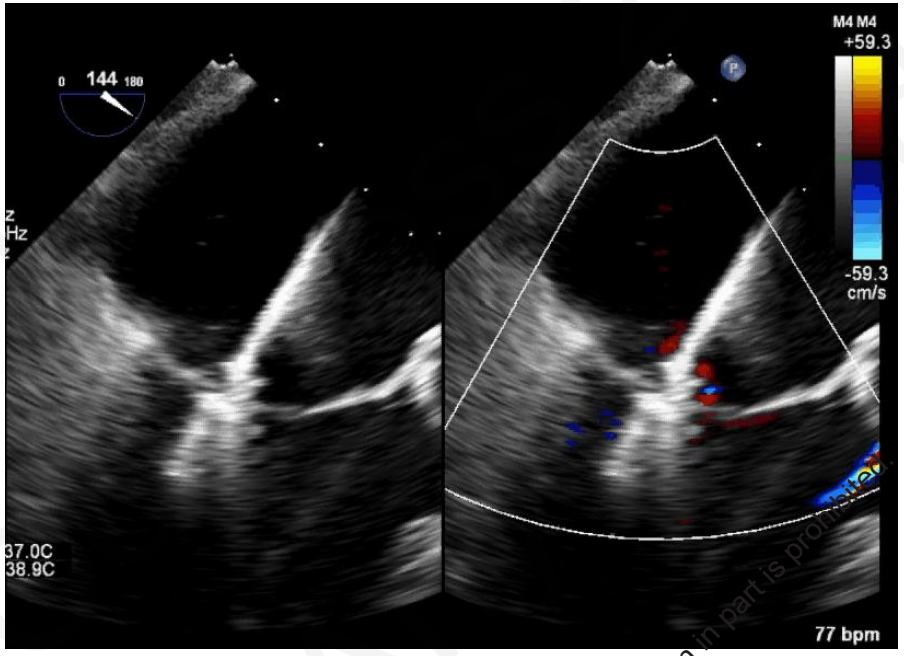
1st Clip

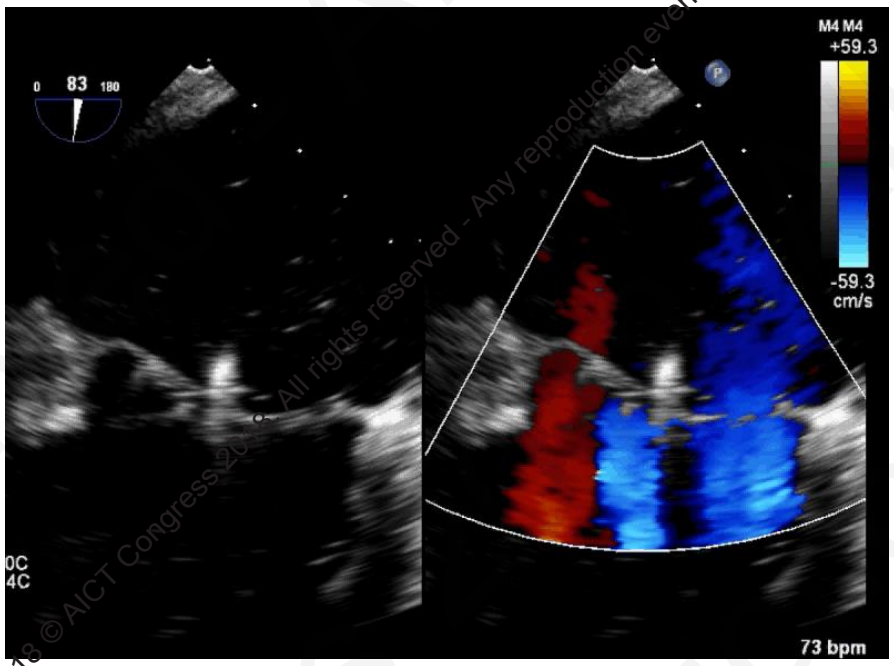
- First clip deployed medially (A3/P3) directed at the flail segment
- Reduced MR severity from 4+ to 3+
- Decision made to deploy a 2nd clip



