
Memorial
Cardiac and Vascular Institute
MEMORIAL REGIONAL HOSPITAL • MEMORIAL HOSPITAL WEST
COMPREHENSIVE PREVENTION, DIAGNOSIS
AND TREATMENT OF CARDIOVASCULAR DISEASE

NOT ANOTHER

TALK ABOUT

A - FIB

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CASES

KUDOS

AND

A CHALLENGE

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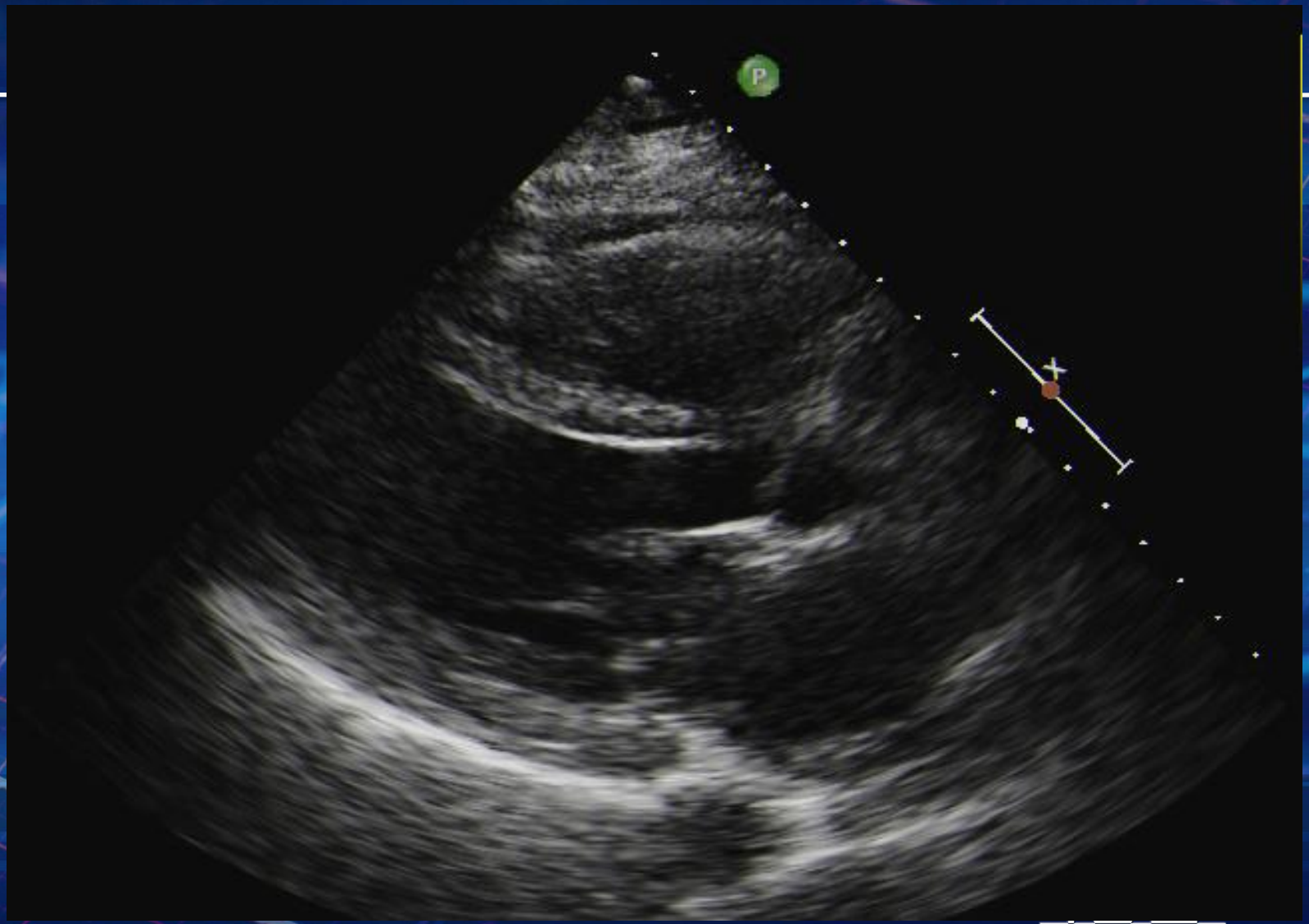
Case 1

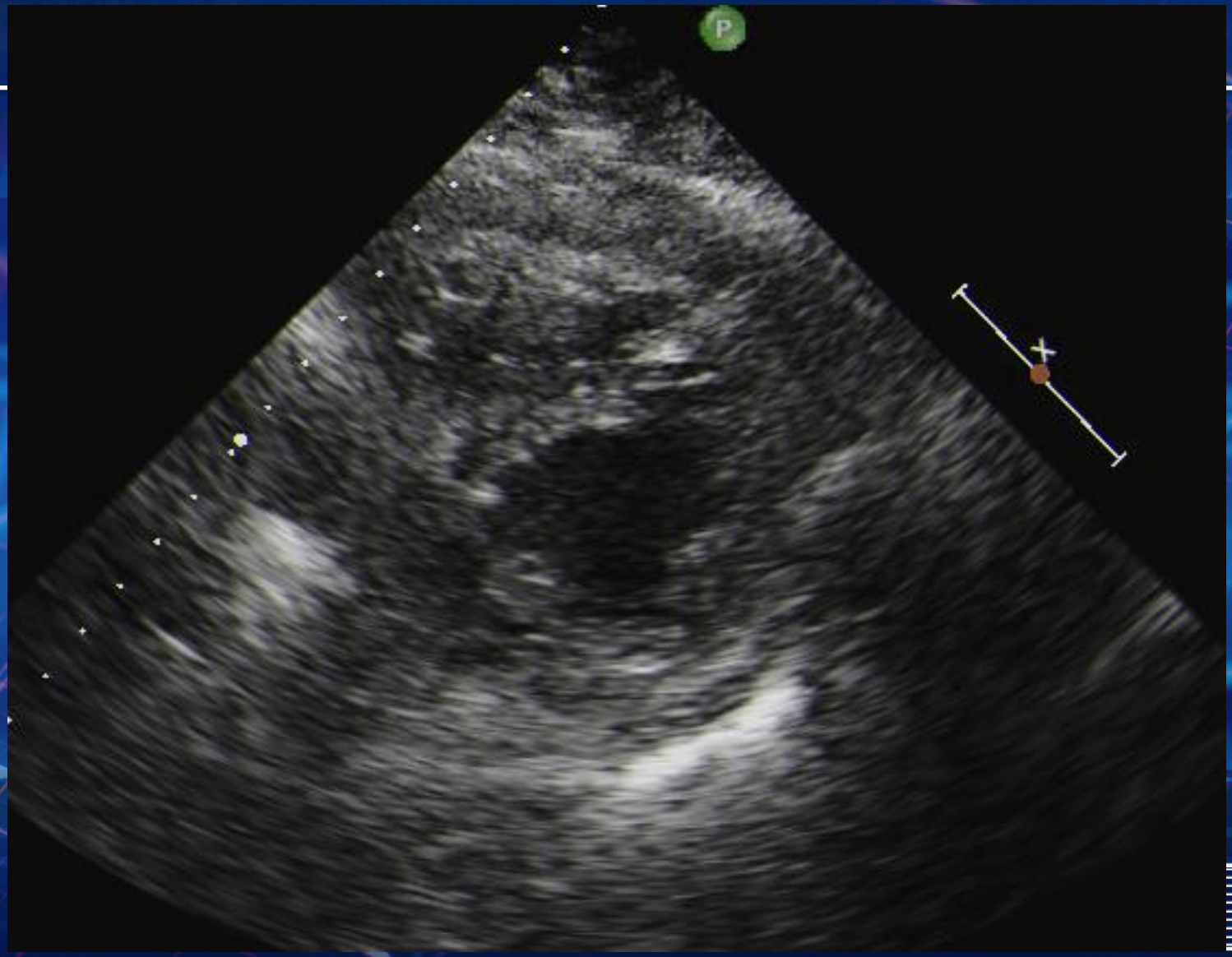
- 67 y/o female
  - s/p R mastectomy 3 months earlier
  - Second course of adjuvant chemotherapy
  - Muga scan – E.F. 35%

