

Potpourri of Interventional Cardiology Therapies @ St. Michael's Hospital

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Dr. Akshay Bagai

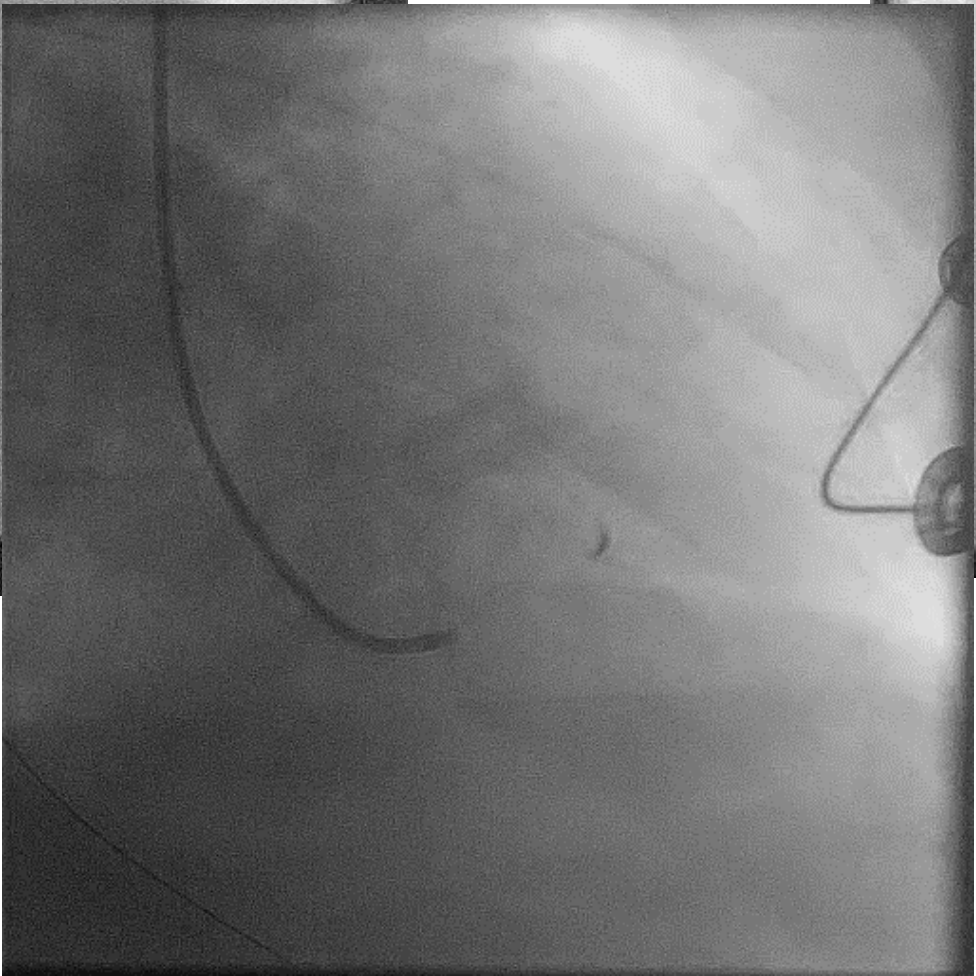
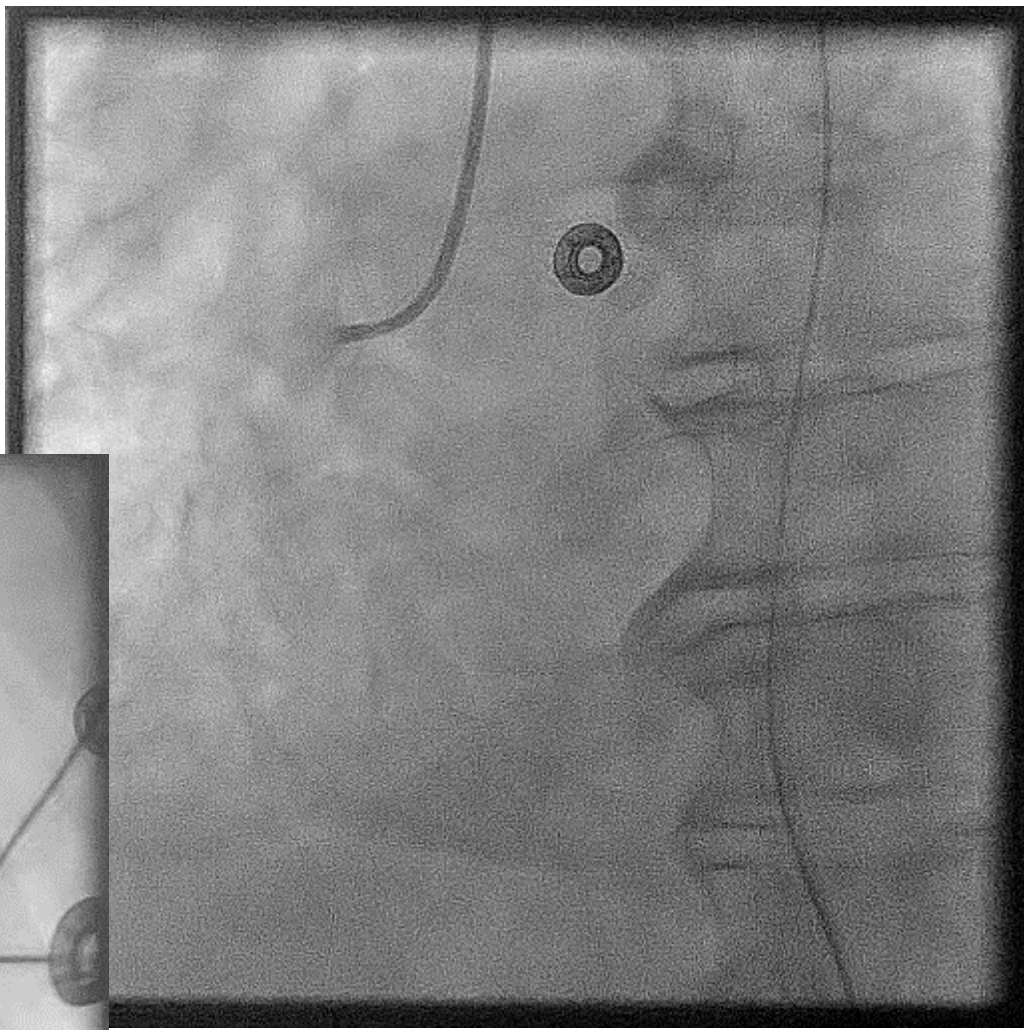
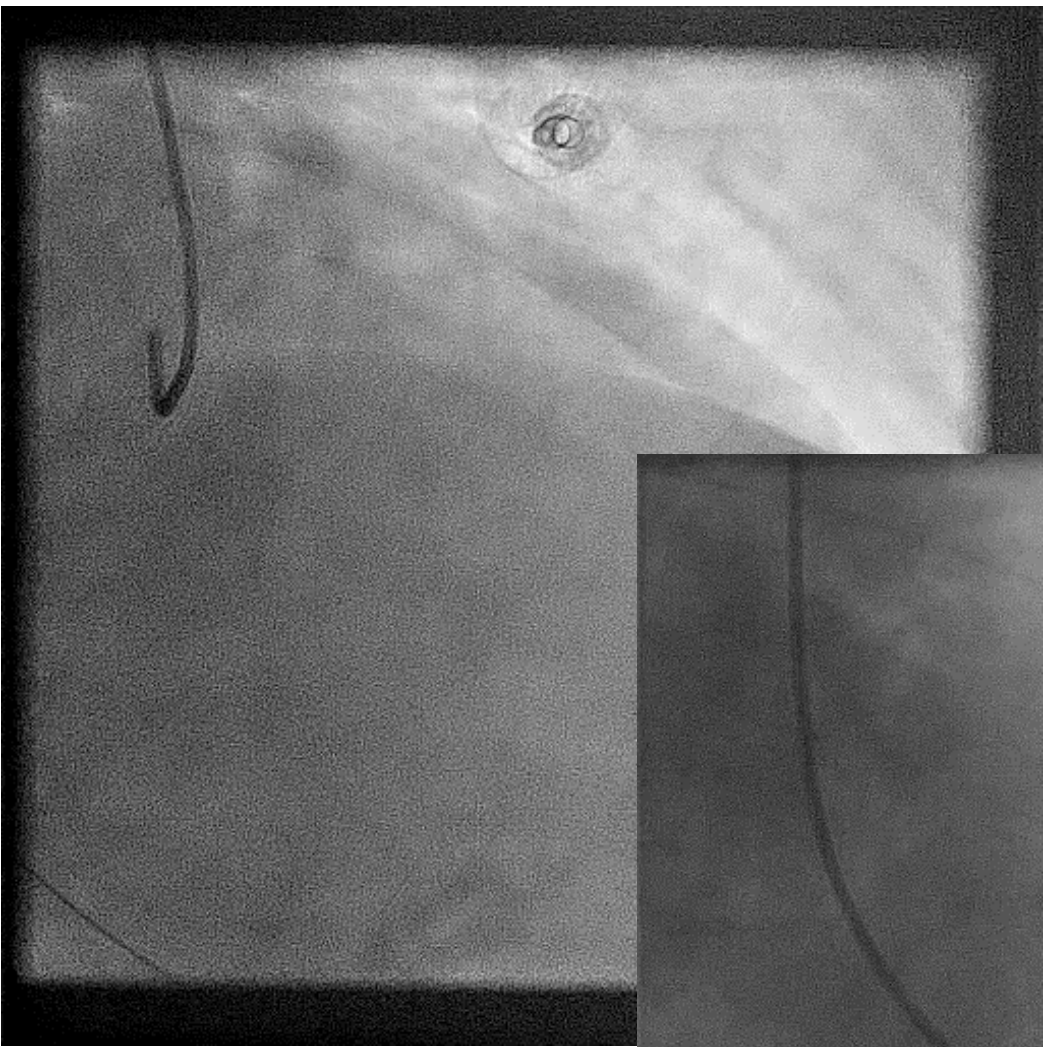
Show and tell from our interventional team: You have to see this!