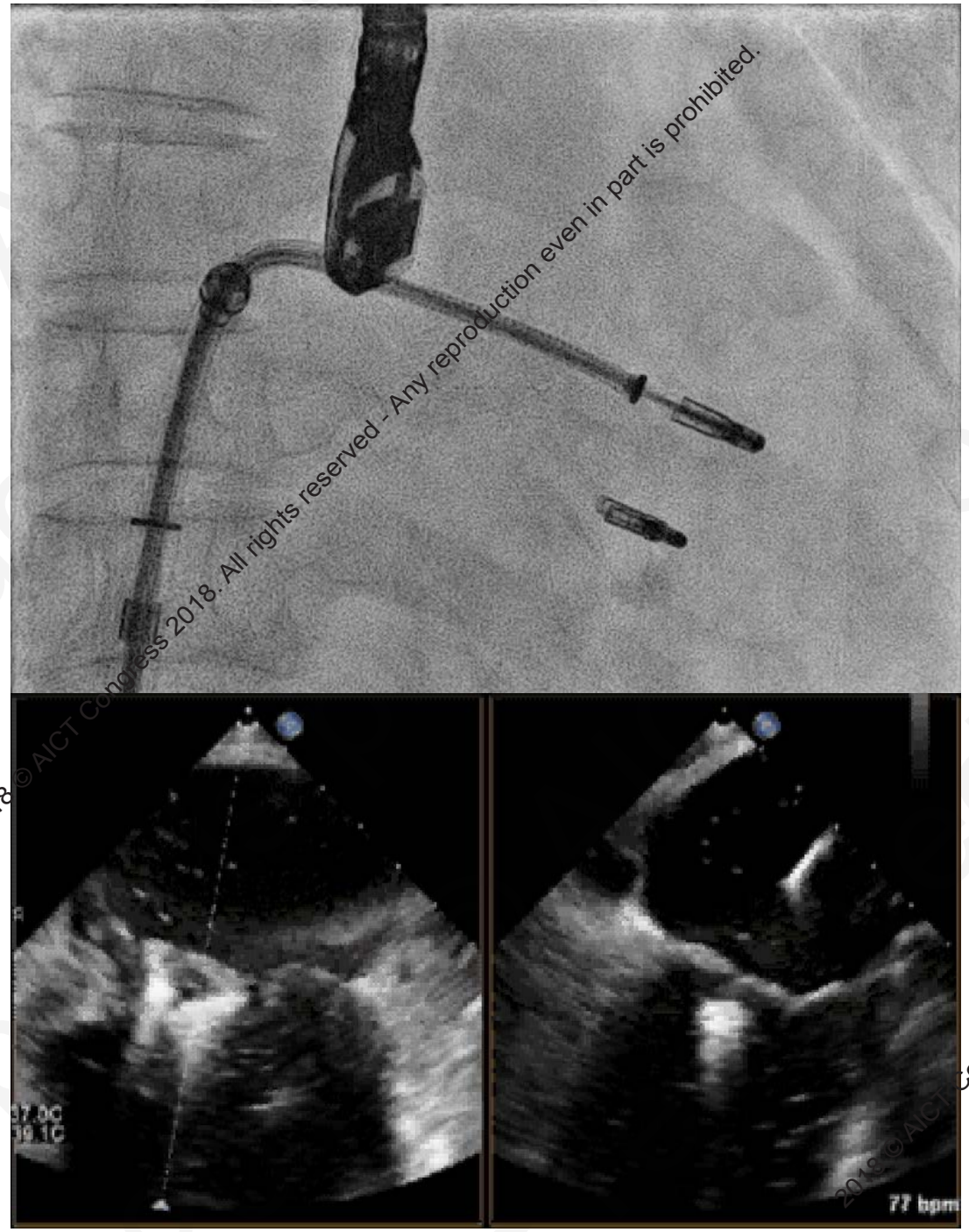
2nd Clip







Prior to clip release, the anterior and posterior leaflet grasps were imaged with adequate tissue seen within the clip



After releasing the lock line, the 2nd clip detached immediately from the posterior leaflet but remained attached to the anterior leaflet

What next?

- At this time, the team discussed and decided to deploy the clip and rescue the situation with a 3rd clip lateral to the 2nd clip to stabilize it

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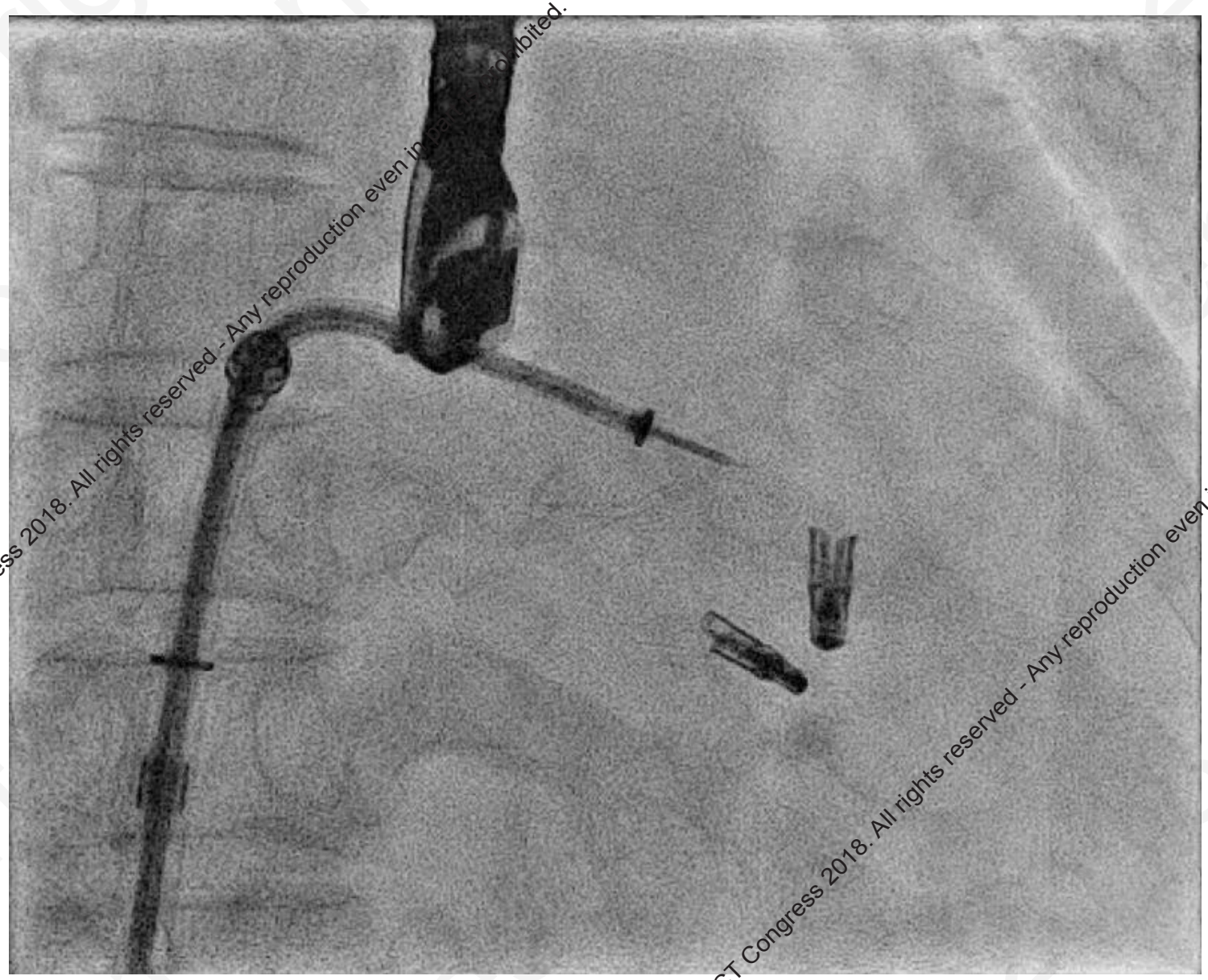