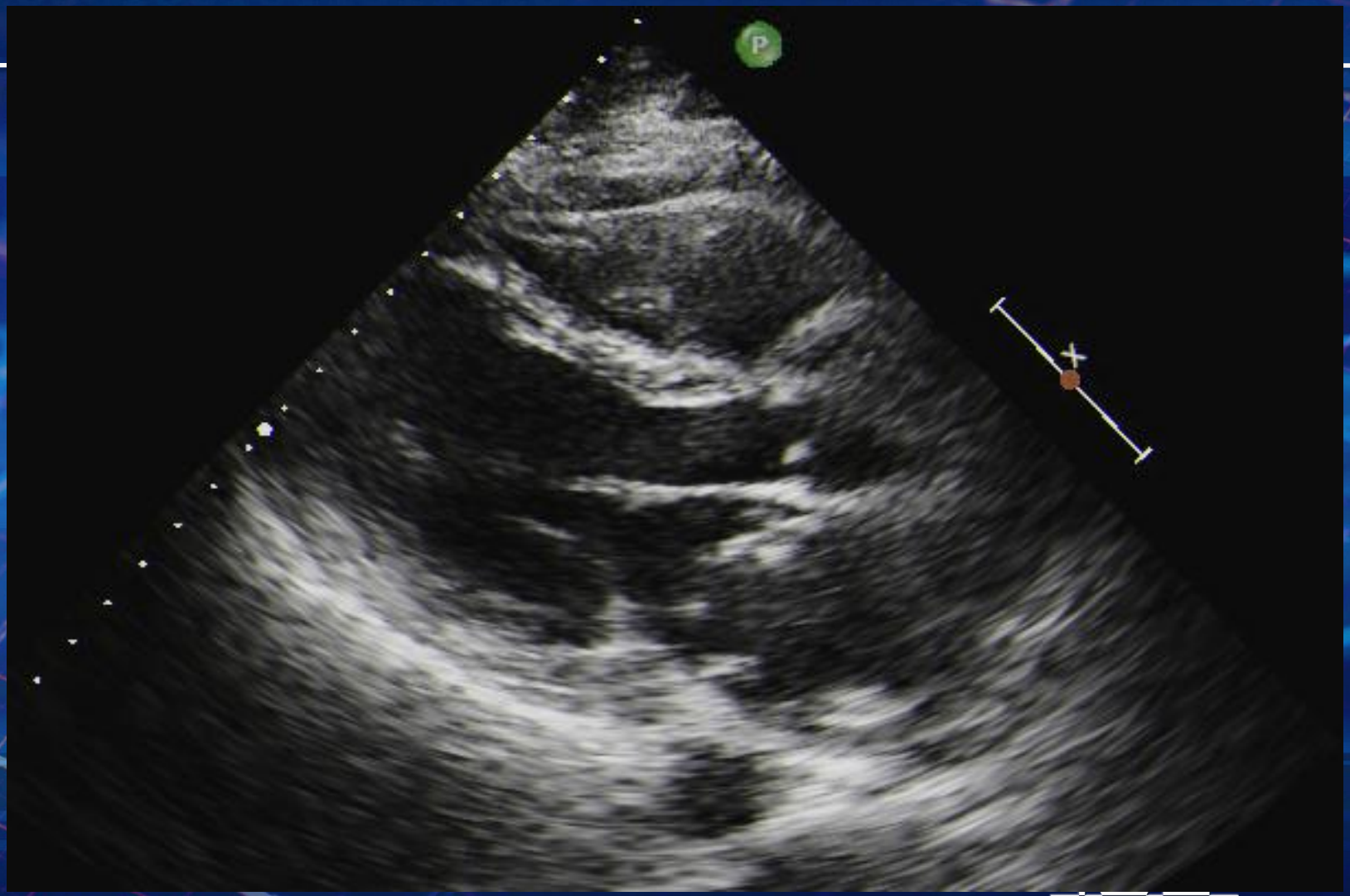
What do we do next?

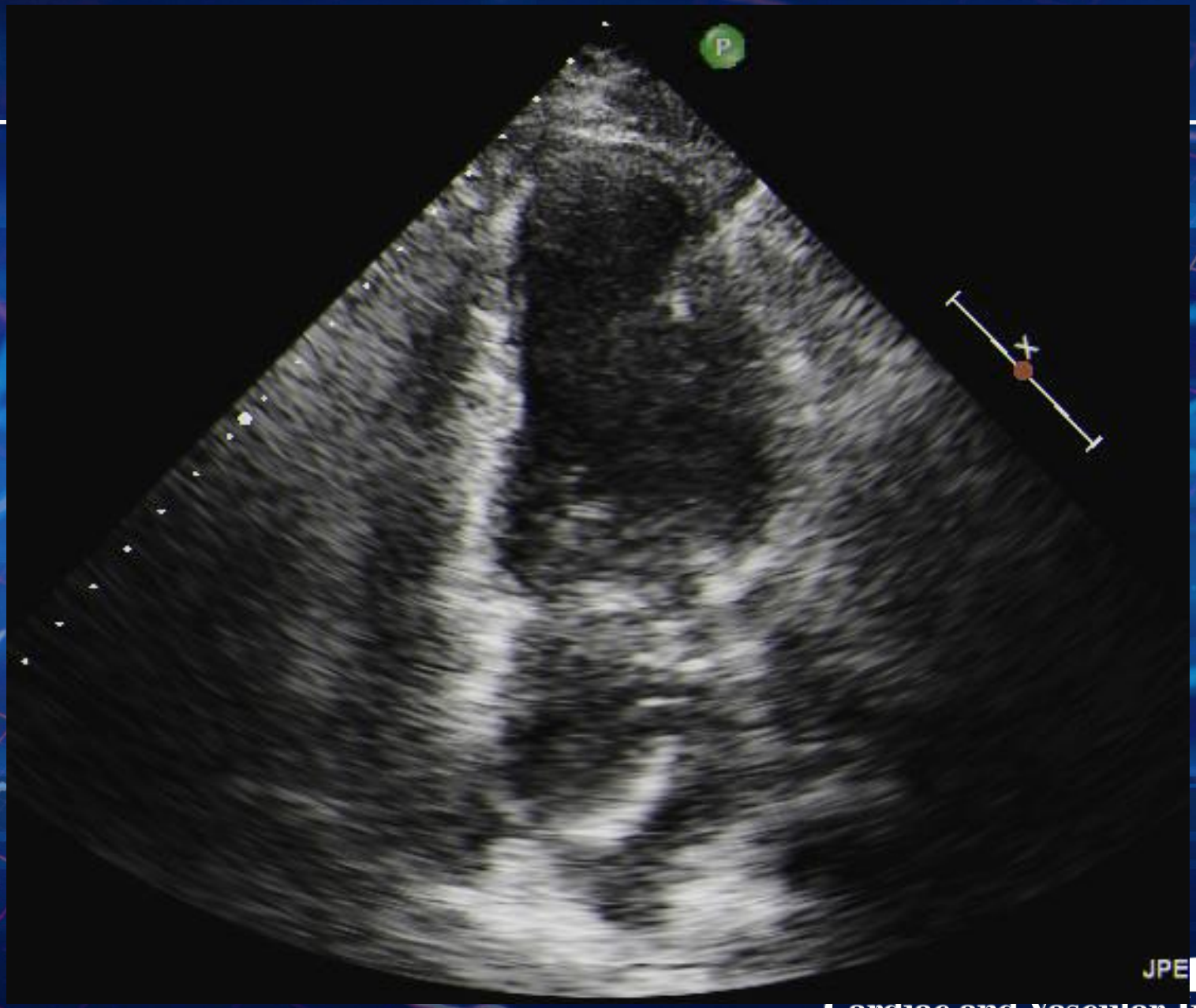
Case 1

- Cardiology
  - H & P
    - Asymptomatic
    - PMH: Htn → Atenolol
    - Family history neg
    - Normal physical exam
  - ECHO