Relationships with financial sponsors:

- **Grants/Research Support:** N/A
- **Speakers Bureau/Honoraria:** Abbott Inc, CHRC, Teleflex
- **Consulting Fees:** Boehringer Ingelheim, Novartis, Novo Nordisk
- **Patents:** N/A
- **Other:** N/A

Case 1: CODE Clip

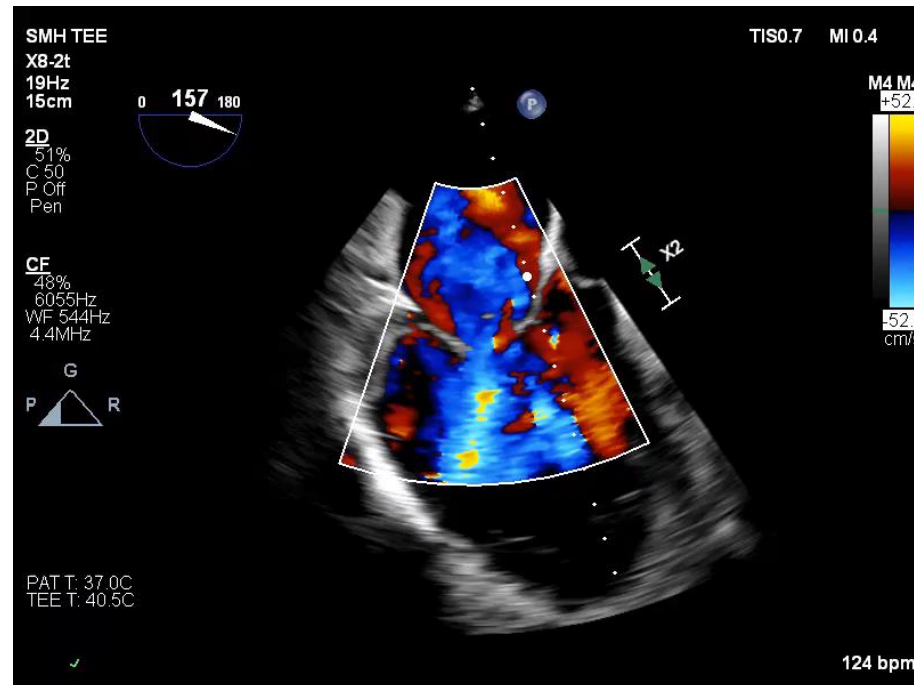
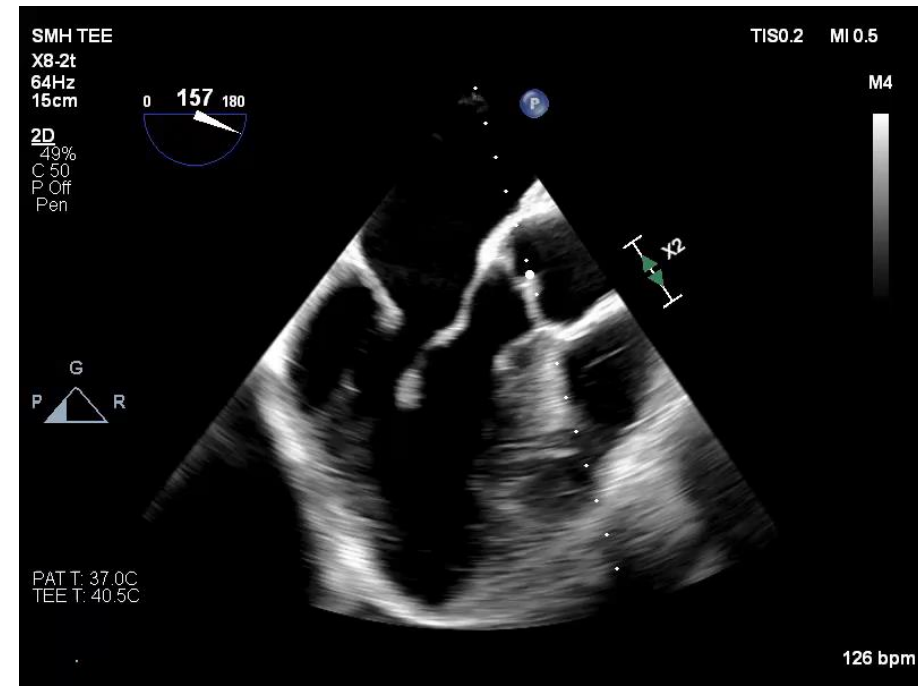
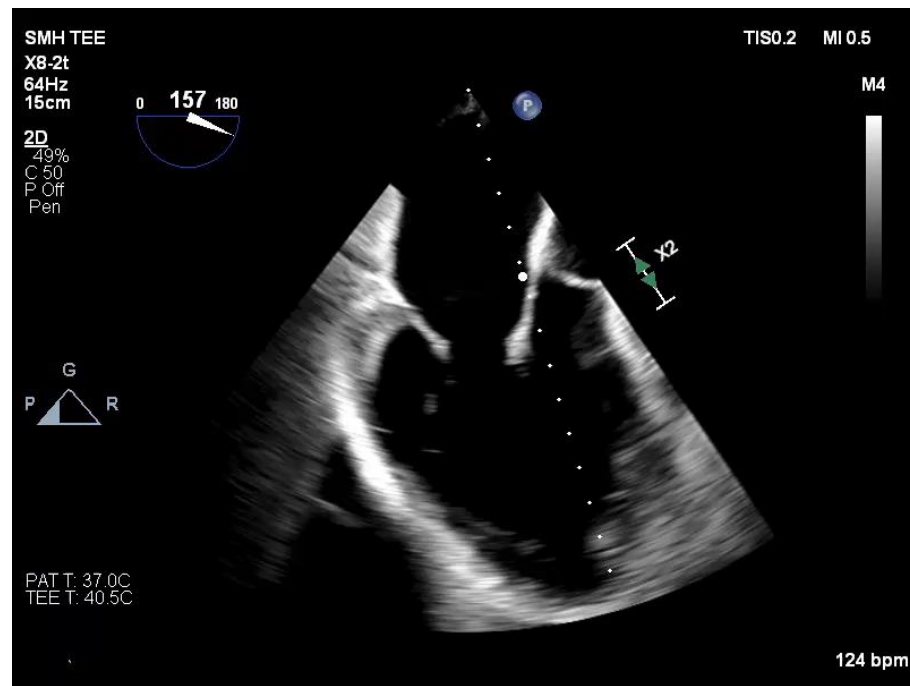
- 60M smoker previously well presented to a community hospital with acute shortness of breath on background of 2-3 days of chest discomfort
- Hypotensive, severe pulmonary edema
- Intubated, started on pressors
- ECG showed sinus tachycardia, inferior ST elevation with Q waves



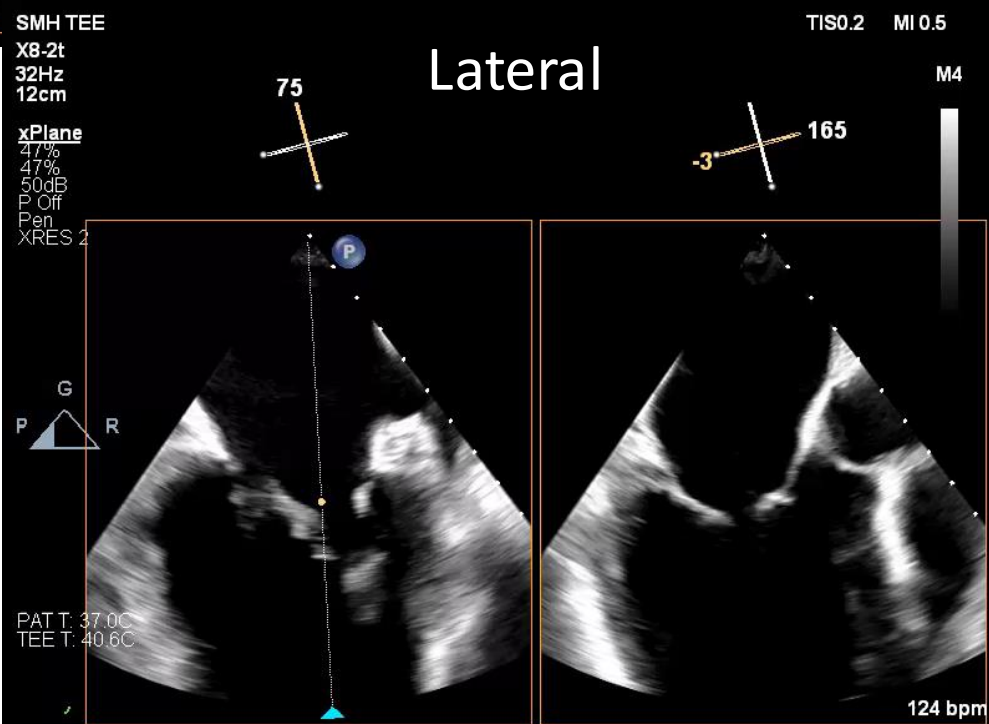
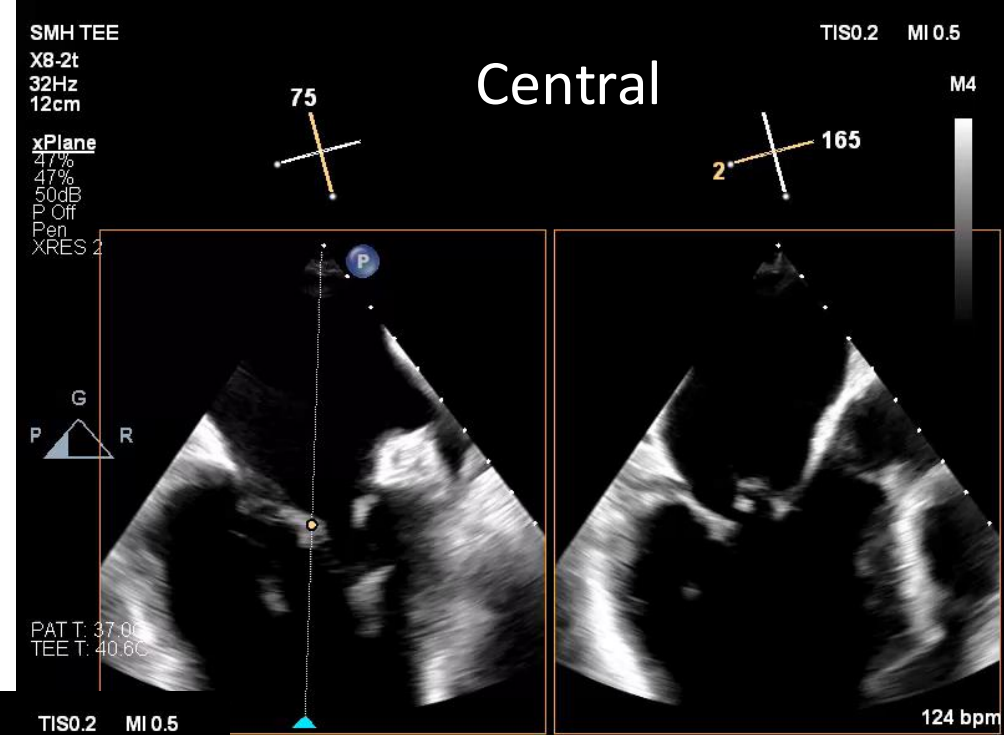
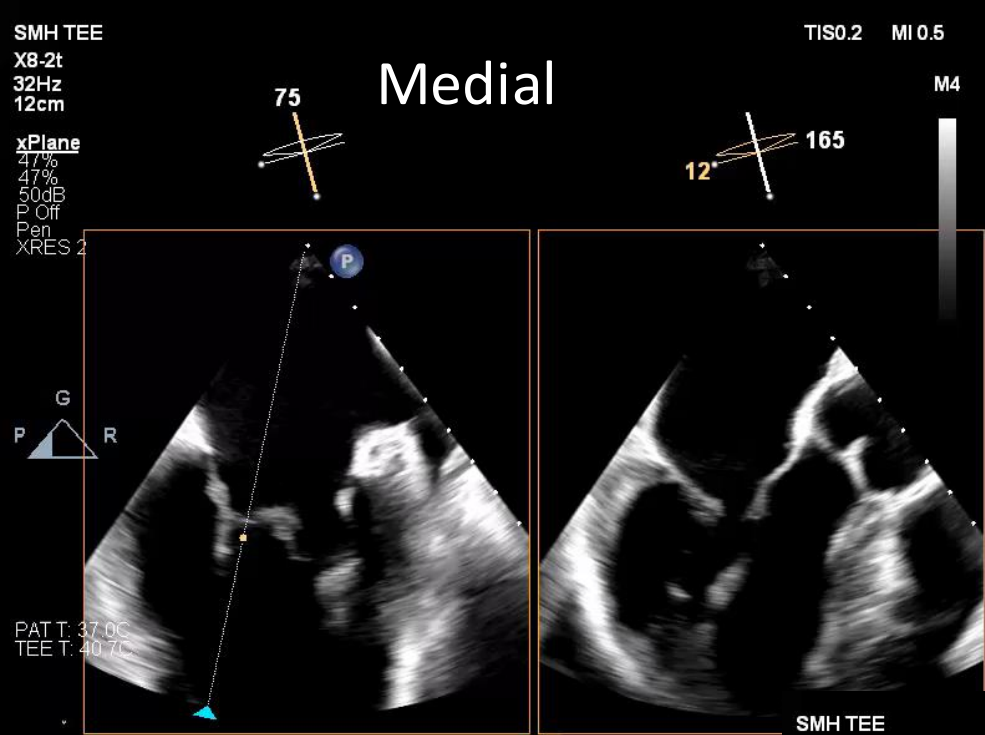
Acute severe mitral regurgitation secondary to papillary muscle rupture after inferior MI