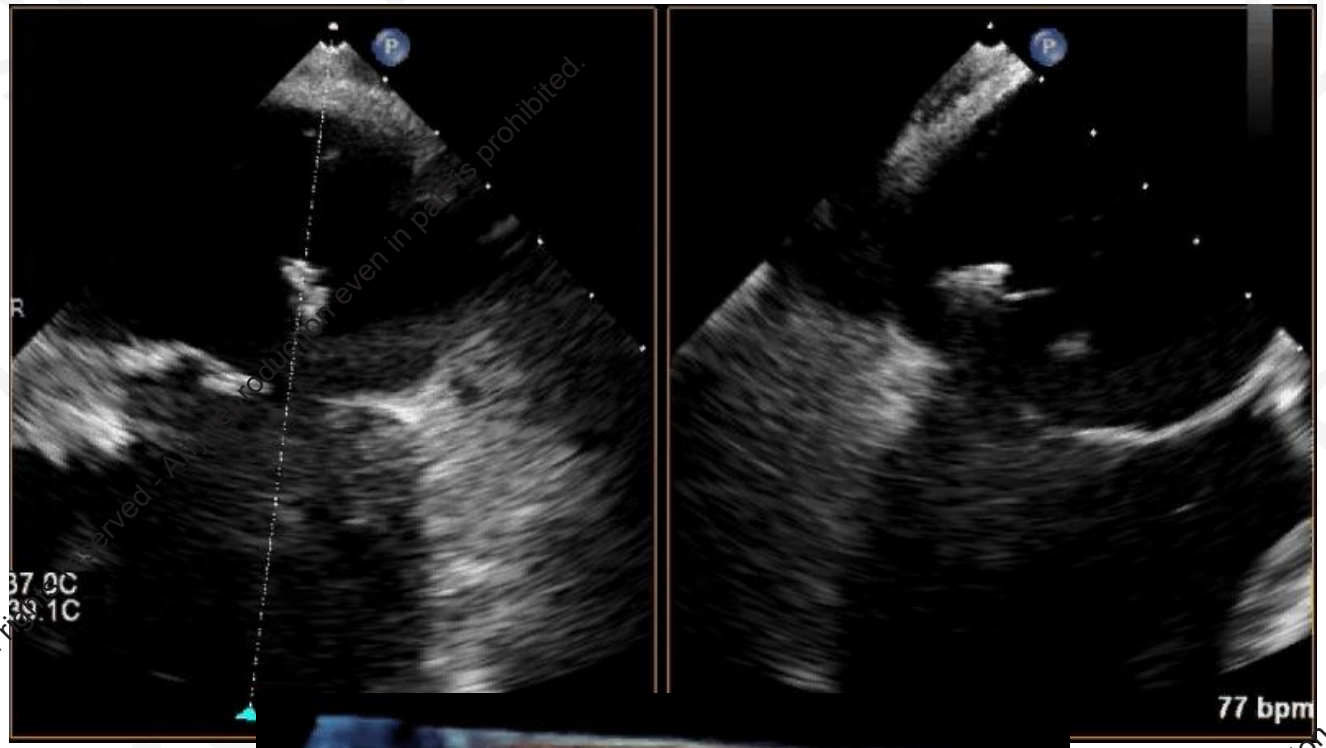

- However, after the deployment pin was released, the entire clip was detached from the mitral valve and held in the LA by the gripper line