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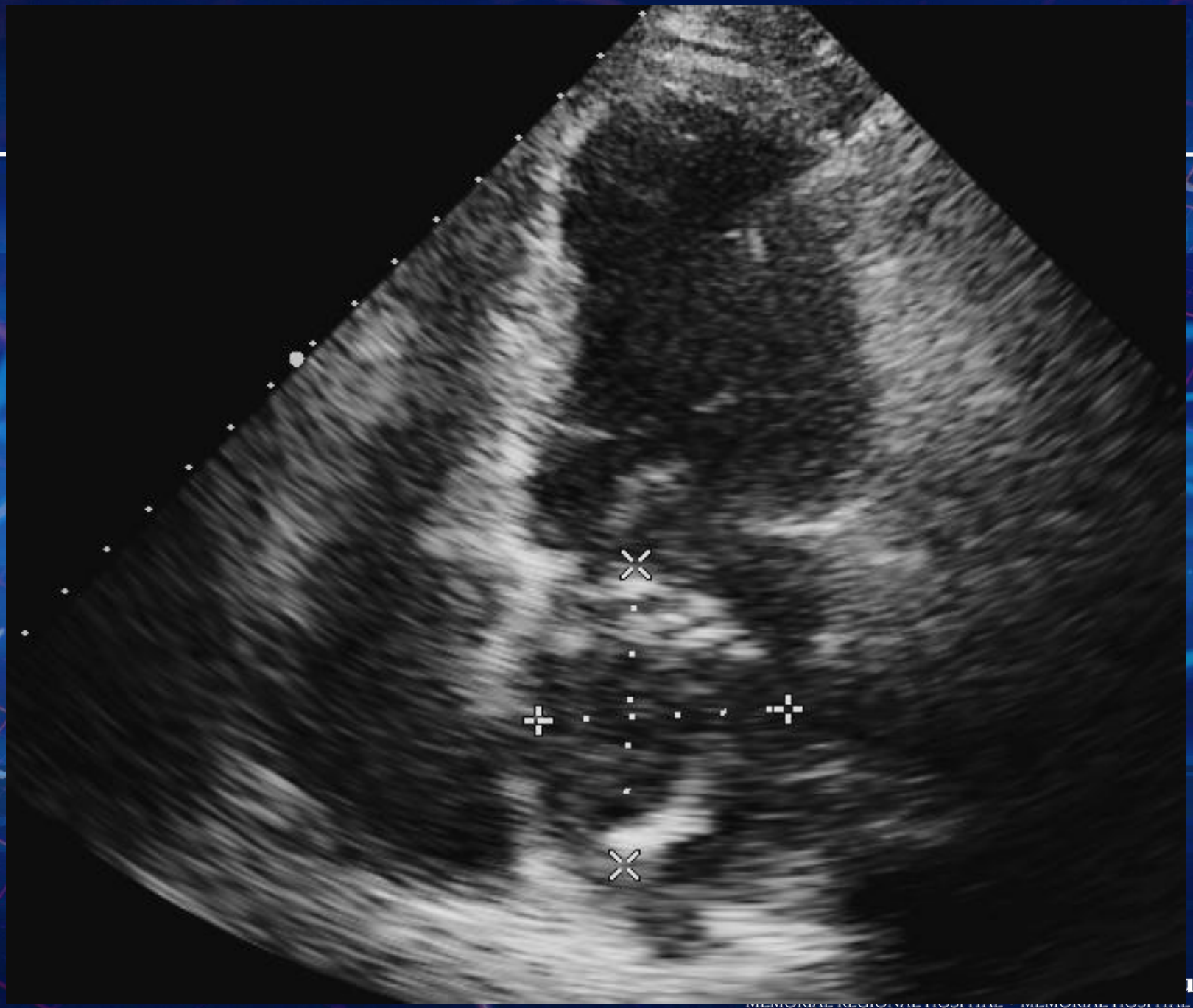
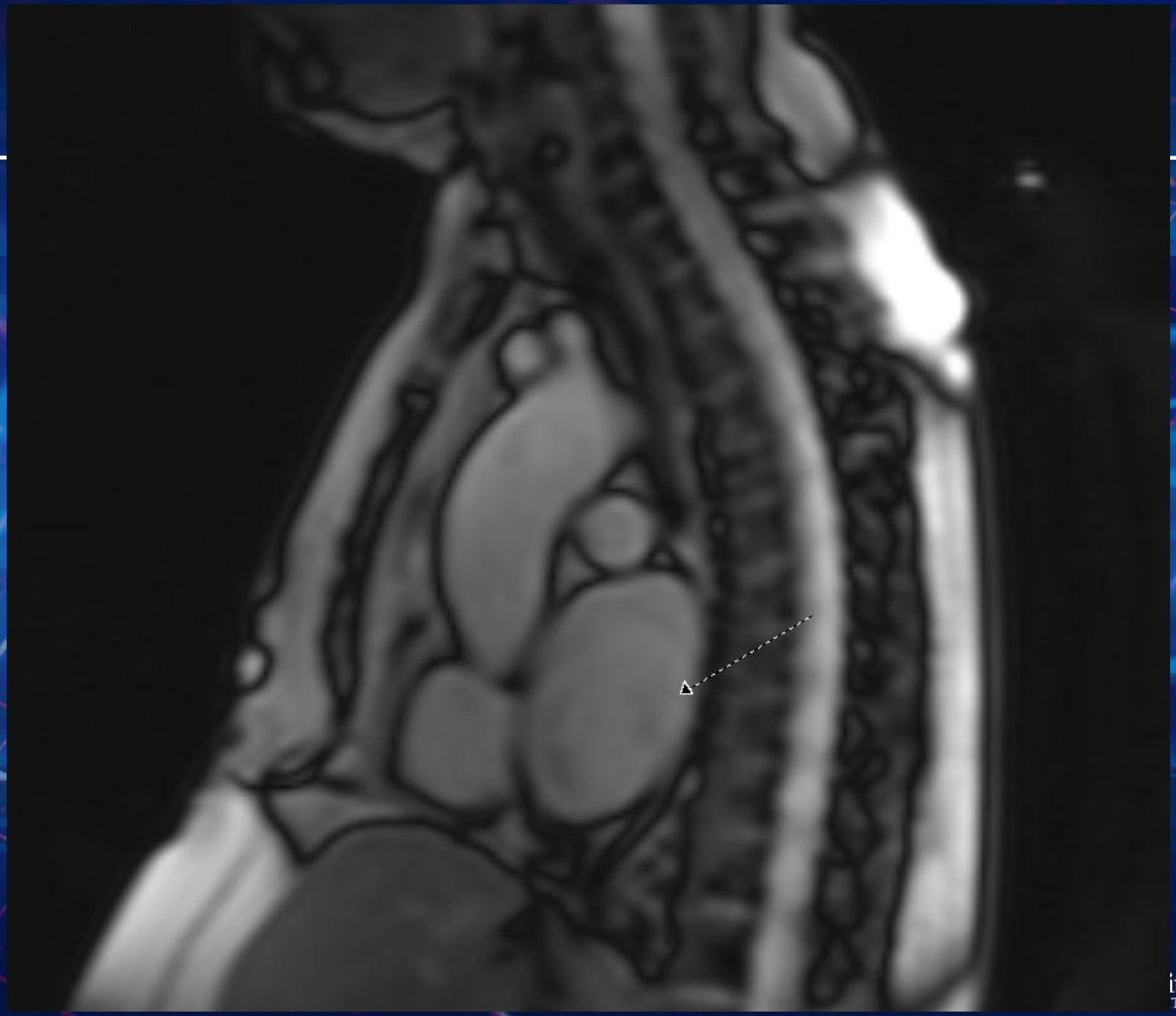
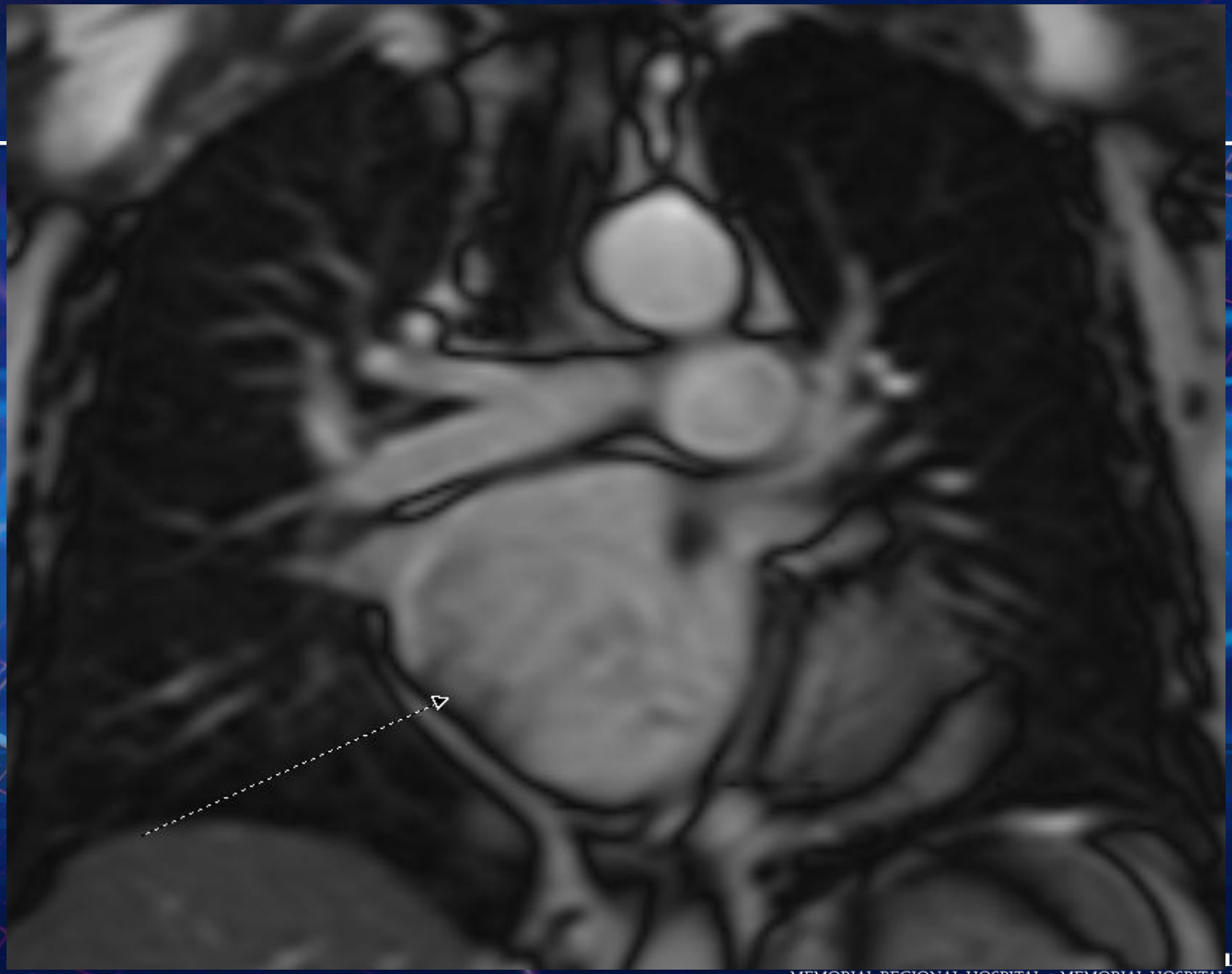
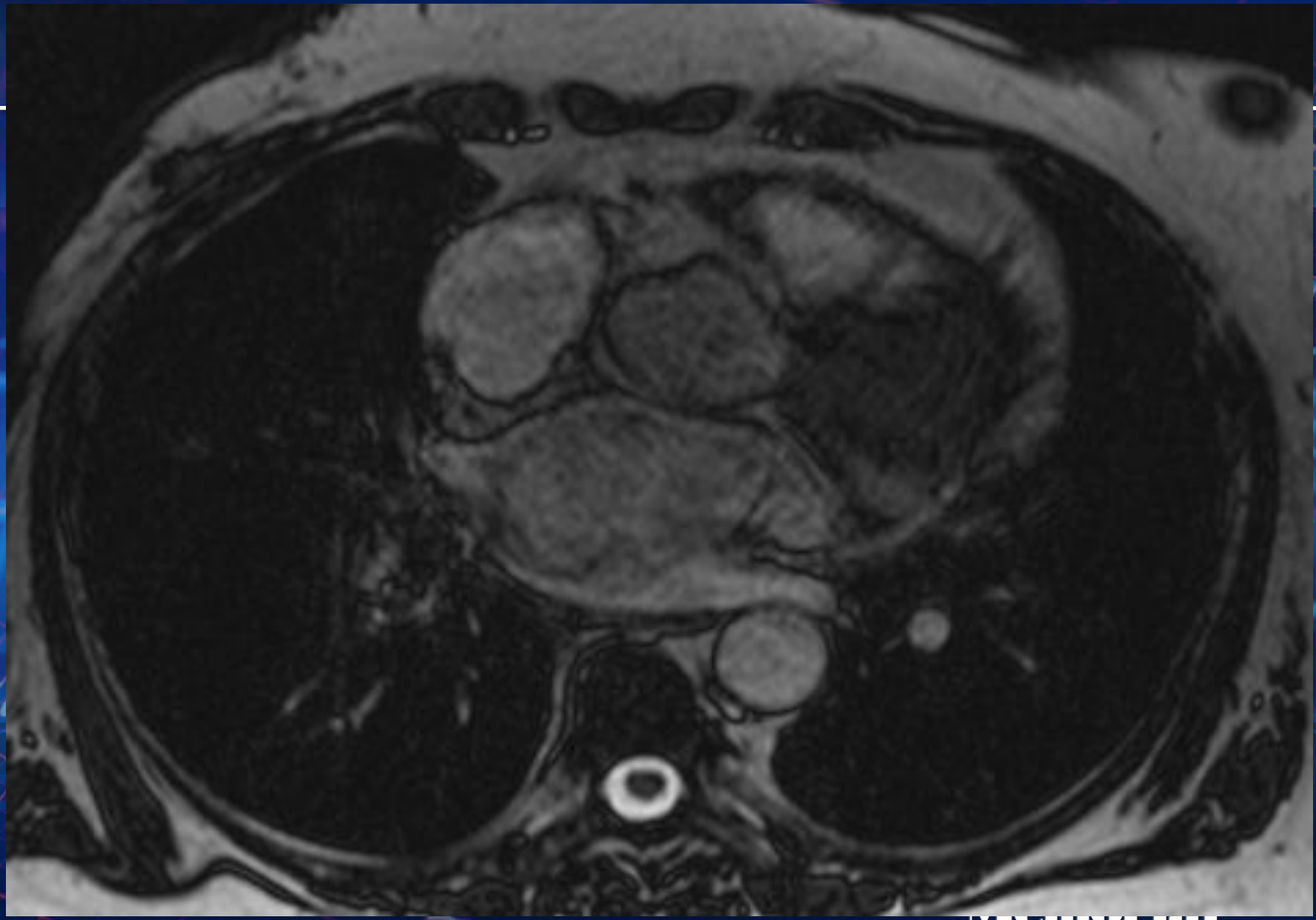