- IABP placed, called for transfer for surgical mitral valve replacement
- Arrived 4 hours later at midnight; hypoxic (SaO₂ 89%) on FiO₂ 100%
- Acidotic (ABG 7.02/61/67/18; lactate 8)
- Hypotensive (on high dose norepinephrine and vasopressin)
- No urine output

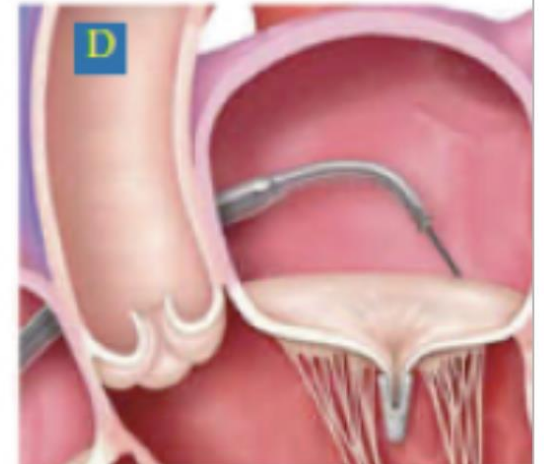
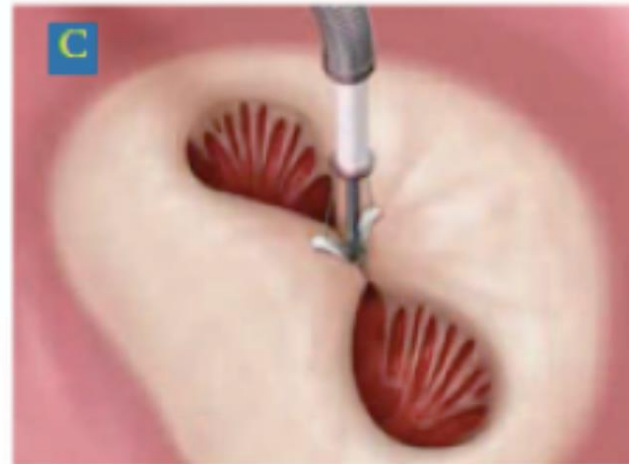
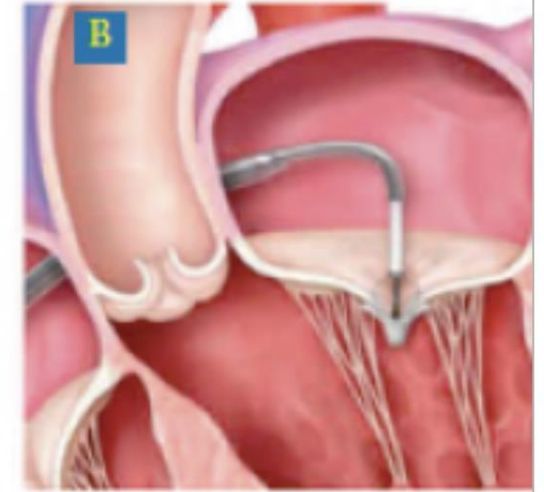
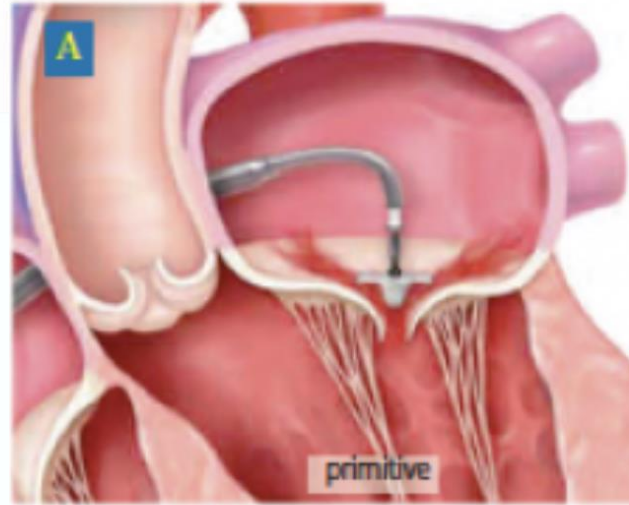
- Bedside transthoracic echocardiography confirmed diagnosis
- Unstable despite IABP & other supportive measures
- Patient deemed prohibitive risk for surgery
- Plan for emergent Mitral-Transcatheter Edge to Edge Repair (M-TEER)



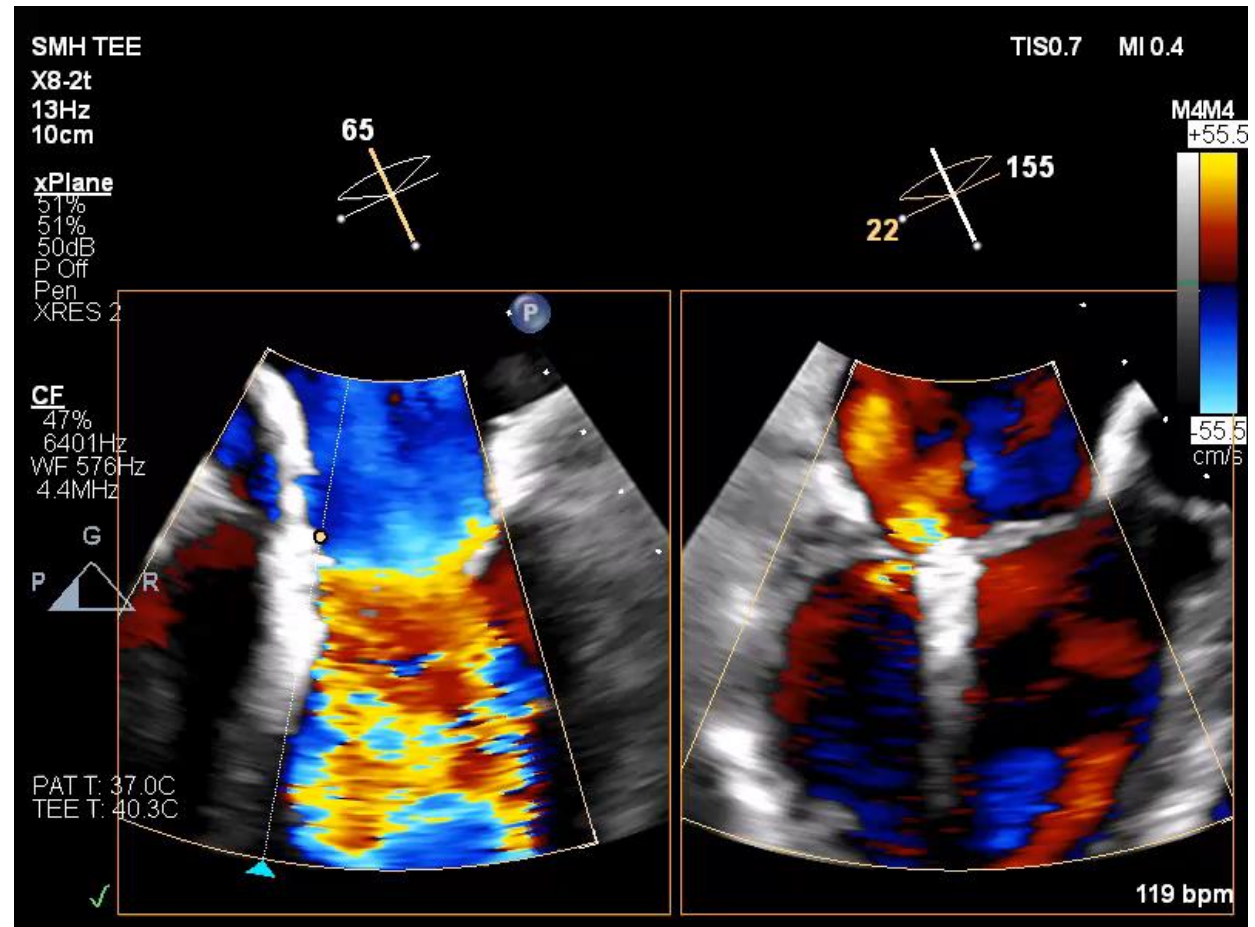
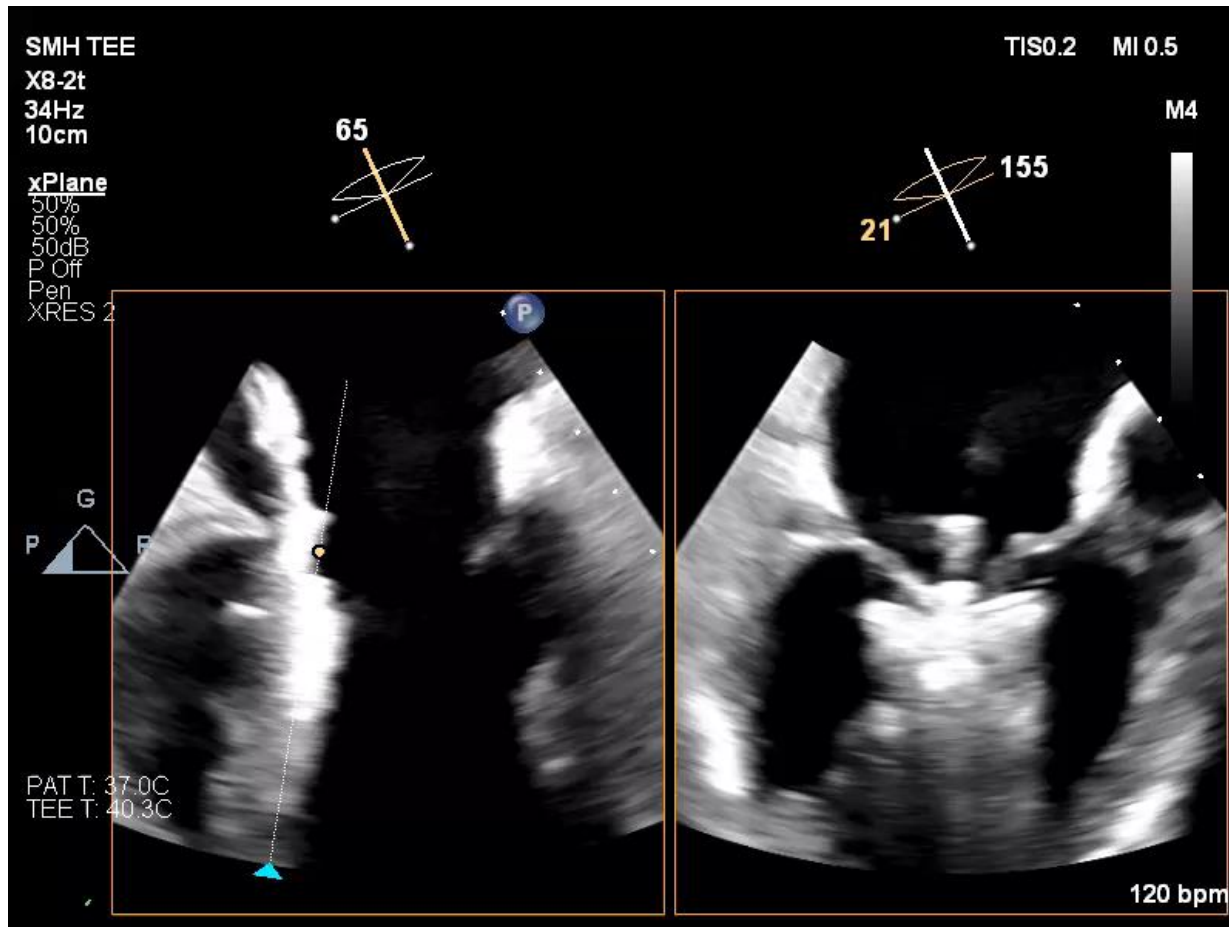
Posteromedial papillary muscle rupture with flail anterior mitral valve leaflet. Restricted posterior leaflet. Severe ('torrential') posteriorly directed MR