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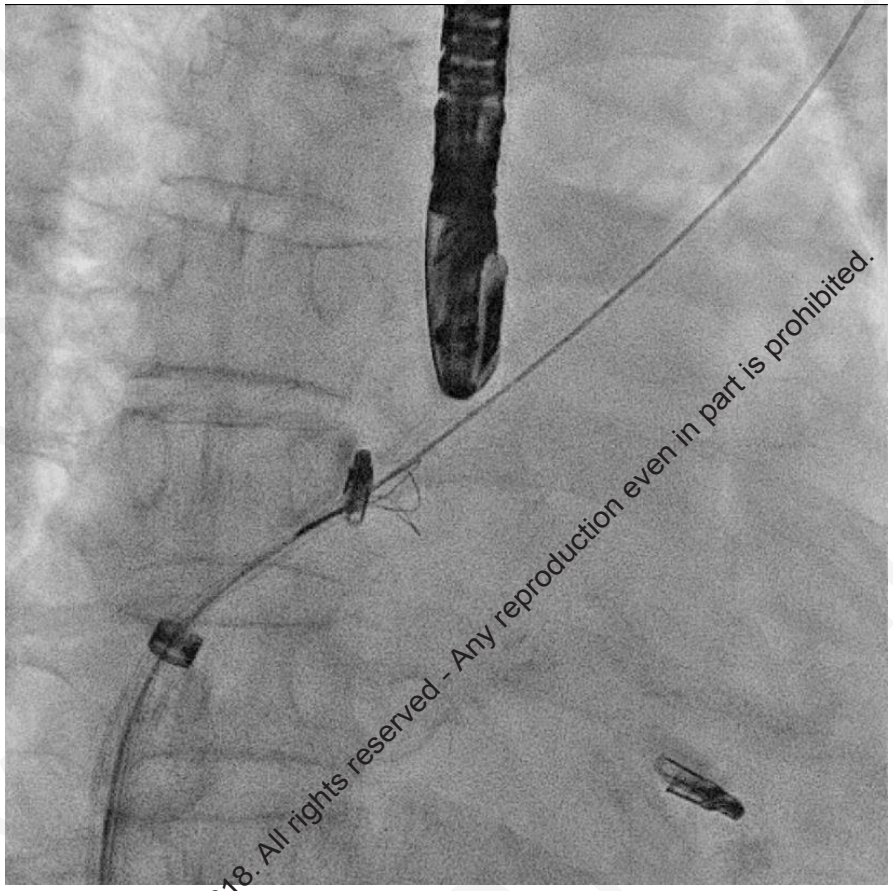
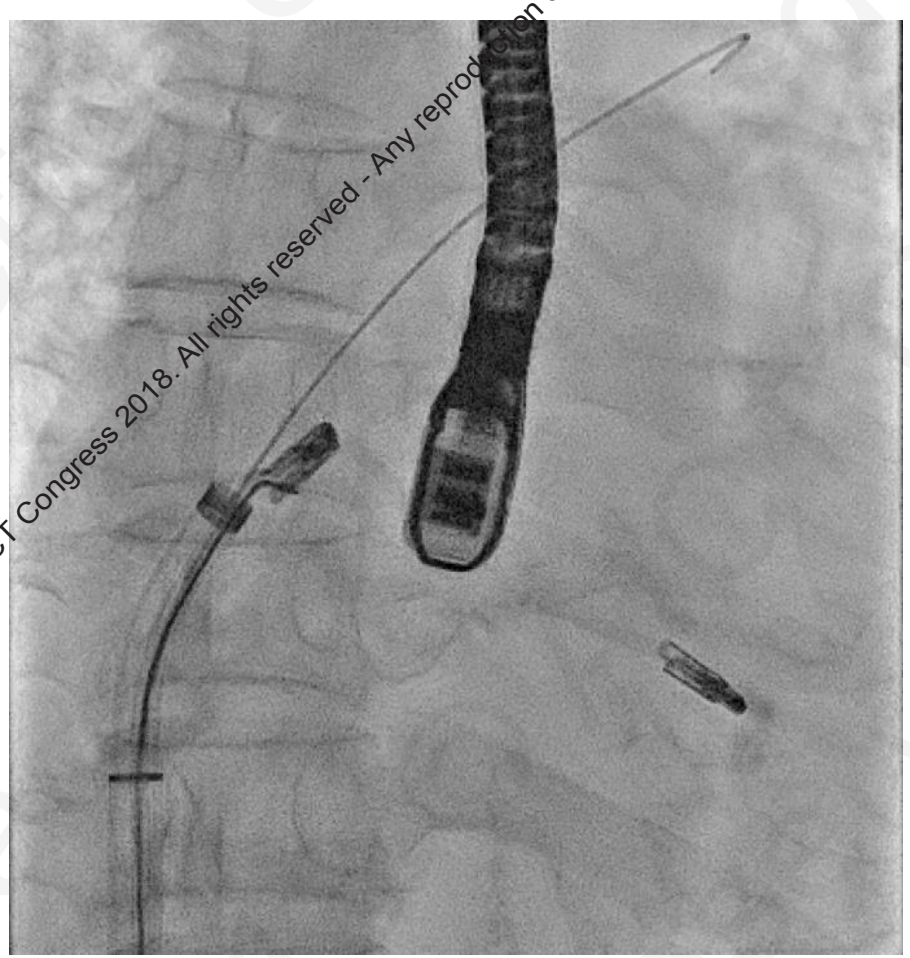
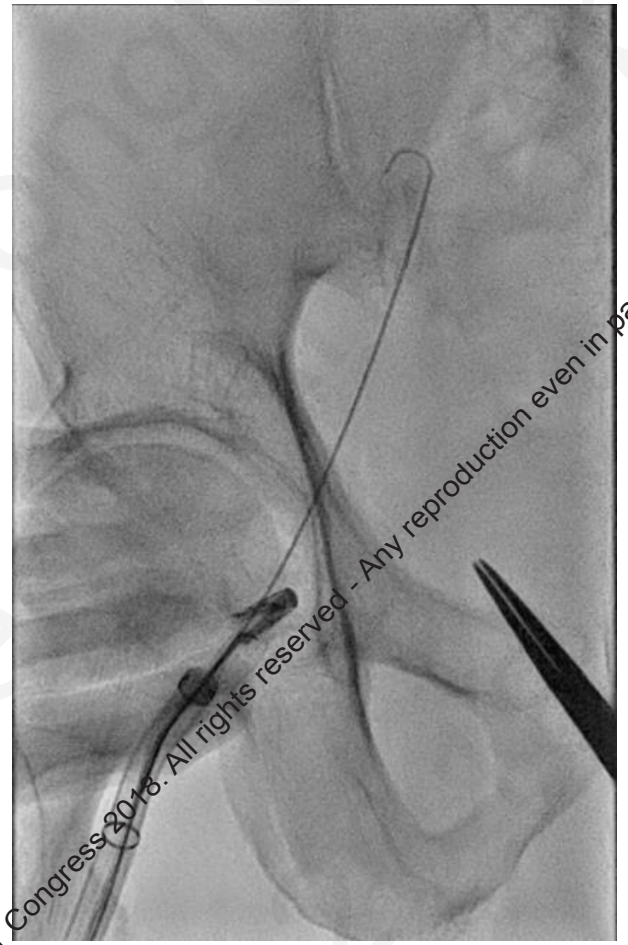
Snaring of Clip