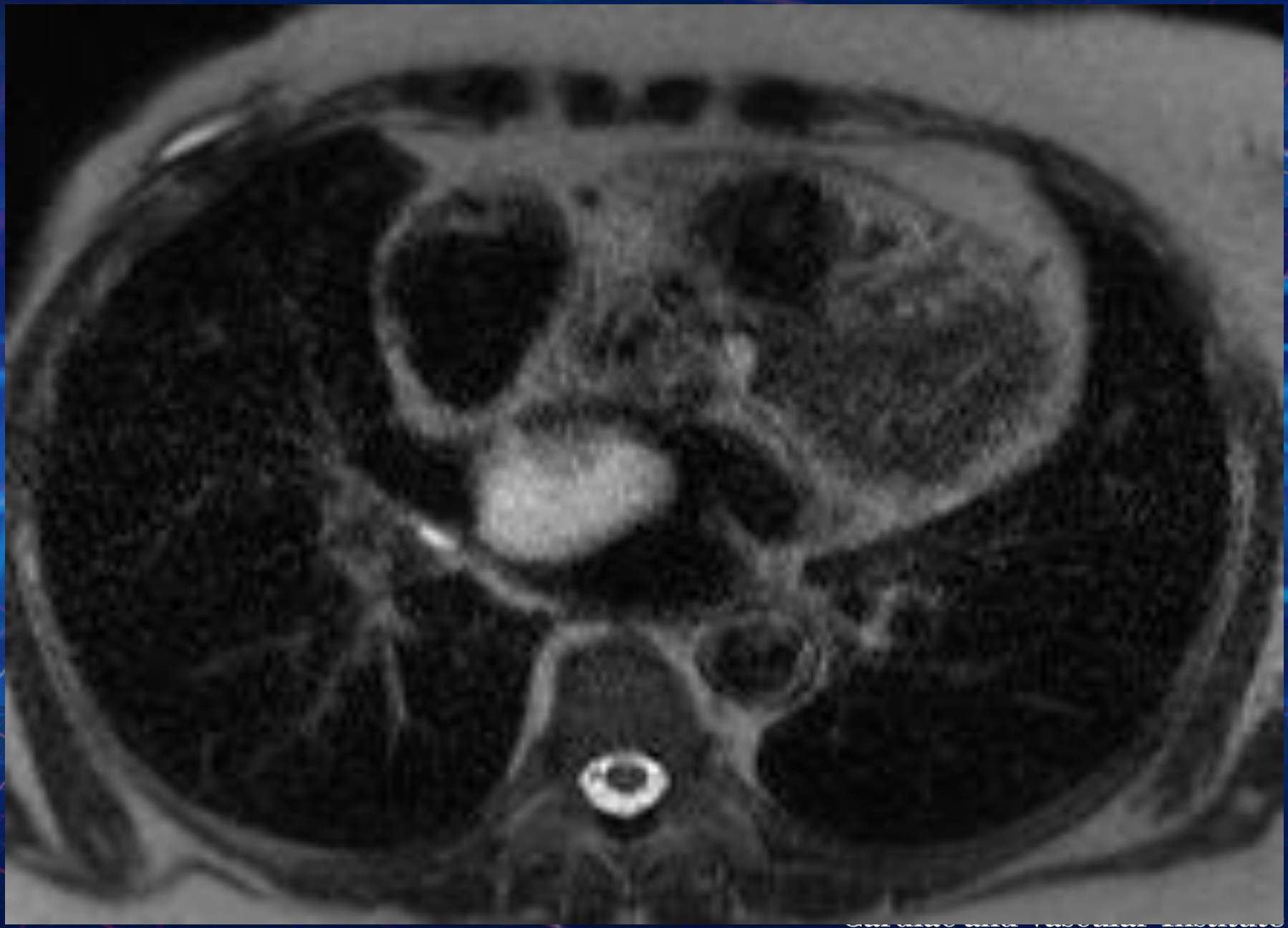
Case 1

What next? MRI









Case 1

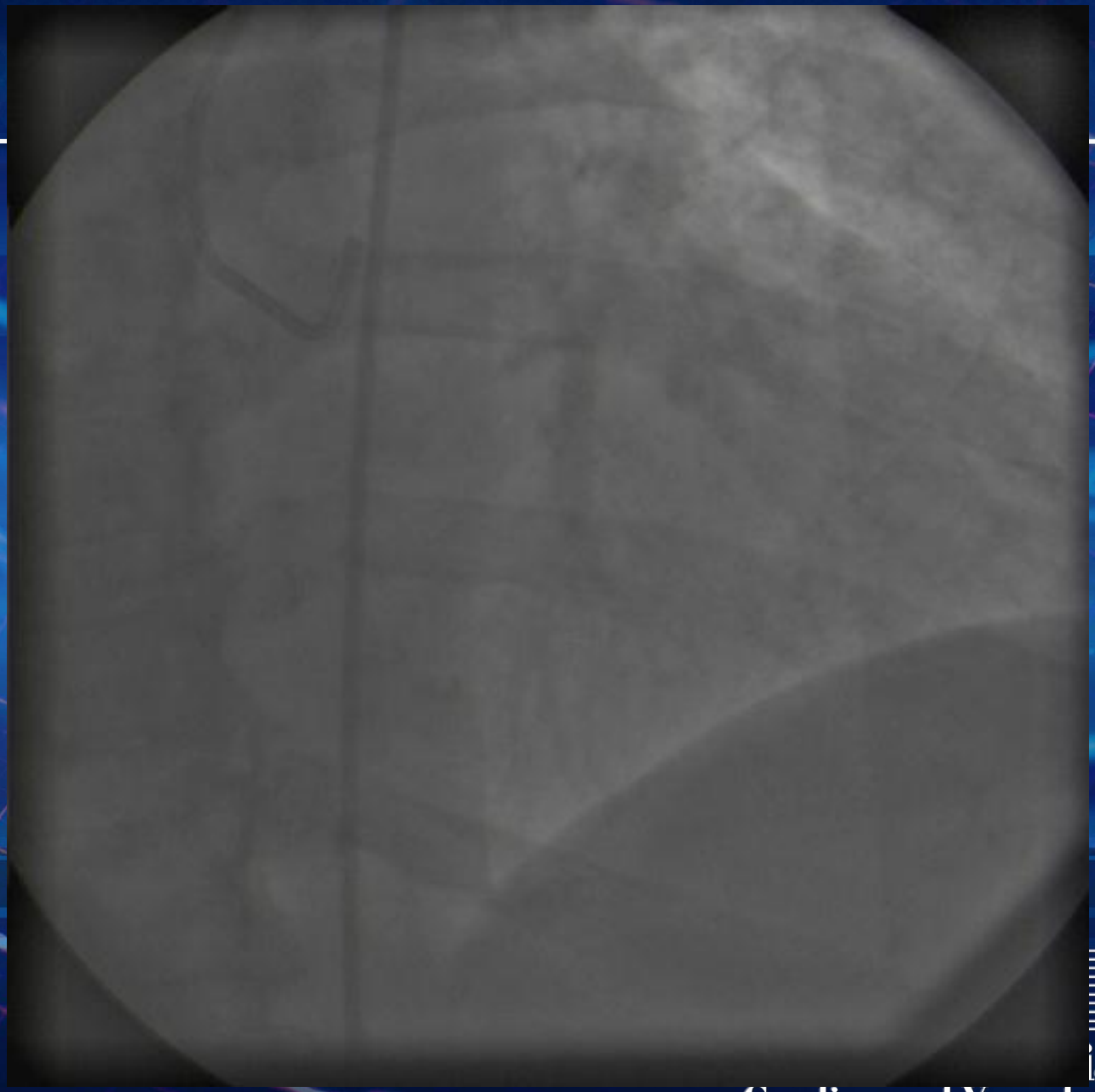
THERE IS A LARGE MASS AS DESCRIBED ABOVE OCCUPYING AND SLIGHTLY DISTENDING THE LEFT ATRIUM. ON THE POSTCONTRAST IMAGES, THE MAJORITY OF THE MASS DOES NOT ENHANCE. THERE ARE SOME PATCHY AREAS OF INCREASED SIGNAL INTENSITY ON THE POSTCONTRAST IMAGES THAT MAY REPRESENT A SMALL AMOUNT OF INTERNAL ENHANCEMENT VERSUS ARTIFACT. **THE FINDINGS AS DESCRIBED ABOVE FAVOR A LARGE LEFT ATRIAL THROMBUS.** AS THE EXAMINATION DOES DEMONSTRATE A QUESTION OF SOME INTERNAL ENHANCEMENT CONTINUED FOLLOW-UP WITH REPEAT MR OR TRANSESOPHAGEAL ECHO IS RECOMMENDED FOLLOWING TREATMENT TO DOCUMENT IMPROVEMENT IN FINDINGS.