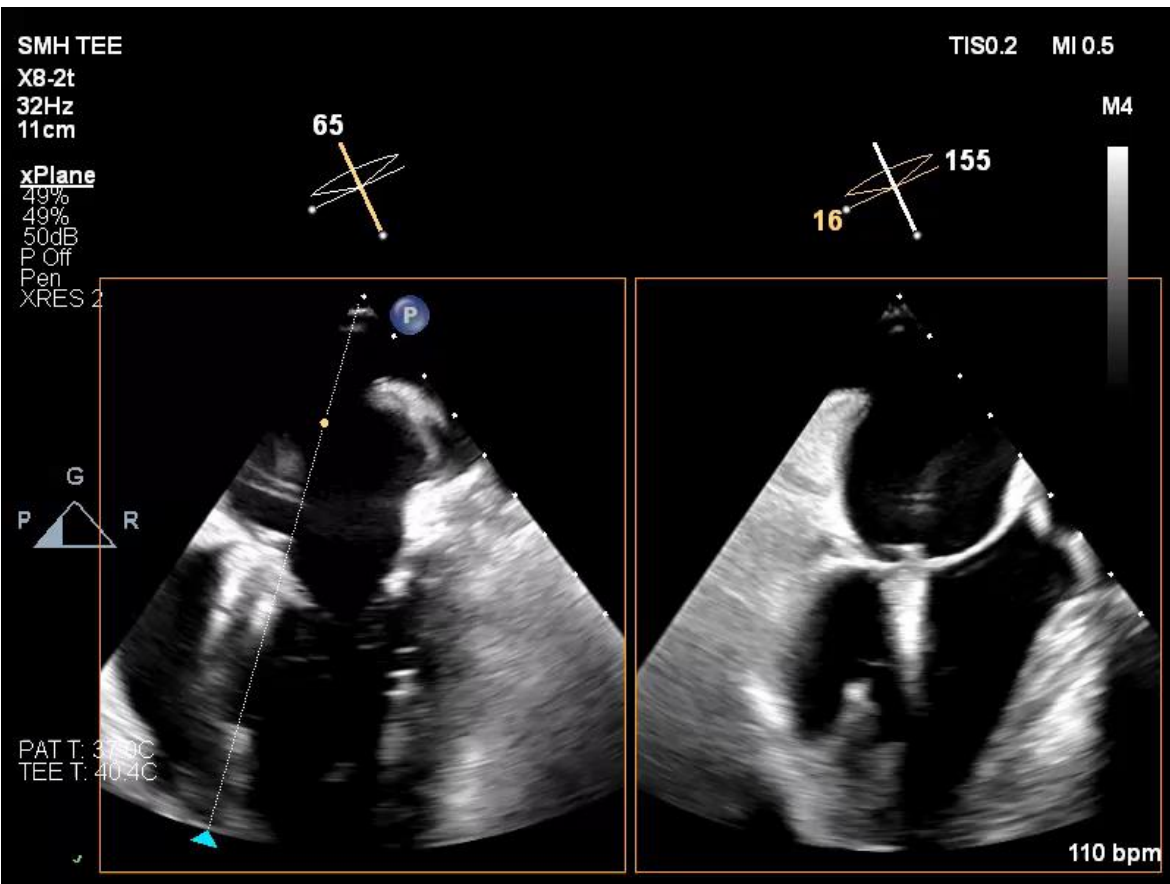


Mitral Edge to Edge Repair

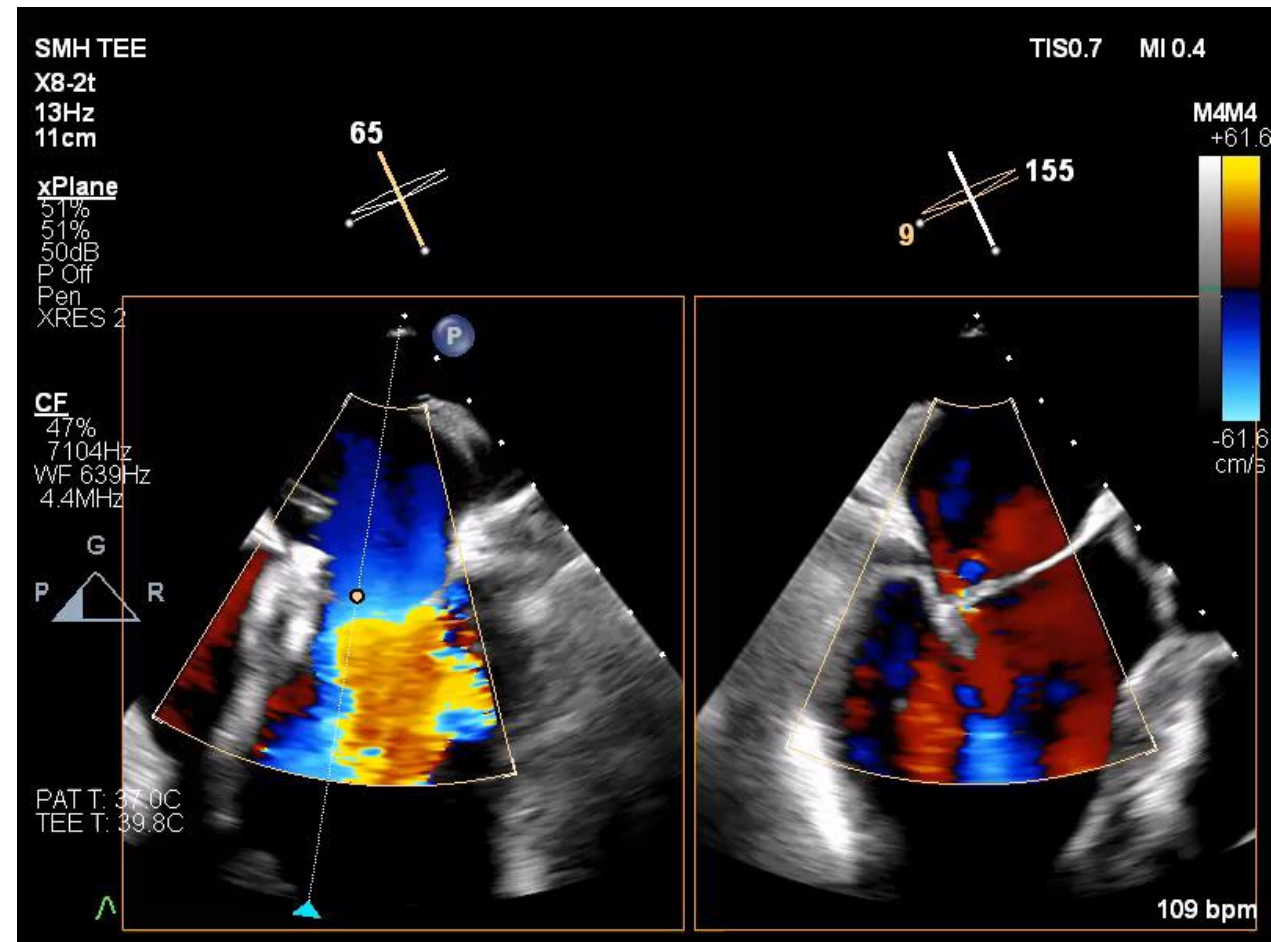


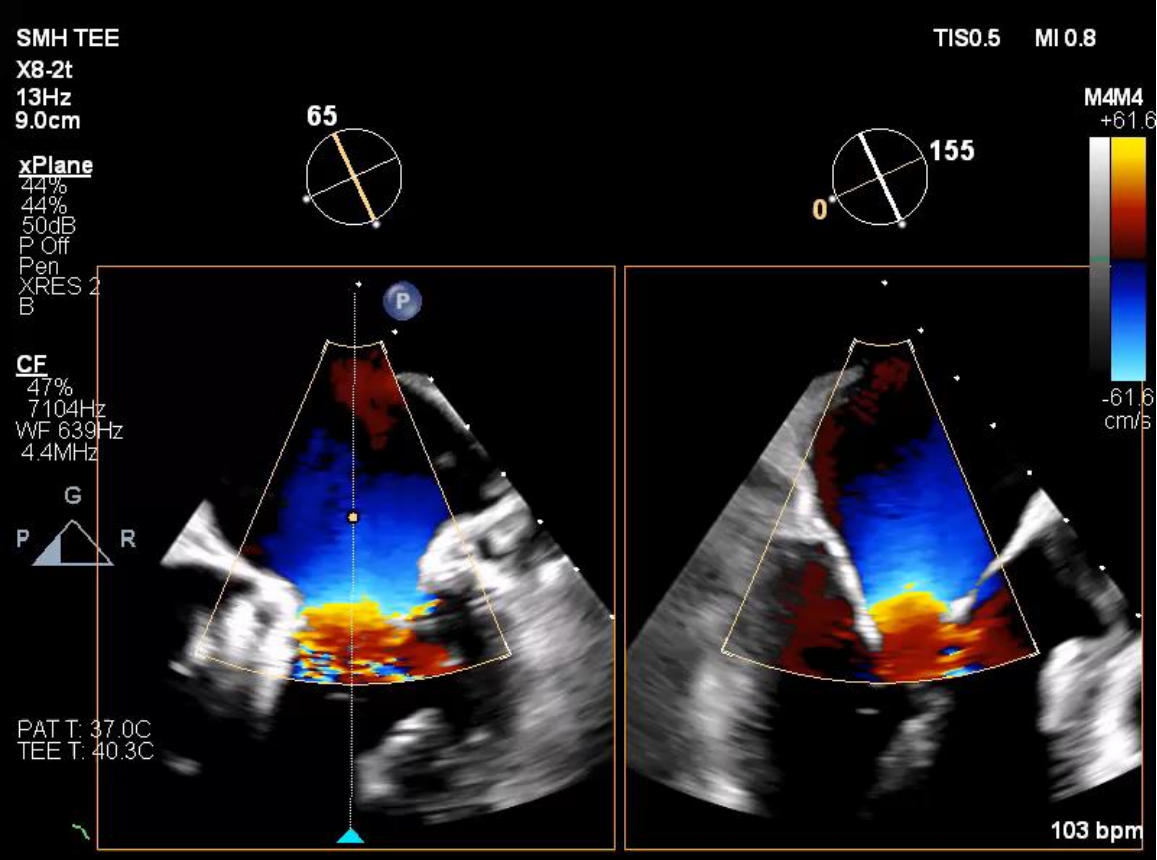
- Set up clip: Simultaneous grasp with first long & wide (XTW) clip on medial aspect of pathology where coaptation gap was manageable
- Some reduction in MR