- Cardiac surgeon called. Heart Team decided to snare the clip with bailout surgery as an option
- Guide withdrawn into RA to reduce risk of air embolism
- 0.035” wire placed into LA via same trans-septal hole
- 6F MPA guide
- 9-15mm EN Snare was used but failed to grasp the clip

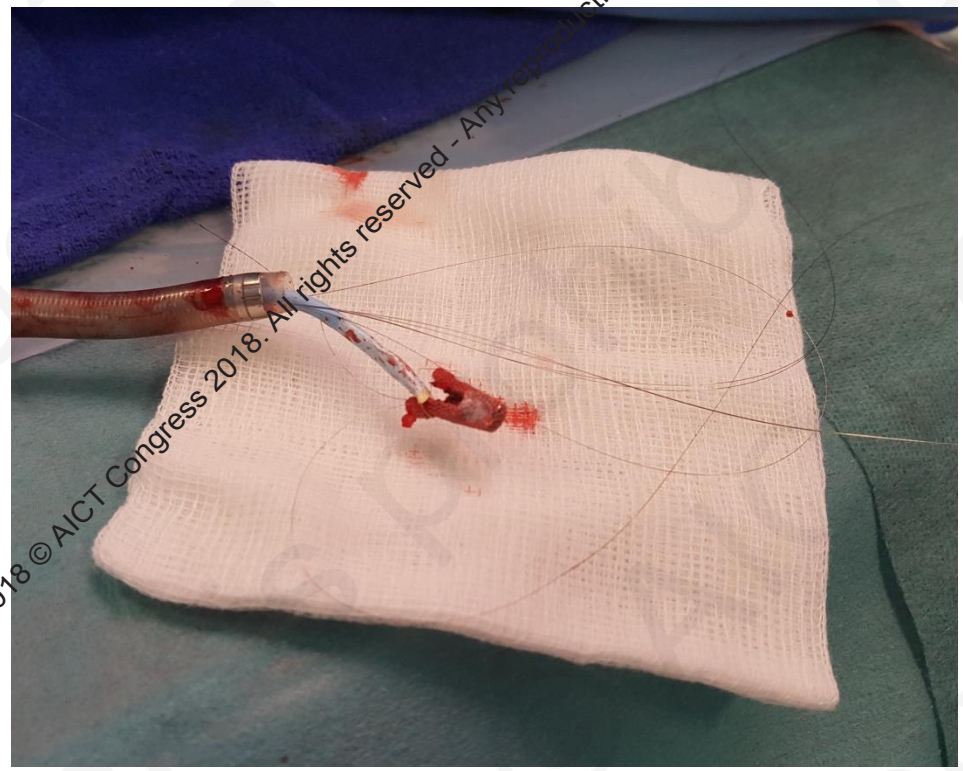


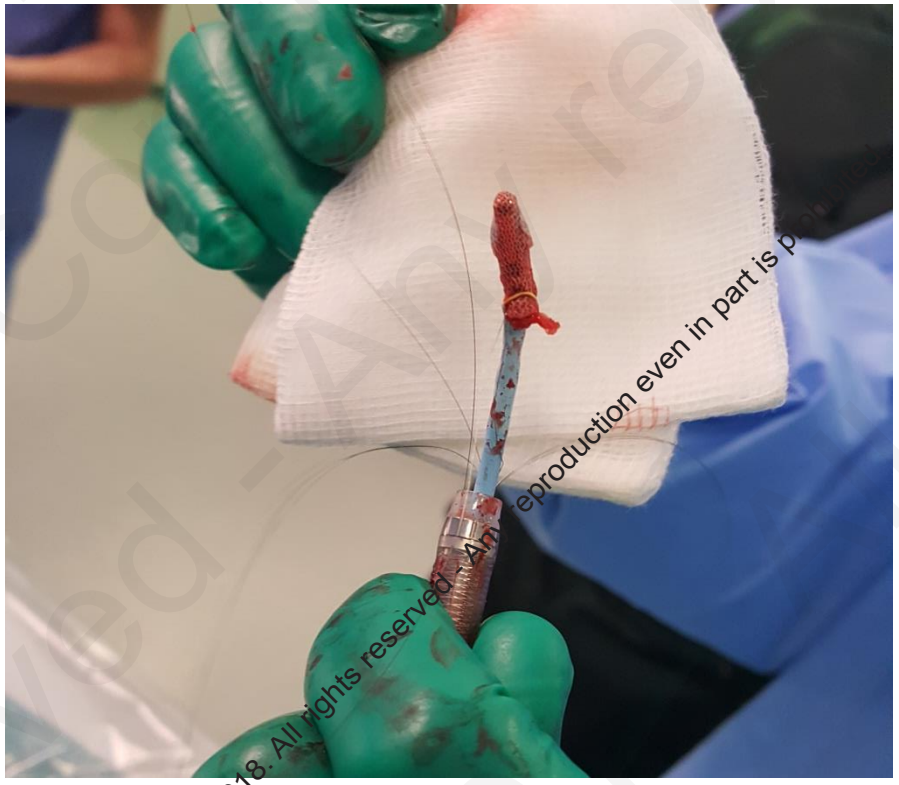
- 25mm Amplatz GooseNeck snare was successful in snaring the clip
- The clip was pulled back across the inter-atrial septum and down into the common femoral vein (CFV)