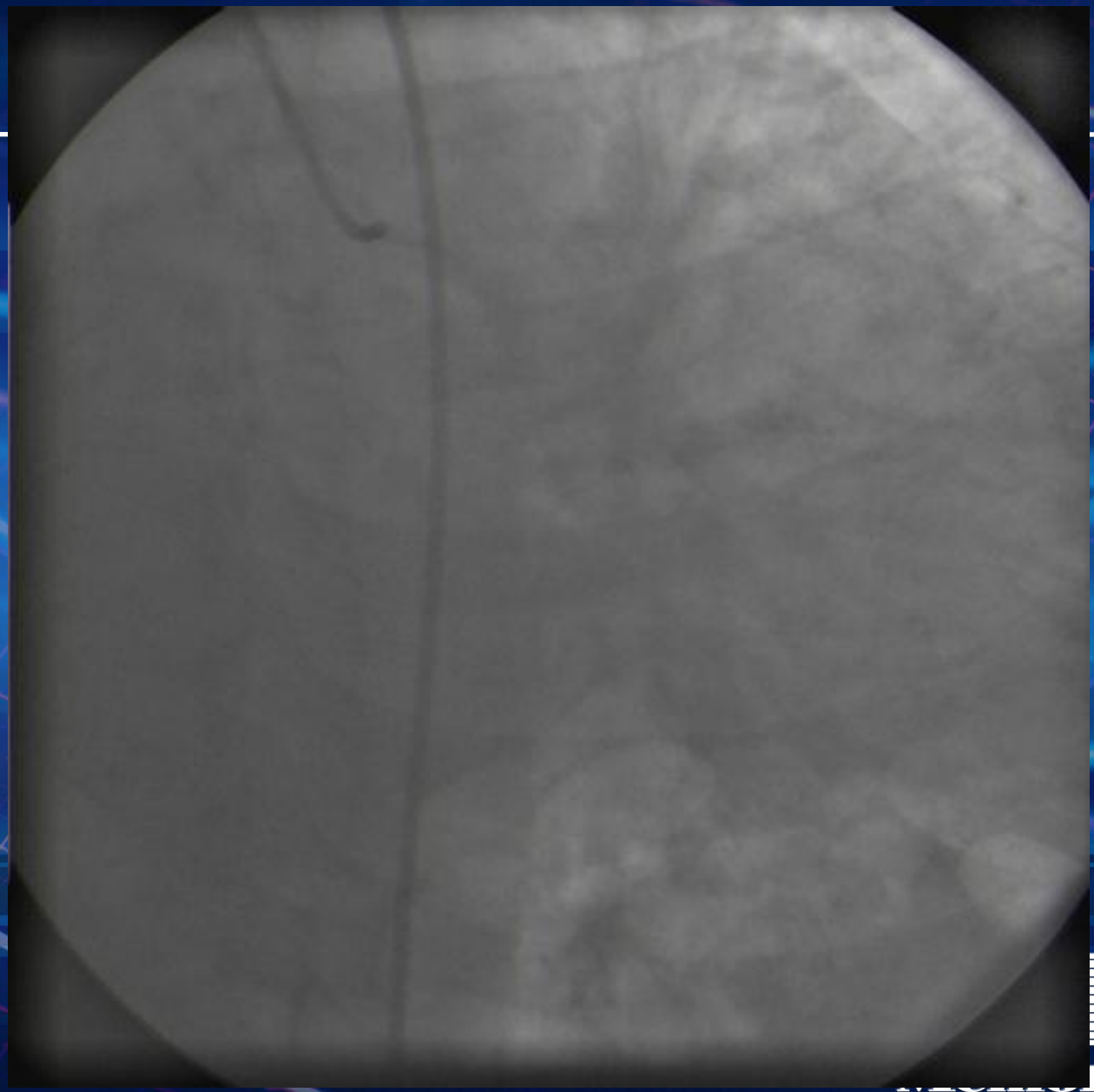
Case 1

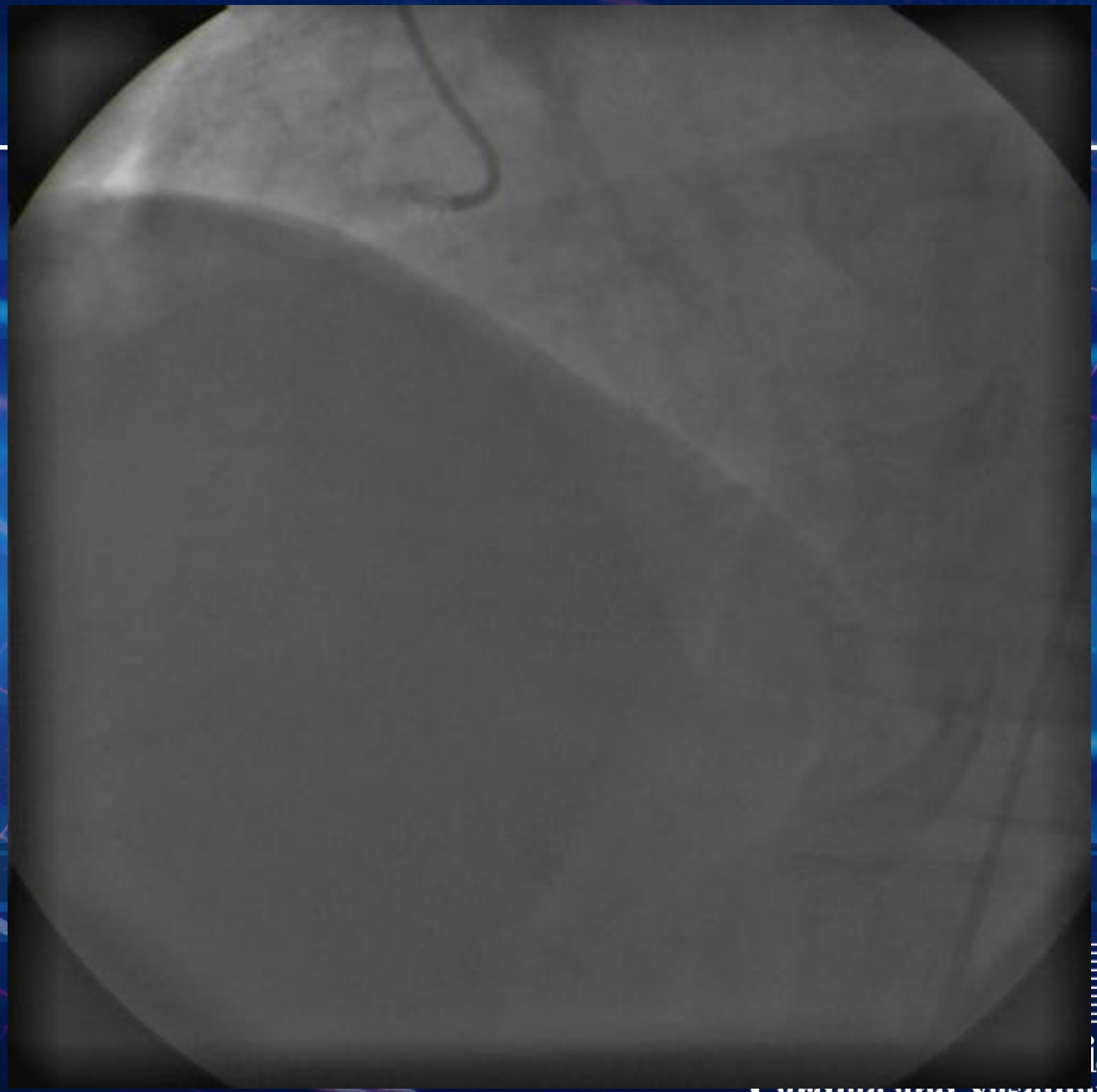
- What could this be?
  - Blood clot
  - Tumor
    - Malignant (?metastatic)
    - Benign