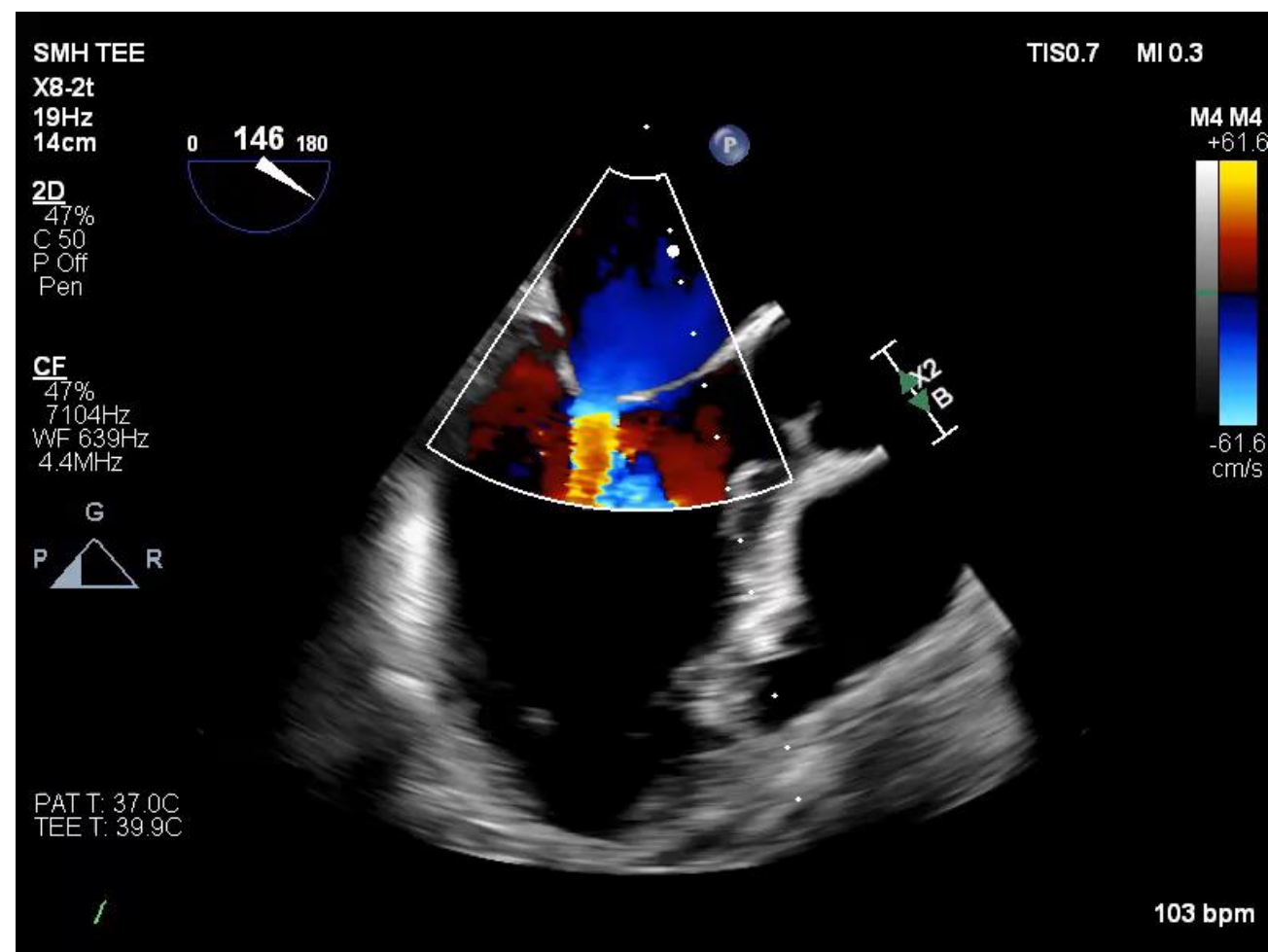


- Second XTW clip at site of dominant pathology with capture and reduction of the dominant flail segment and significant reduction in MR





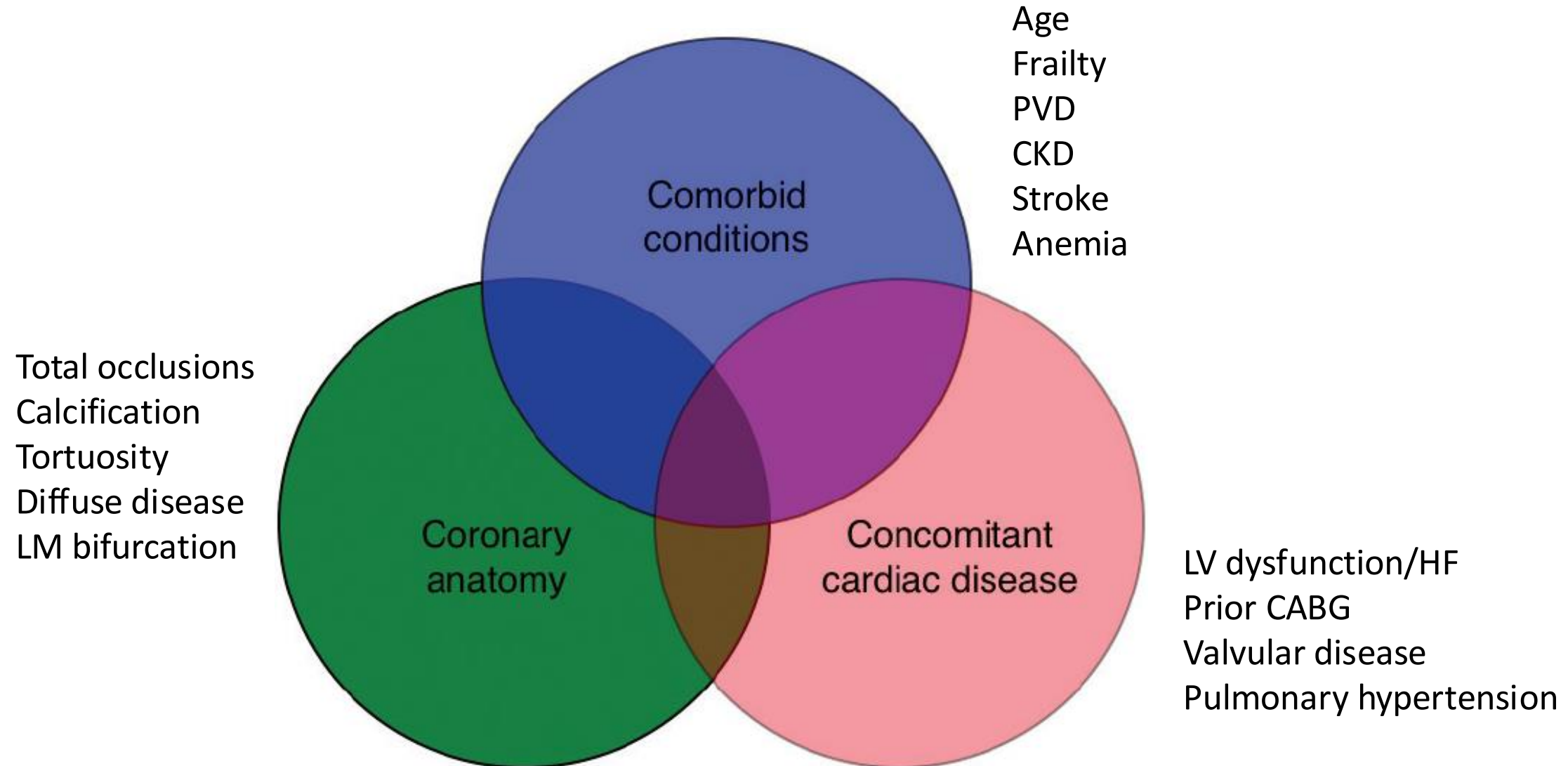
- Third XTW to ensure stability of the second clip and treat residual MR



- Final trace to mild MR, mean gradient 4mmHg @100bpm
- Worsening LV function, now severely reduced

- Immediate and dramatic hemodynamic & respiratory improvement
- IABP removed day 2; extubated day 7; discharged day 12
- @discharge, EF 48%, mild MR, mean gradient 4mmHg @HR 84bpm
- @2 years, NYHA I; EF 42%, mild-moderate MR