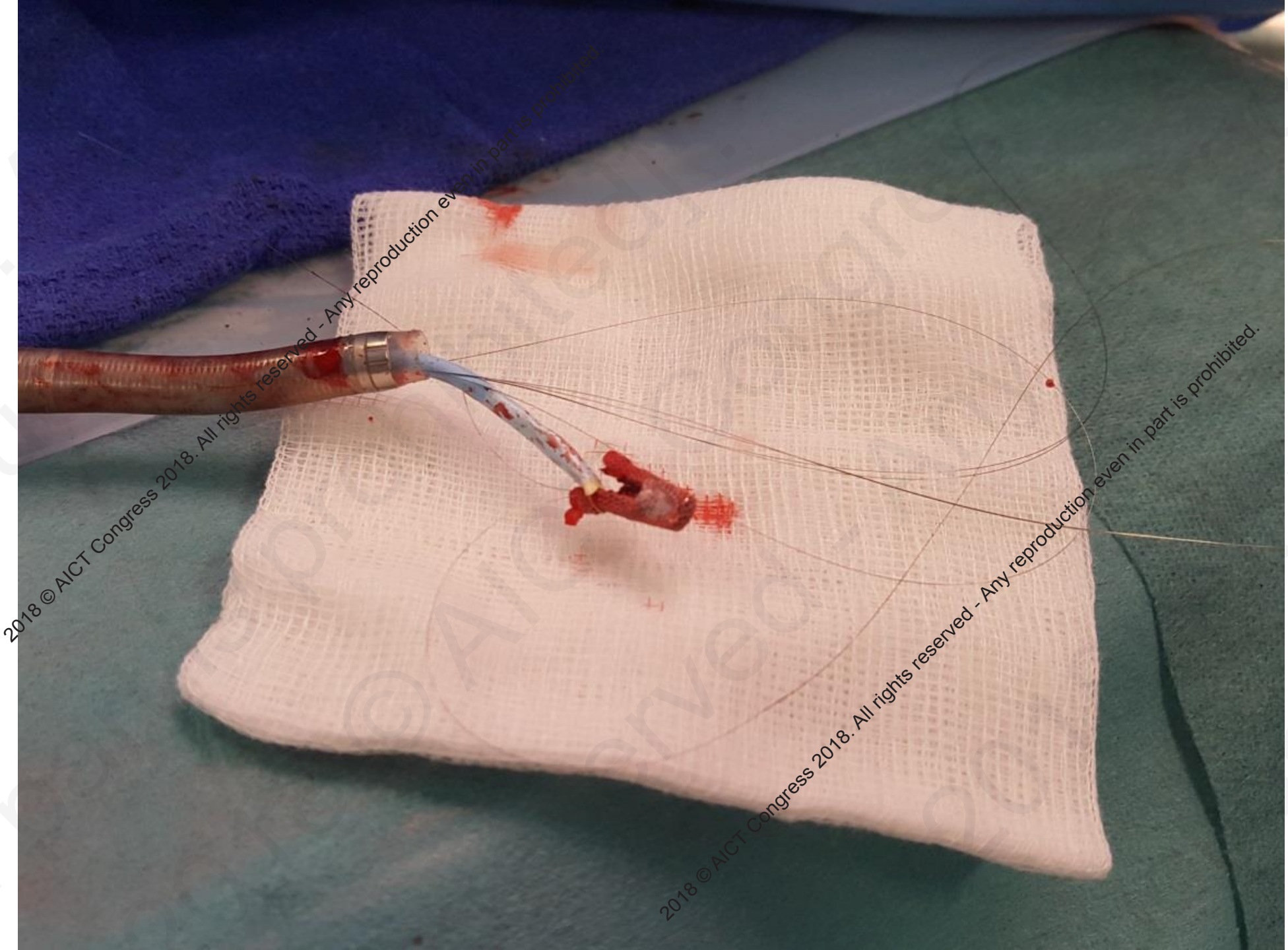


Removal of Clip





Surgical cut-down to the CFV was performed to retrieve the clip



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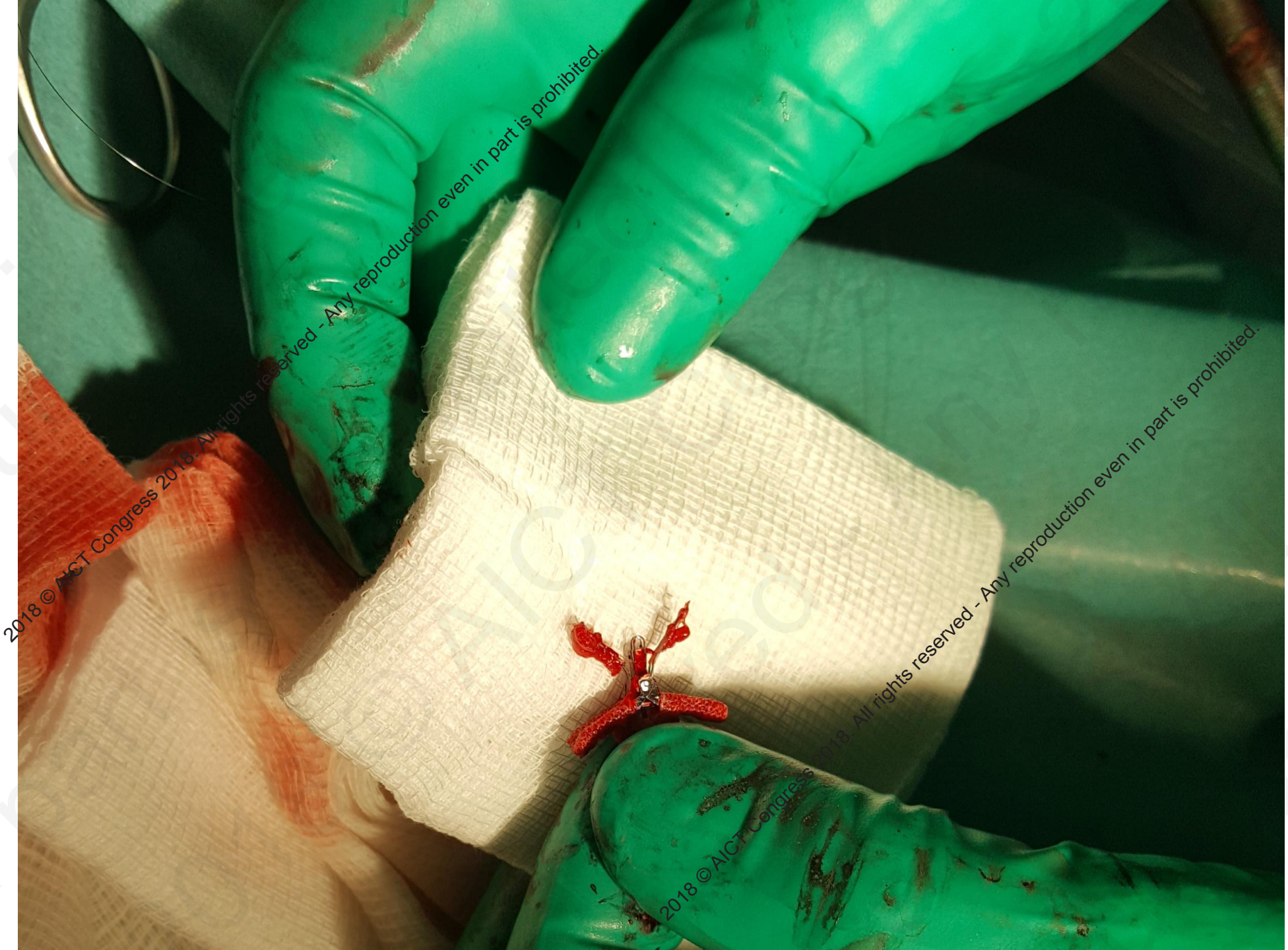