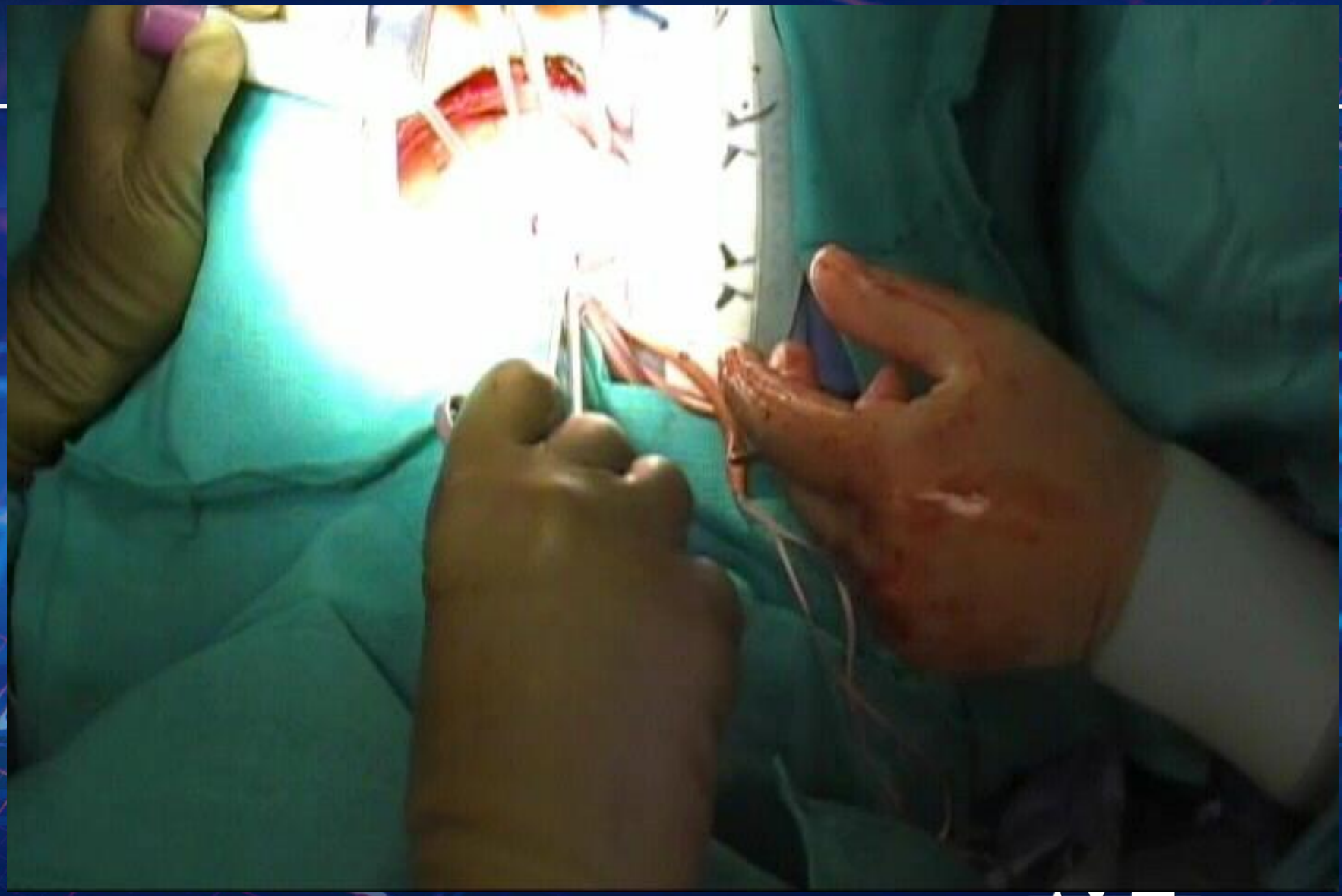
- What should we do?

  Operate







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Case 1

----------DIAGNOSIS----------

A.\T\B. Left atrial mass, excision
- Atrial myxoma
- No malignancy identified

Myxomas

- Incidence
  - Most common cardiac tumor
    - 22 autopsy series: 75 per million autopsies
  - 75% of benign
  - 50% of all cardiac tumors
- Morphology
  - Polypoid masses from endocardial surface
  - Soft, gelatinous consistency
  - Attached by fibrovascular stalk

Myxomas

- Clinical features
  - Commonly in women (60-70%)
  - 4^{th} – 6^{th} decades
  - Location
    - Left atrium (75-80%)
    - Right atrium (18%)
    - Ventricles in remainder
    - Valves – rare
  - Carney complex – familial myxoma

Myxomas

- Carney complex
  - Inherited, autosomal dominant
  - Multiple tumors
    - Atrial & extracardiac myxomas
    - Schwannomas
    - Endocrine tumors
  - Spotty mucocutaneous pigmentation
  - Myxomas
    - Young men
    - Less commonly in left atrium
    - Multicentric
    - High recurrence after resection

Myxomas

- Symptoms & signs:

1) Hemodynamic obstruction
2) Embolism
3) Constitutional effects

Myxomas

- Hemodynamic obstruction
  - Left: dyspnea
    orthopnea
    pnd
    syncope
    sudden death from arrhythmia
  - Right: IVC obstruction
    R heart failure

Myxomas

- Embolism
  - ½ of left atrial myxomas
  - 50% brain
  - Any organ (including coronary arteries)
  - P.E. from right atrial myxomas
    - <10% clinically detected
    - Chronic pulmonary htn

Myxomas

- Constitutional effects
  - Fever
  - Malaise
  - Wt loss
  - Fatigue
  - Myalgias
  - Arthralgias

Myxomas

- Diagnosis
  - P.E. – murmur
    - Left: MV
    - Right: TV & R heart failure
  - EKG – NSR
  - ECHO
  - MRI
  - Cardiac cath – age > 40

Myxomas

- Treatment
  - Surgery
    - En bloc resection without fragmentation
    - Irrigate to remove fragments
    - Inspect chamber
    - Inspect the valve
  - Mortality: 0-6.2%
    - Embolism
    - MI

Myxomas

- Recurrance
  - Local: 1-3%
    - Inadequate resection
    - Tumor implantation
    - Multicentric growth
  - Extracardiac
    - Not common
    - Viable tumor at site of impaction
    - Arterial pseudo-aneurysms
    - Close follow-up for preoperative emboli

Case 2

- 64 y/o male @MHM with 2 day h/o SOB, shoulder pain
- Htn, tobacco
- FH: neg
- P.E. : BP 74/26 HR96 RR34
  III/VI sys murmur
- Labs: Bun 38 Cr 4.08
  Trop T 7.78
- EKG

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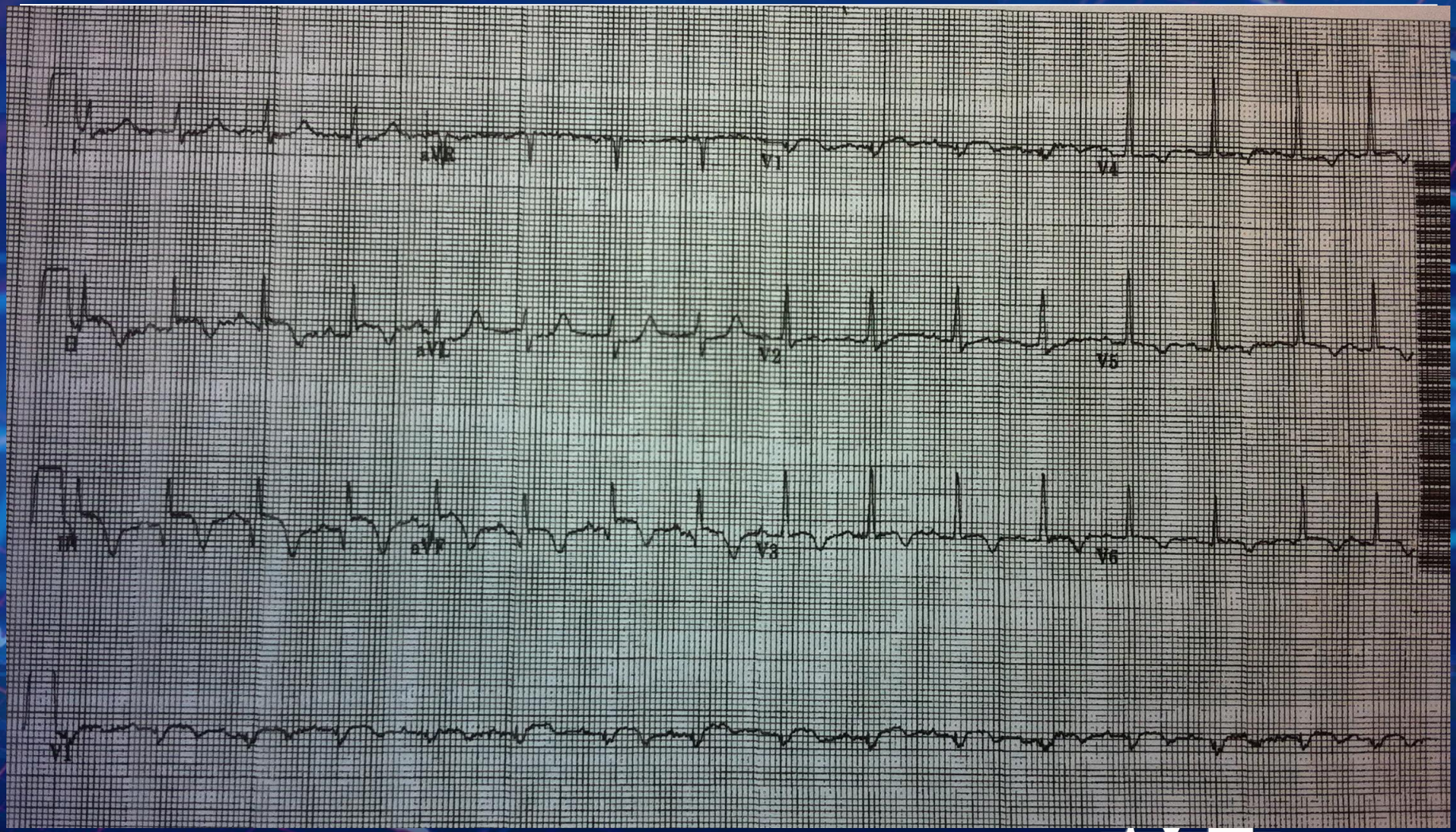
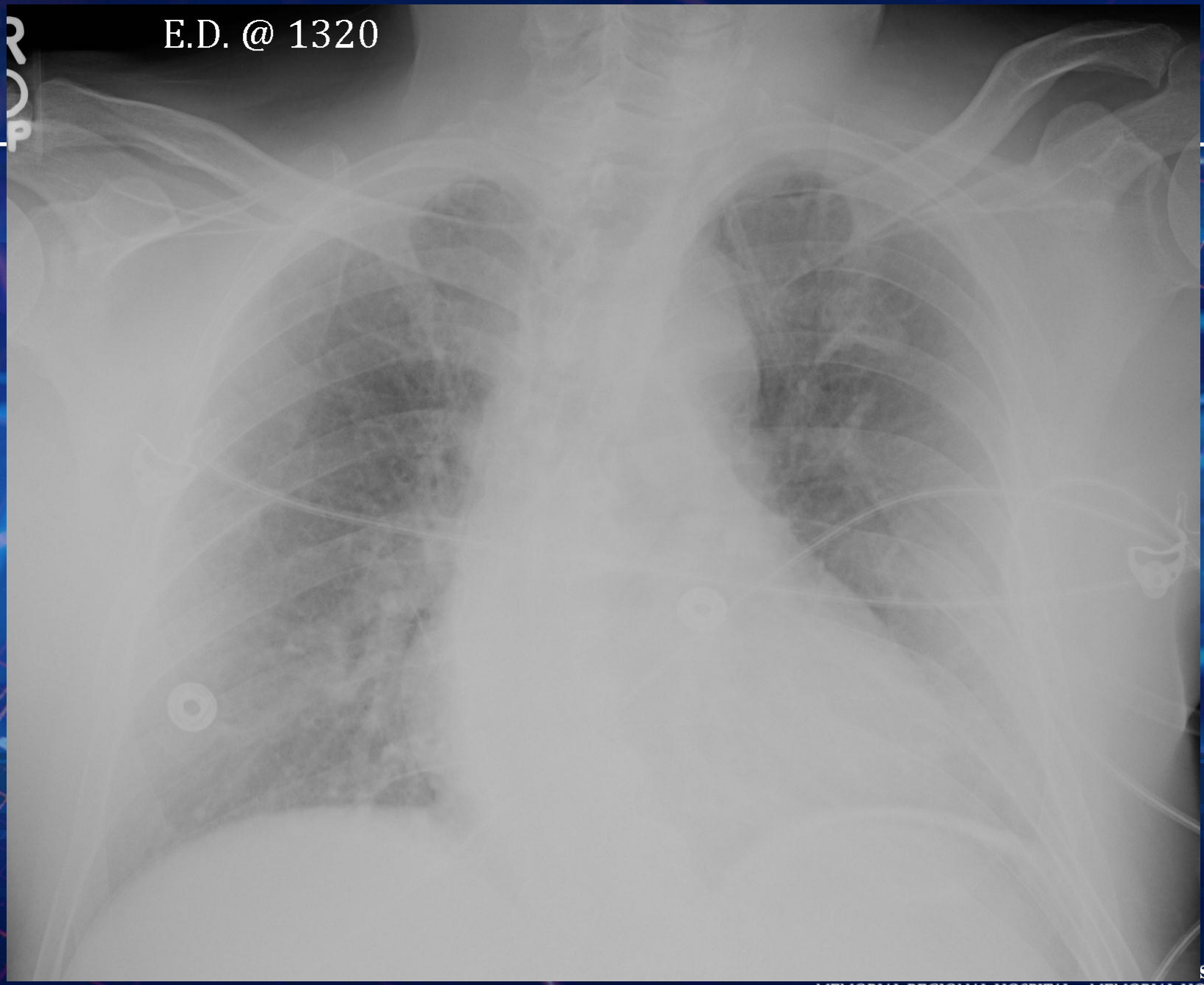
Case 1