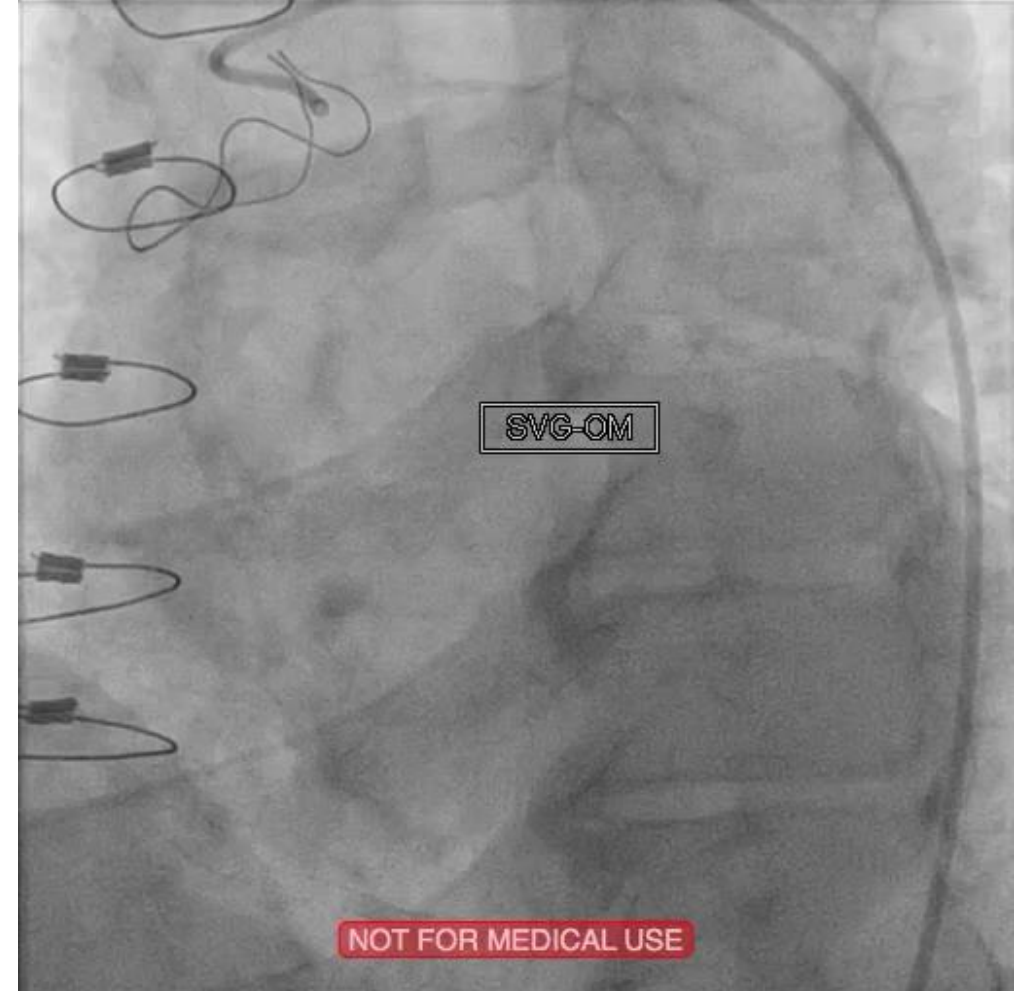
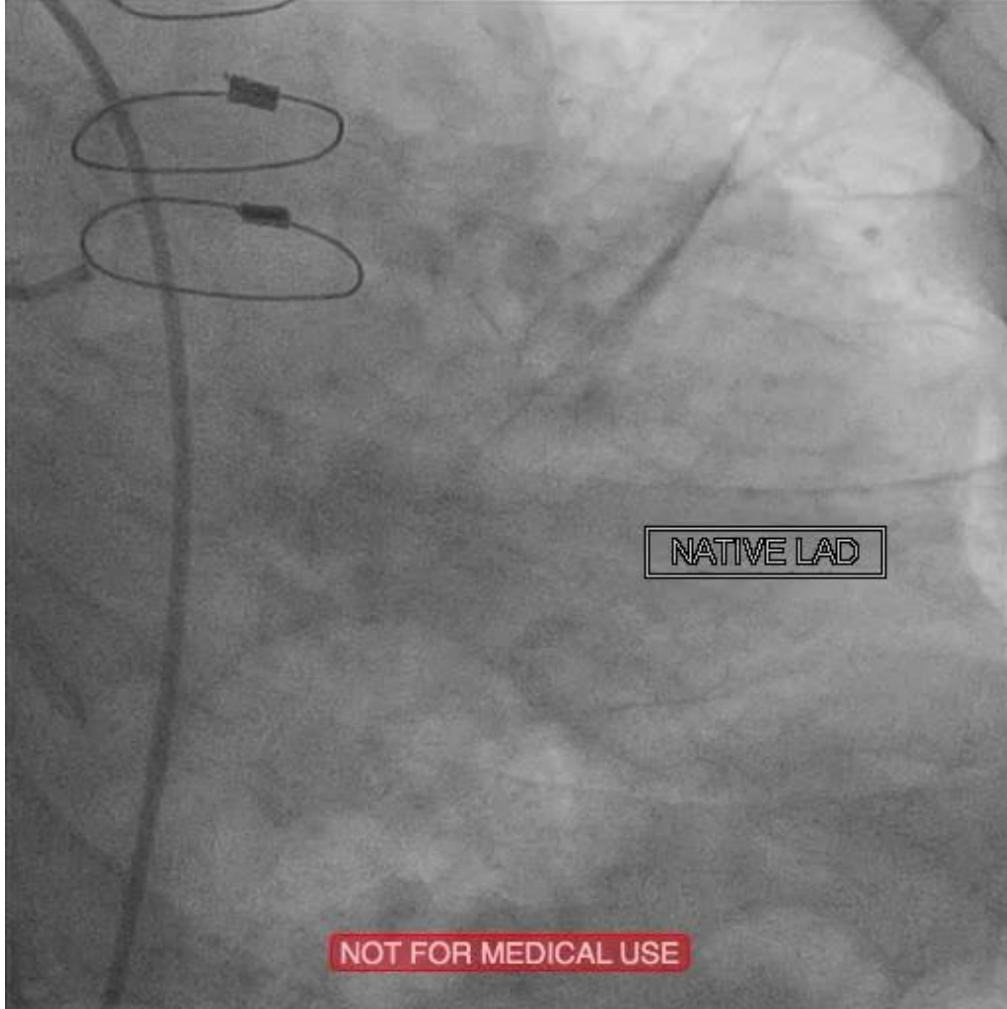
Complex High Risk PCI



Case 2: Retro is in

- 77y.o. male
- Type II DM, DLP, HTN, ex-smoker
- Status post CABG: LITA – LAD, SVG – RPDA, SVG – OM
- Prior PCI distal RCA; known to have occluded SVG to RPDA
- 3/12 hx increasing angina





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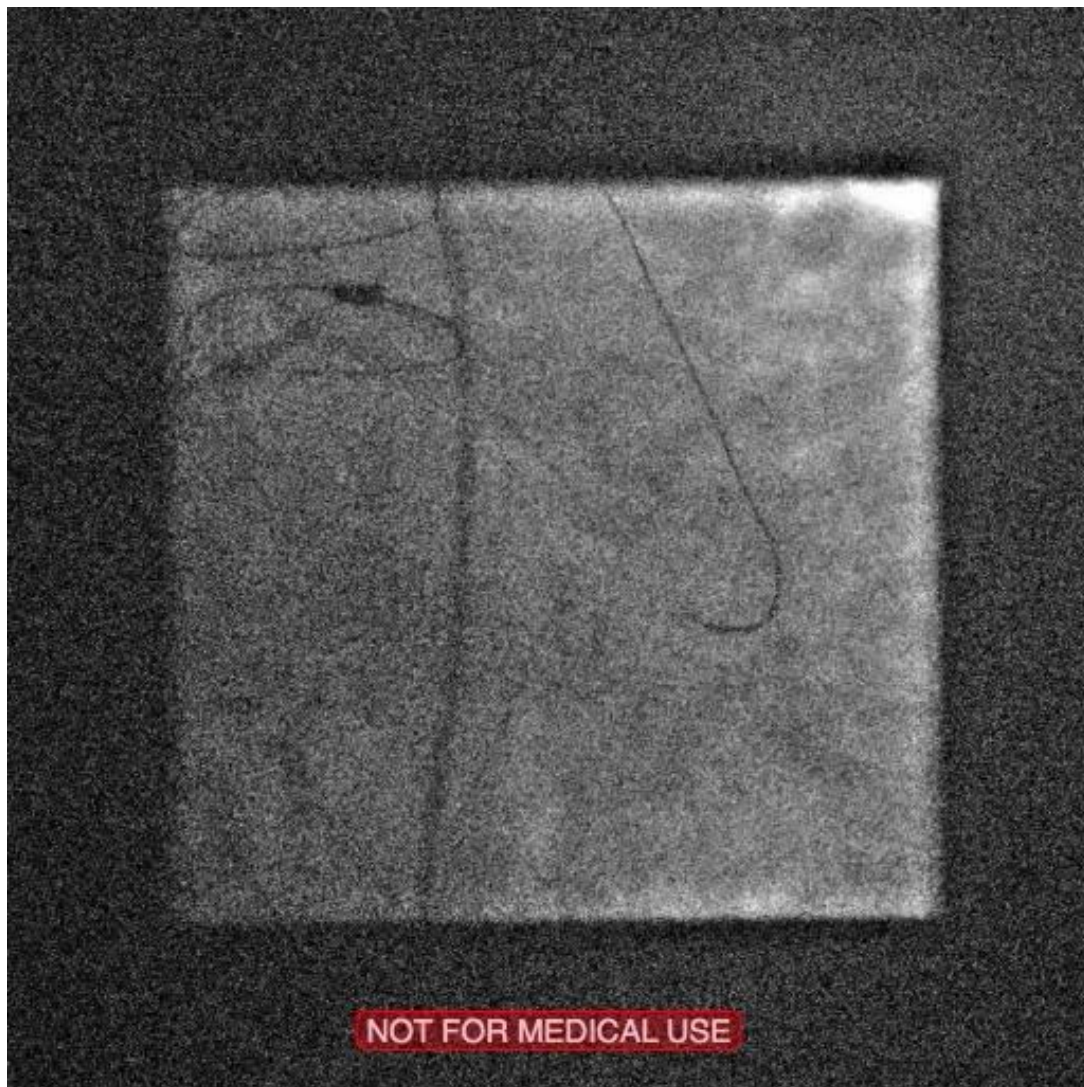
- Proximal cap slightly ambiguous
- Unable to engage proximal cap antegradely
- Wire kept prolapsing down ongoing vessel
- Decided to use recently occluded SVG for retrograde access