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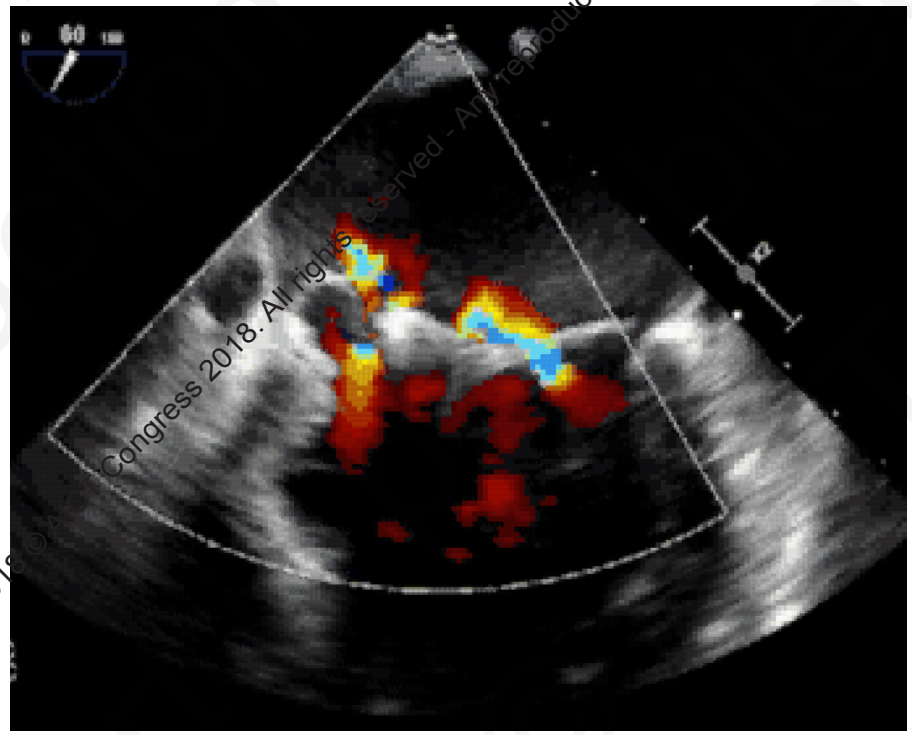
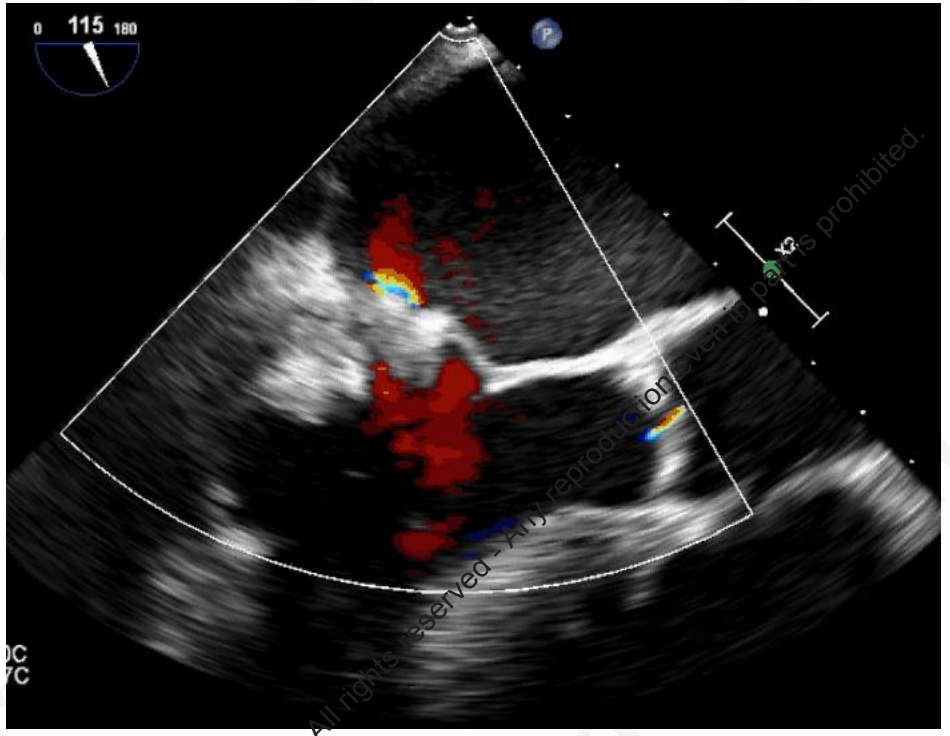
Re-assessment of Mitral Valve