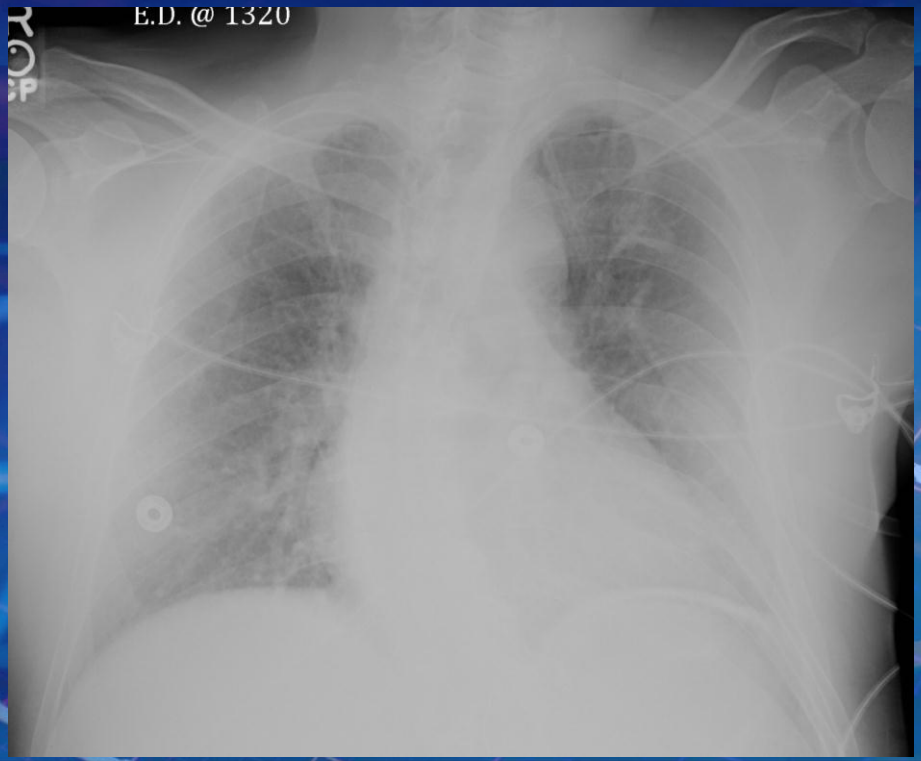

E.D. @ 1320

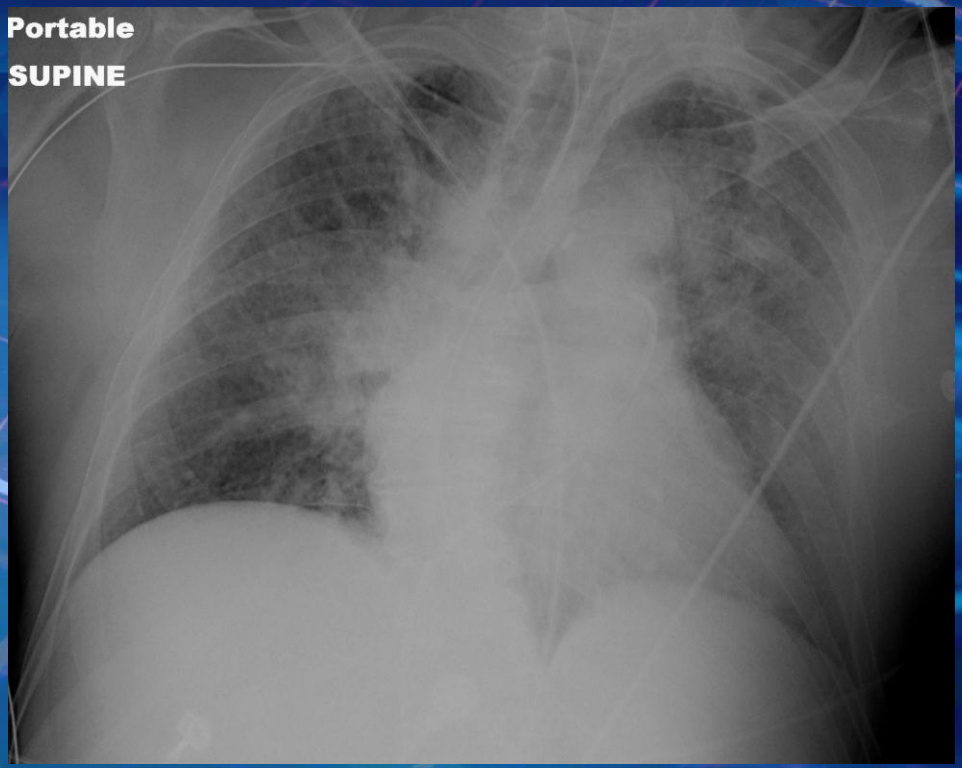
Case 2

What next?