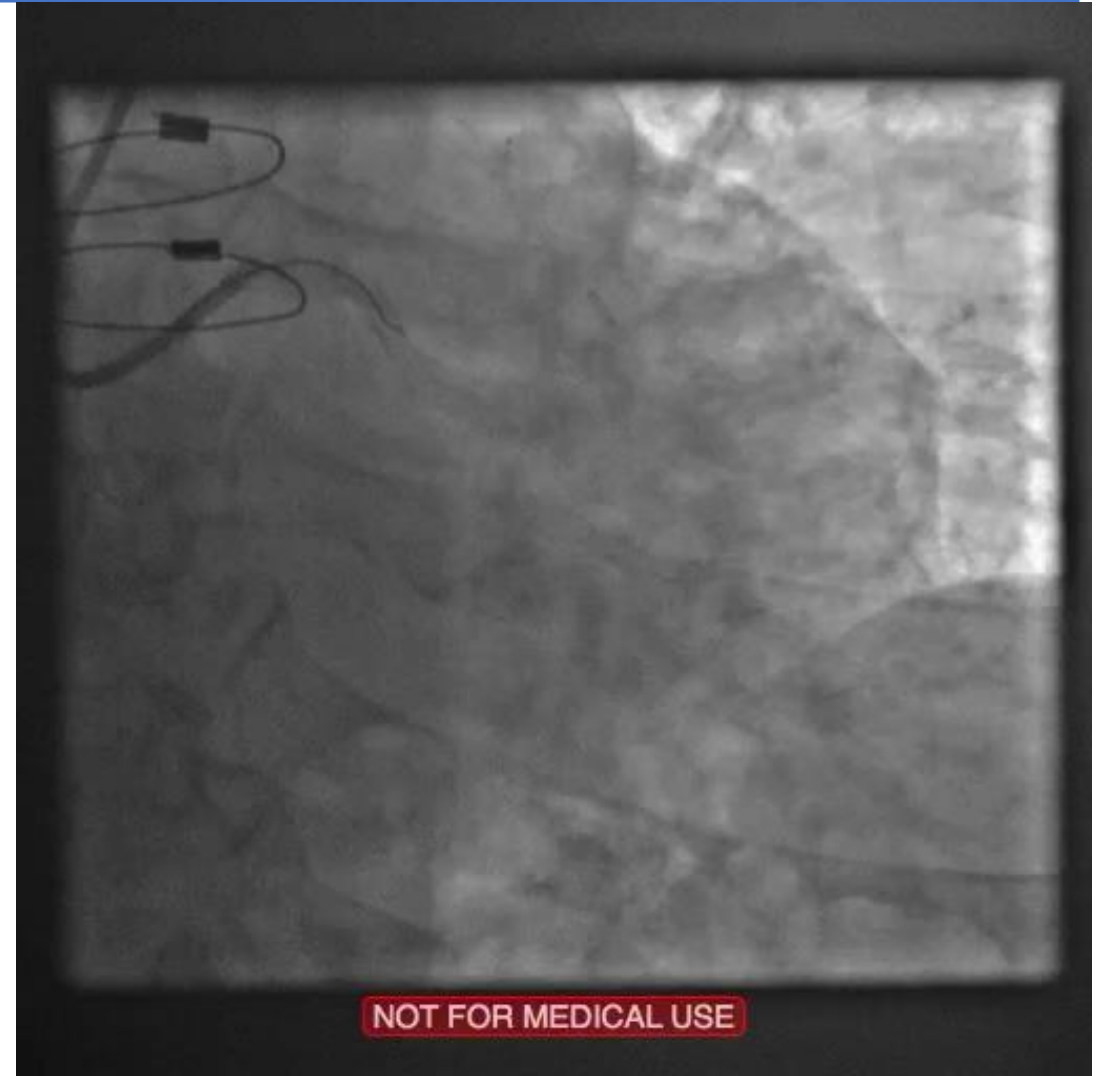
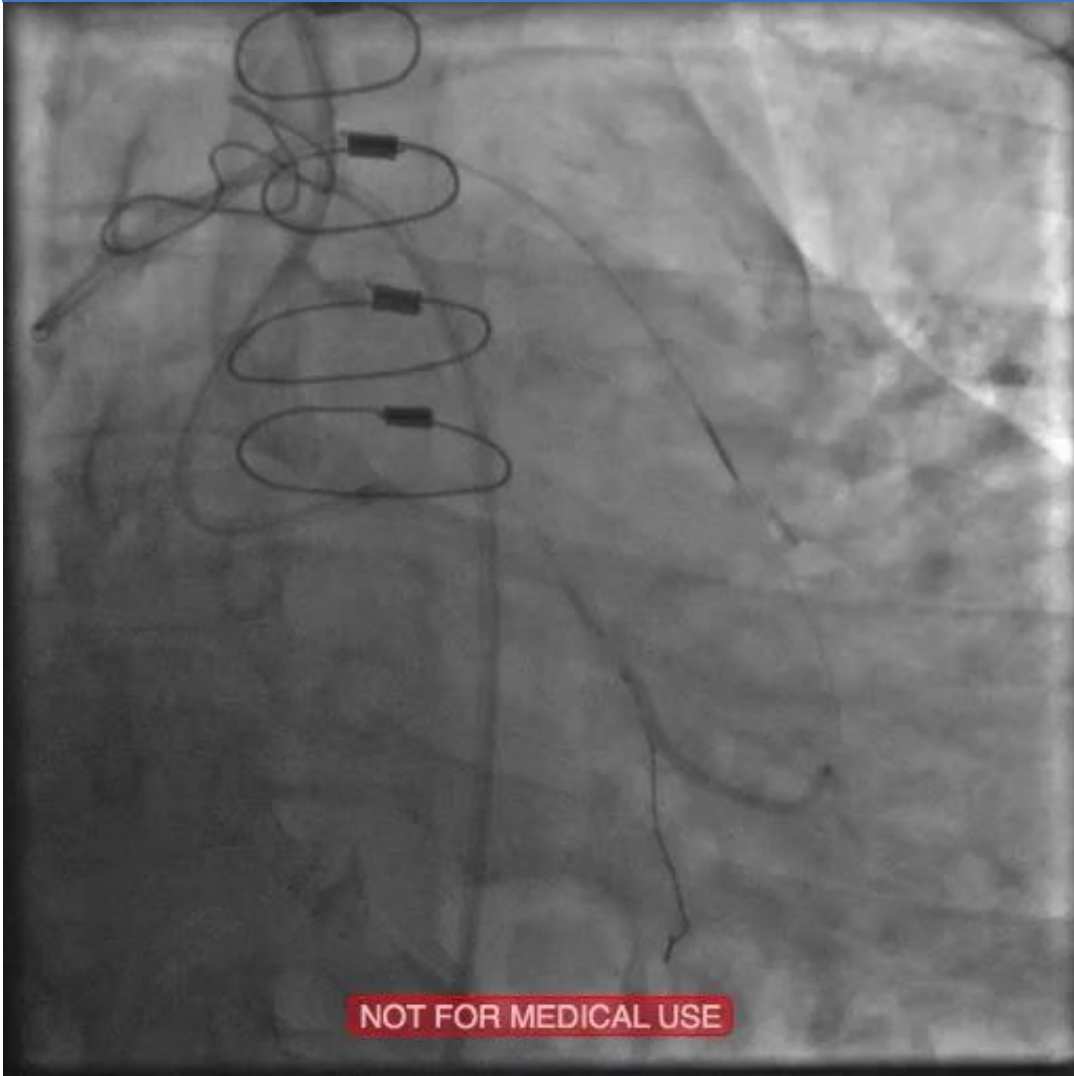


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Case 3: Support it!

53M previously well, nil PMHx

Admitted with NSTEMI

No prior warning symptoms



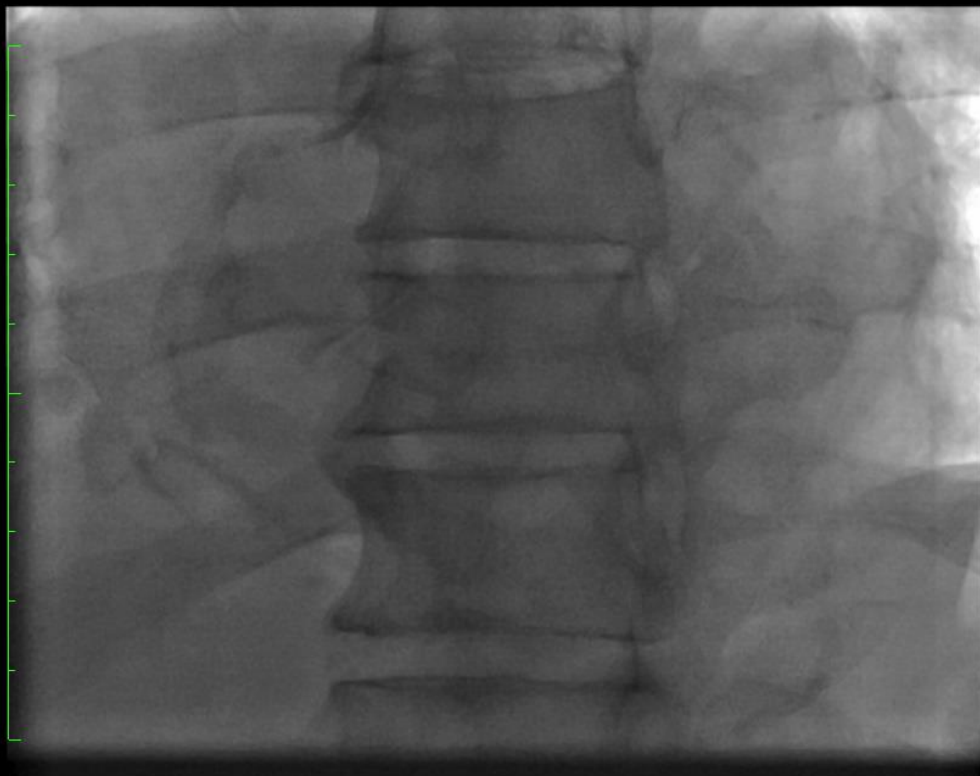
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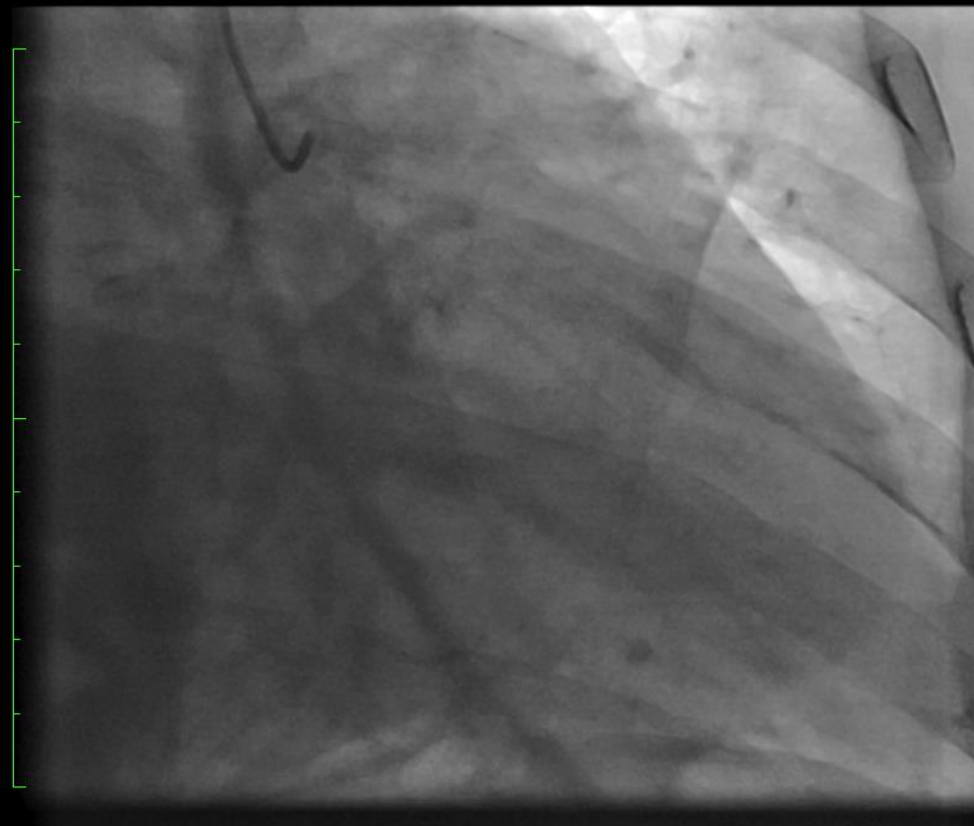
N000794436 (65 y , 64 y)
Coronary Diagnostic Coronary Catheterization
Coro



Zoom: 169%
Im: 1/54 Series: 2
JPEGLossless:Non-hierarchical-1stOrderPrediction
Position: HFS
2018-03-05, 7:43:03 PM
Made In OsiriX