What we did

- The mitral valve was reassessed via TEE and there were no signs of new torn chords or flail segments
- There was residual moderate to severe MR
- At this time, given the circumstances and that there was no worsening of MR, a decision was made to stop

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Outcome

- Discharged well 4 days after the procedure
- Readmission for DVT of common femoral, superficial femoral and profunda veins (presumably due to prior surgical manipulation) → treated with Rivaroxaban with subsequent resolution
- Clinically improved to NYHA Class 1 with no further heart failure admissions
- Follow up TTE showed stable moderate to severe MR

Summary

Case of complete dislodgement of the MitraClip that occurred periprocedurally and was successfully rescued percutaneously using a snare

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Learning Points

- Adequate leaflet insertion into each clip arm is essential
- In event that complete clip dislodgement occurs, it is crucial not to lose the gripper line as it can function as a final safety mechanism to prevent systemic embolization
- Snaring allows for a percutaneous avenue to rescue the dislodged clip

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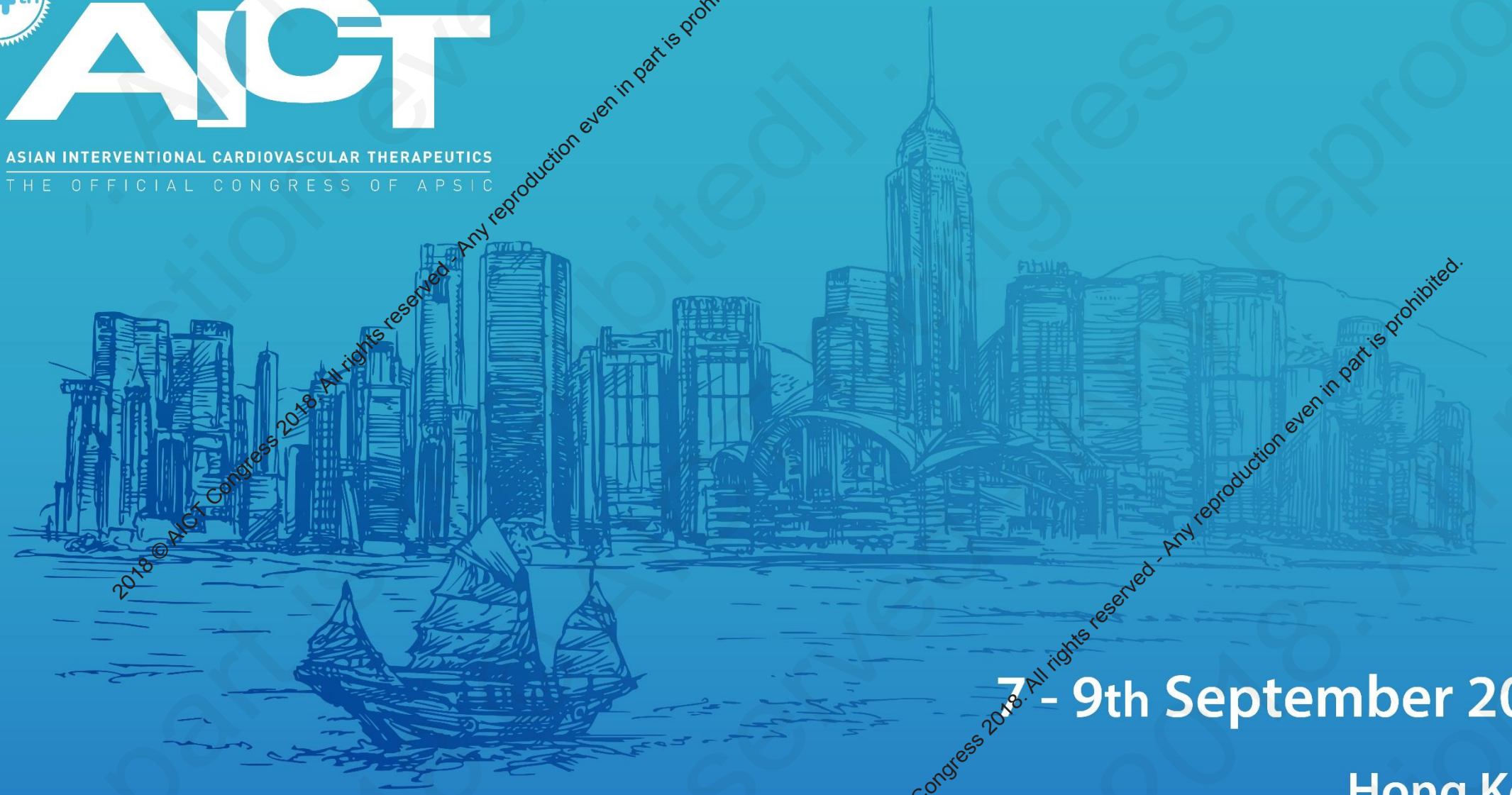

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