Image size: 512 x 512
WL: 128 WW: 143

N000794436 (65 y , 64 y)
Coronary Diagnostic Coronary Catheterization
Coro



Zoom: 169%
Im: 1/68 Series: 5
JPEGLossless:Non-hierarchical-1stOrderPrediction
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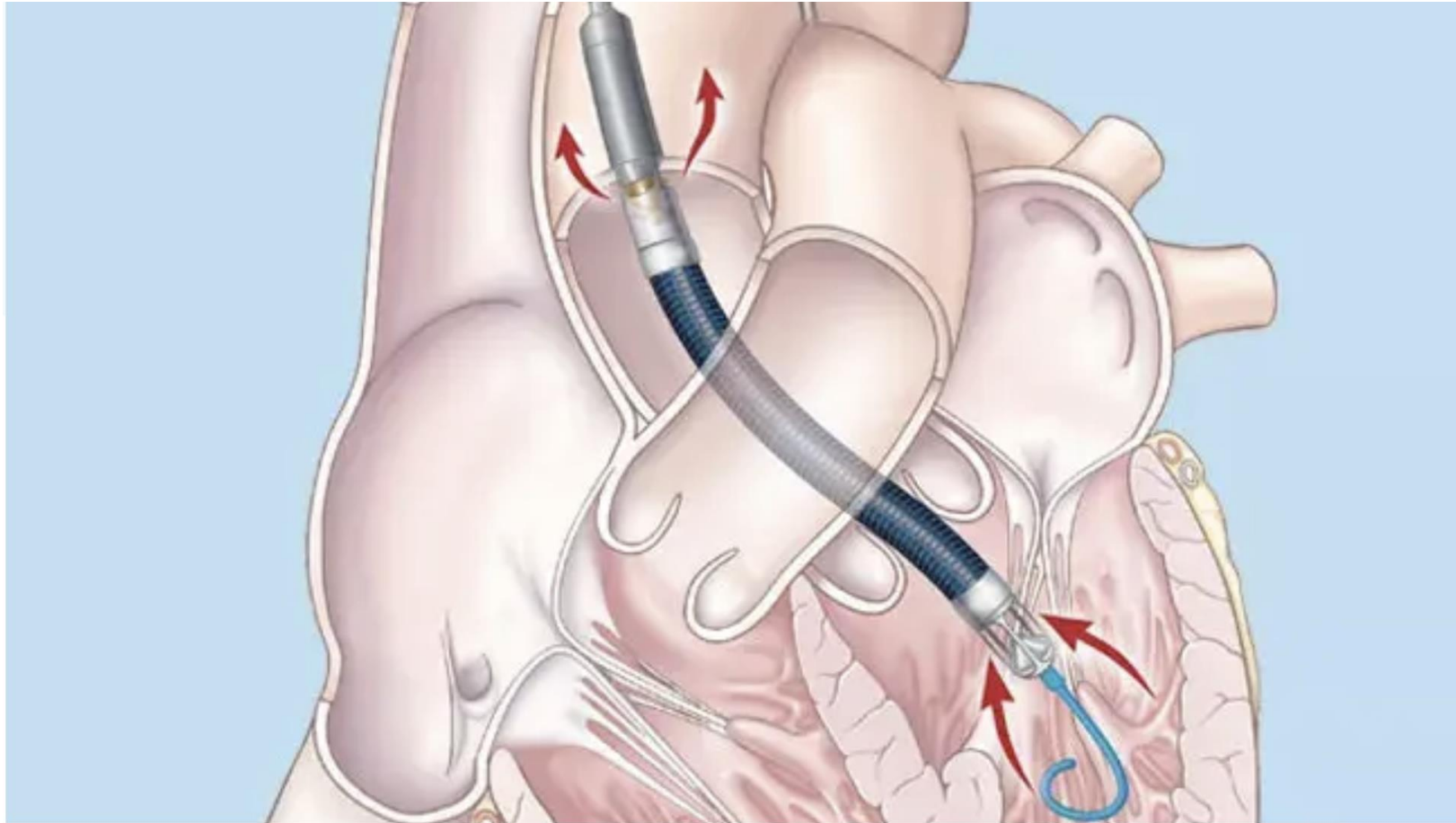
EF
15%



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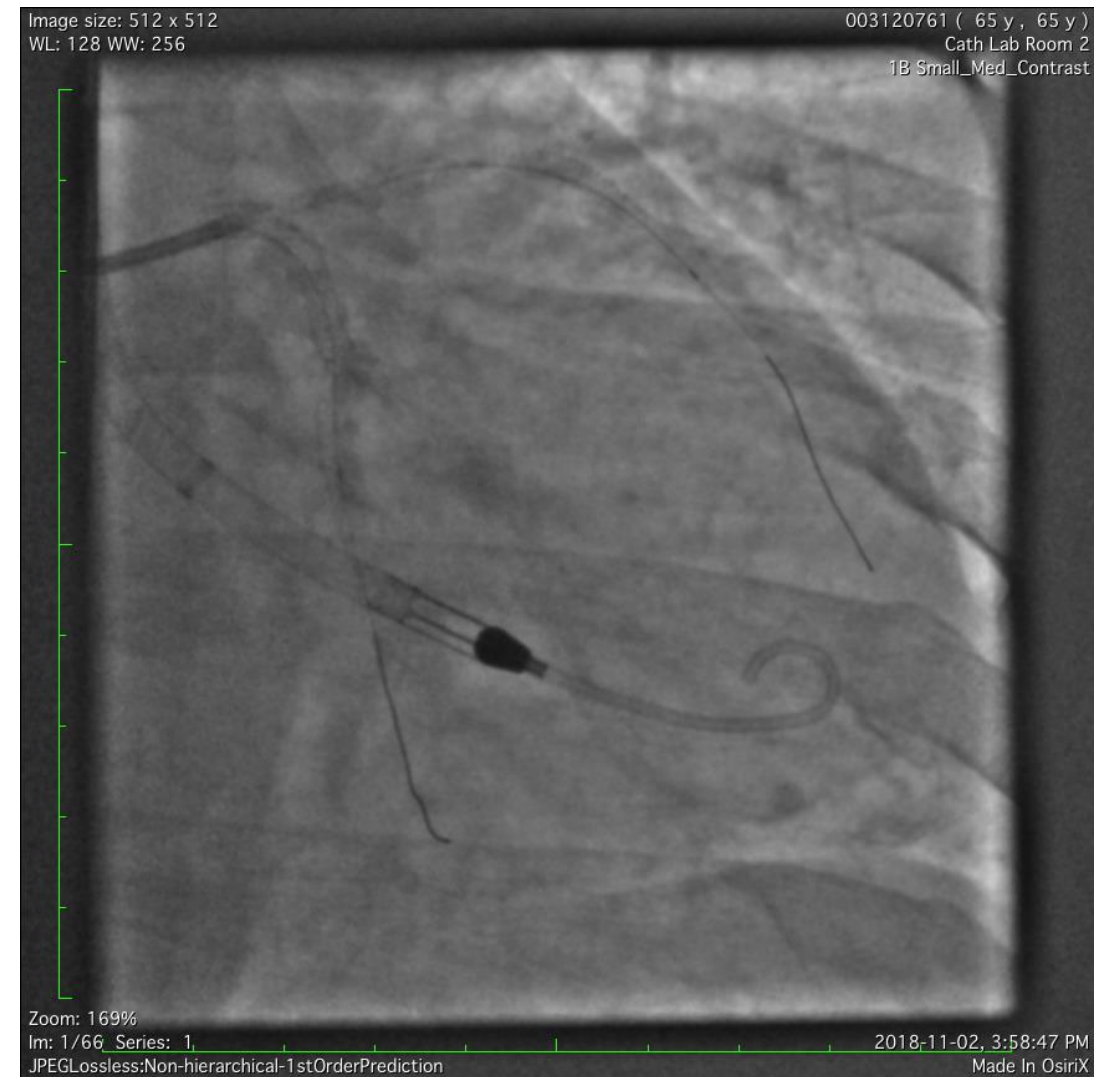
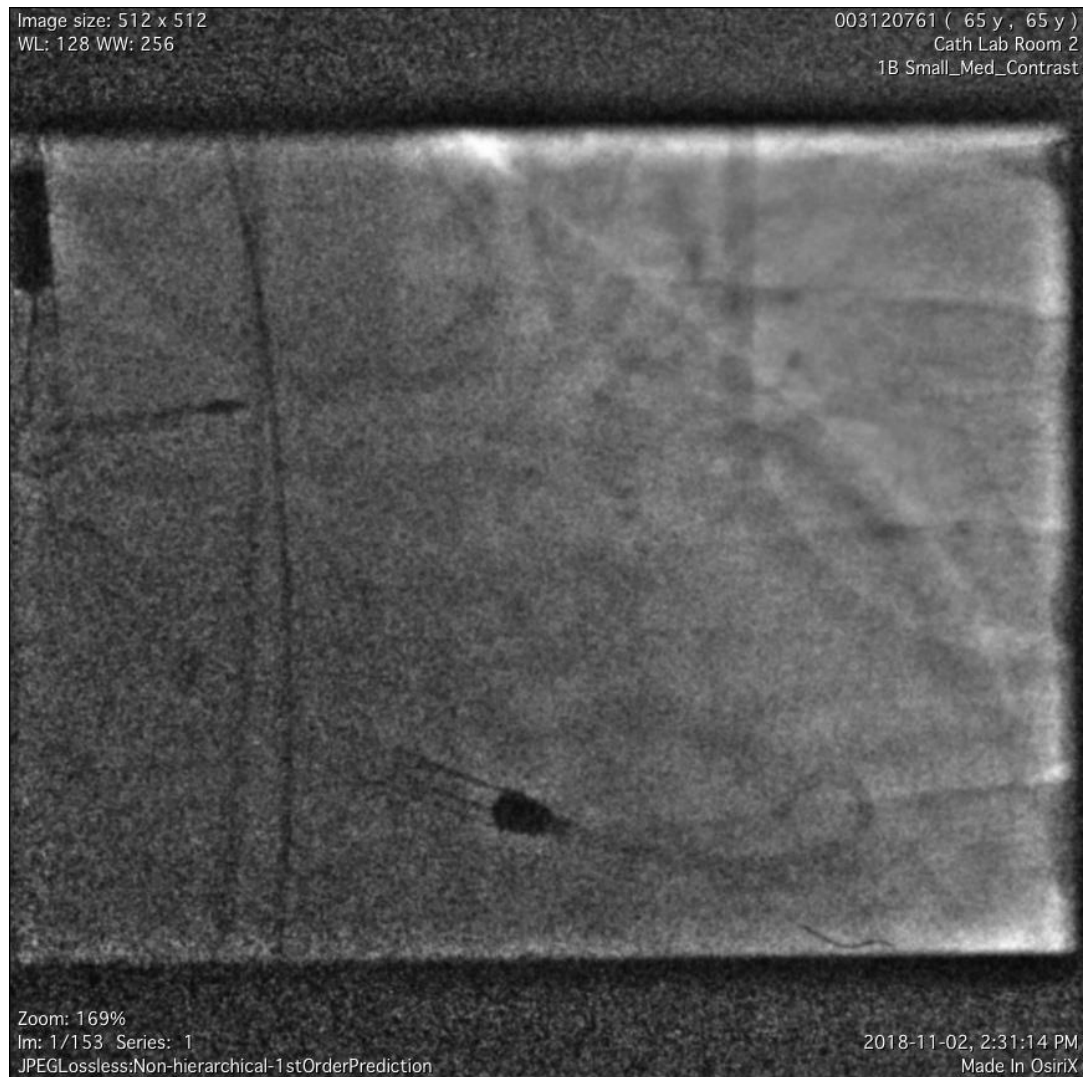
Impella Mechanical Circulatory Support



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