Transfer to MHW

Cardiac cath





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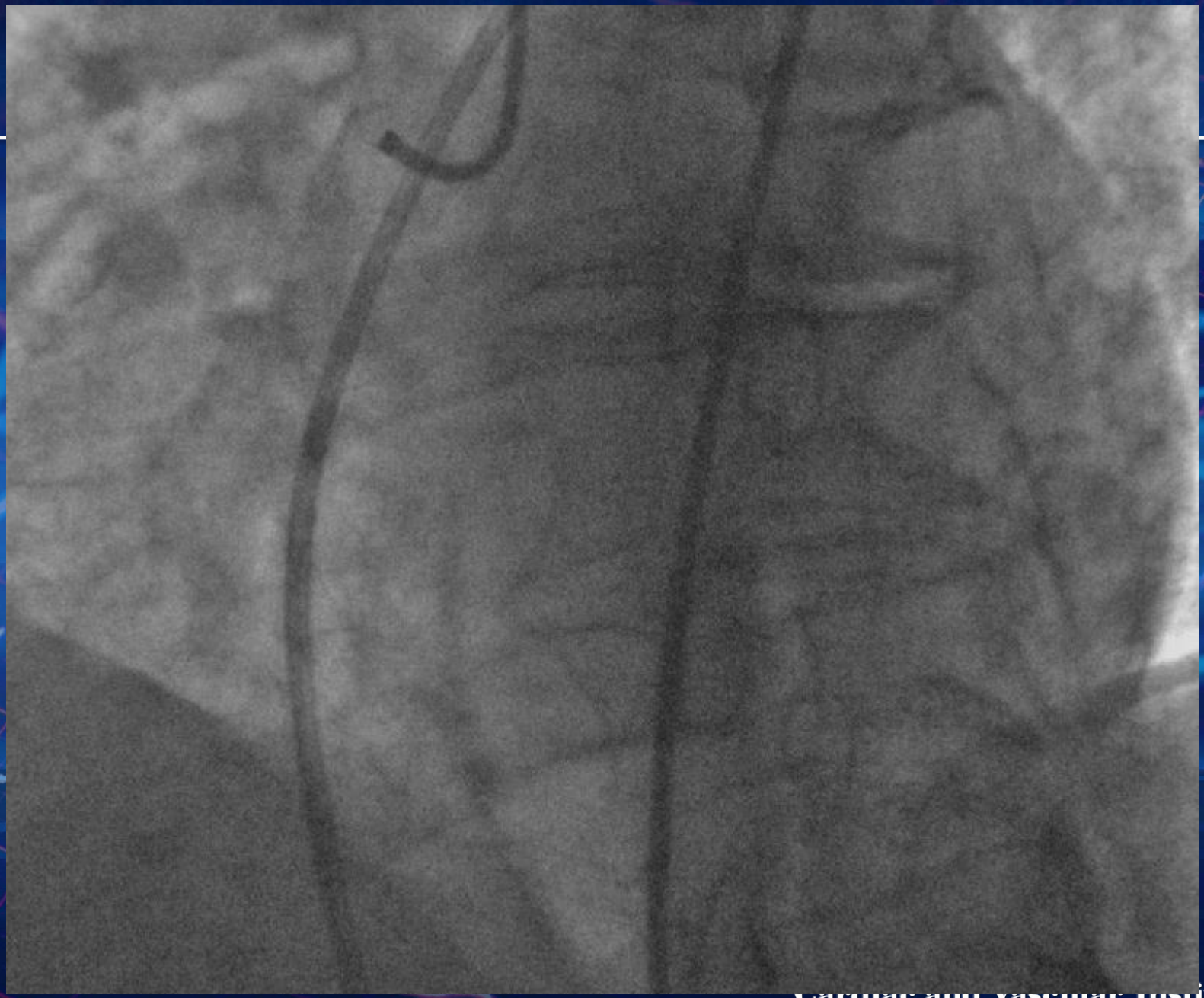

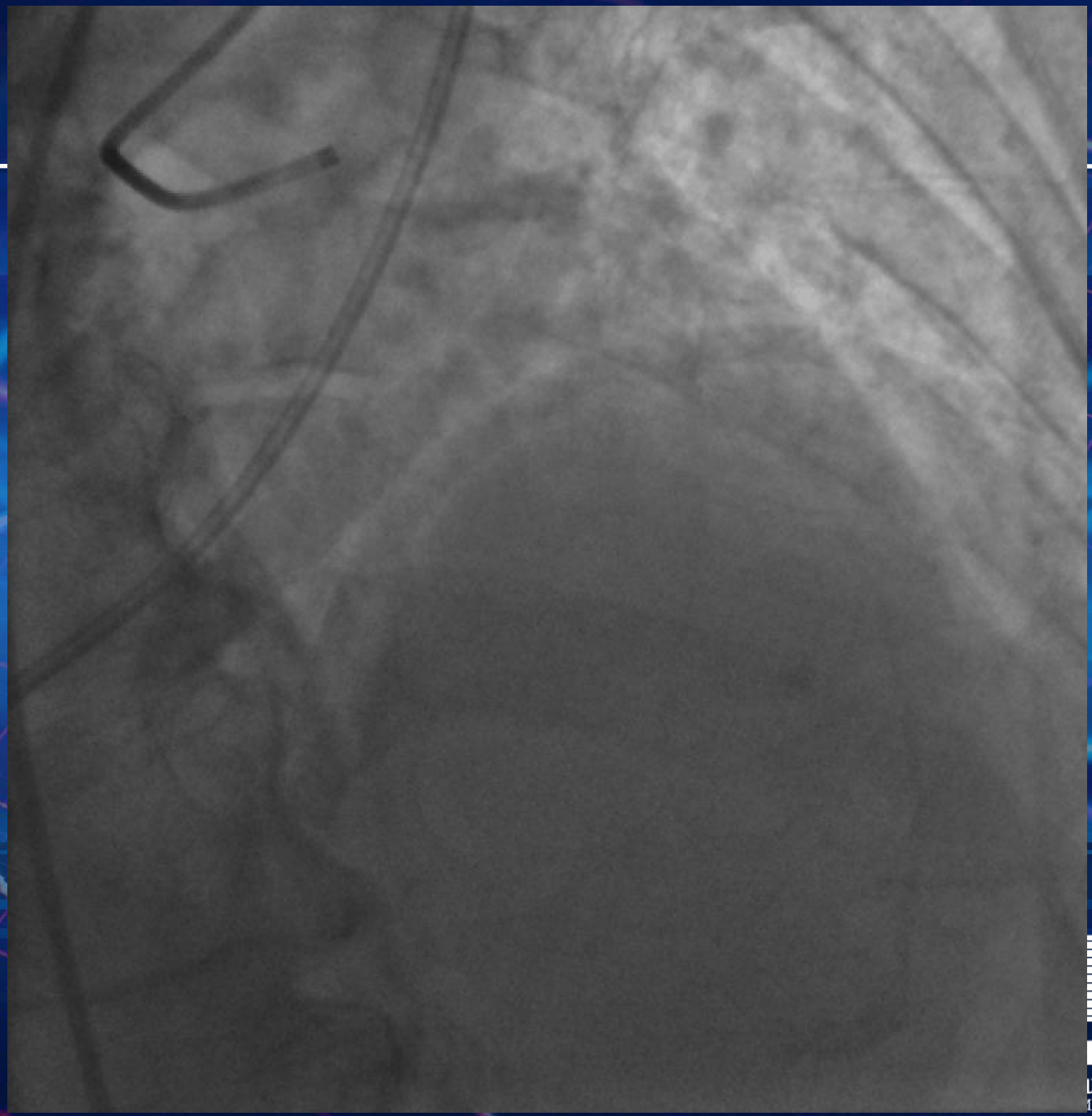

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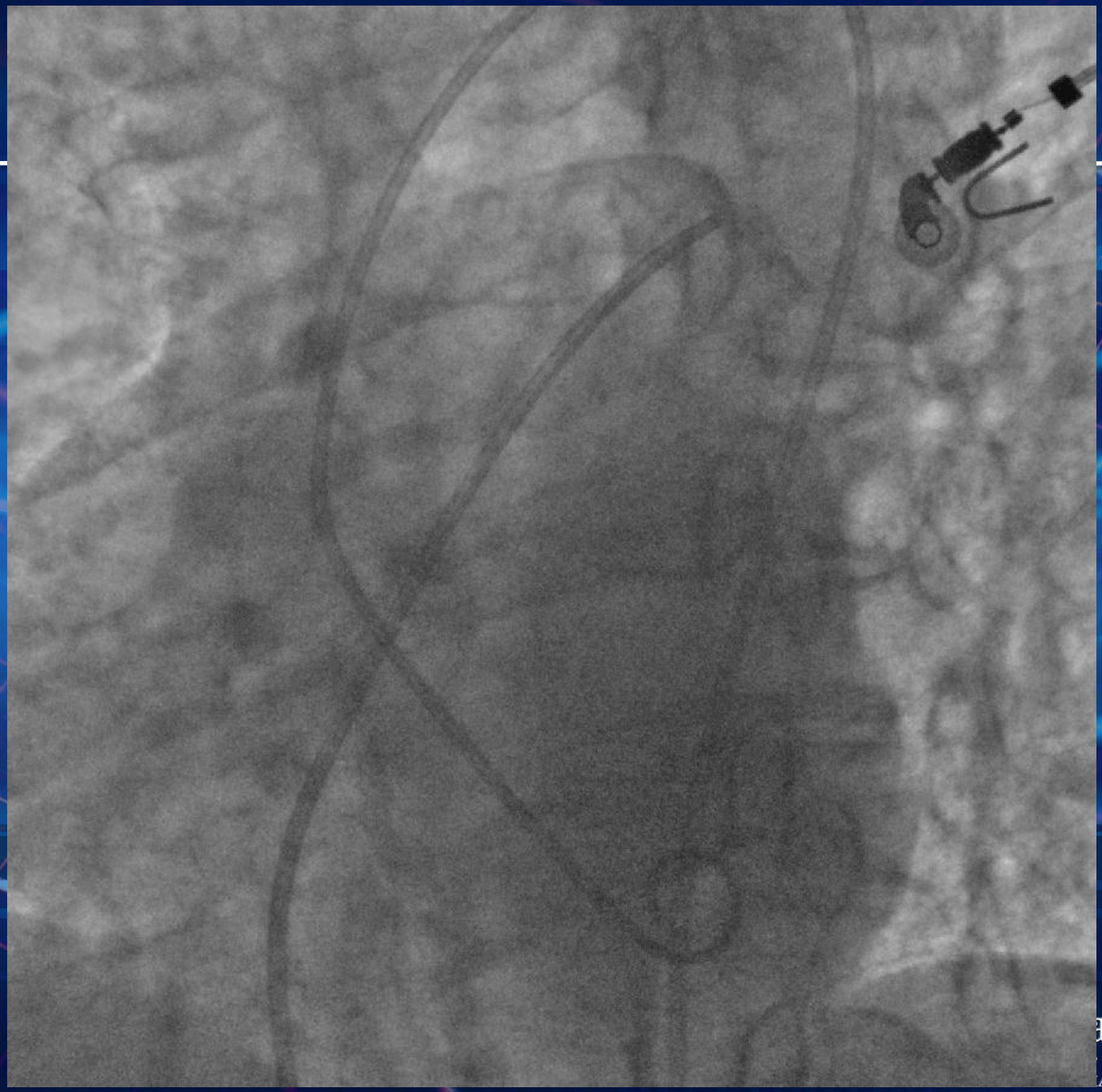

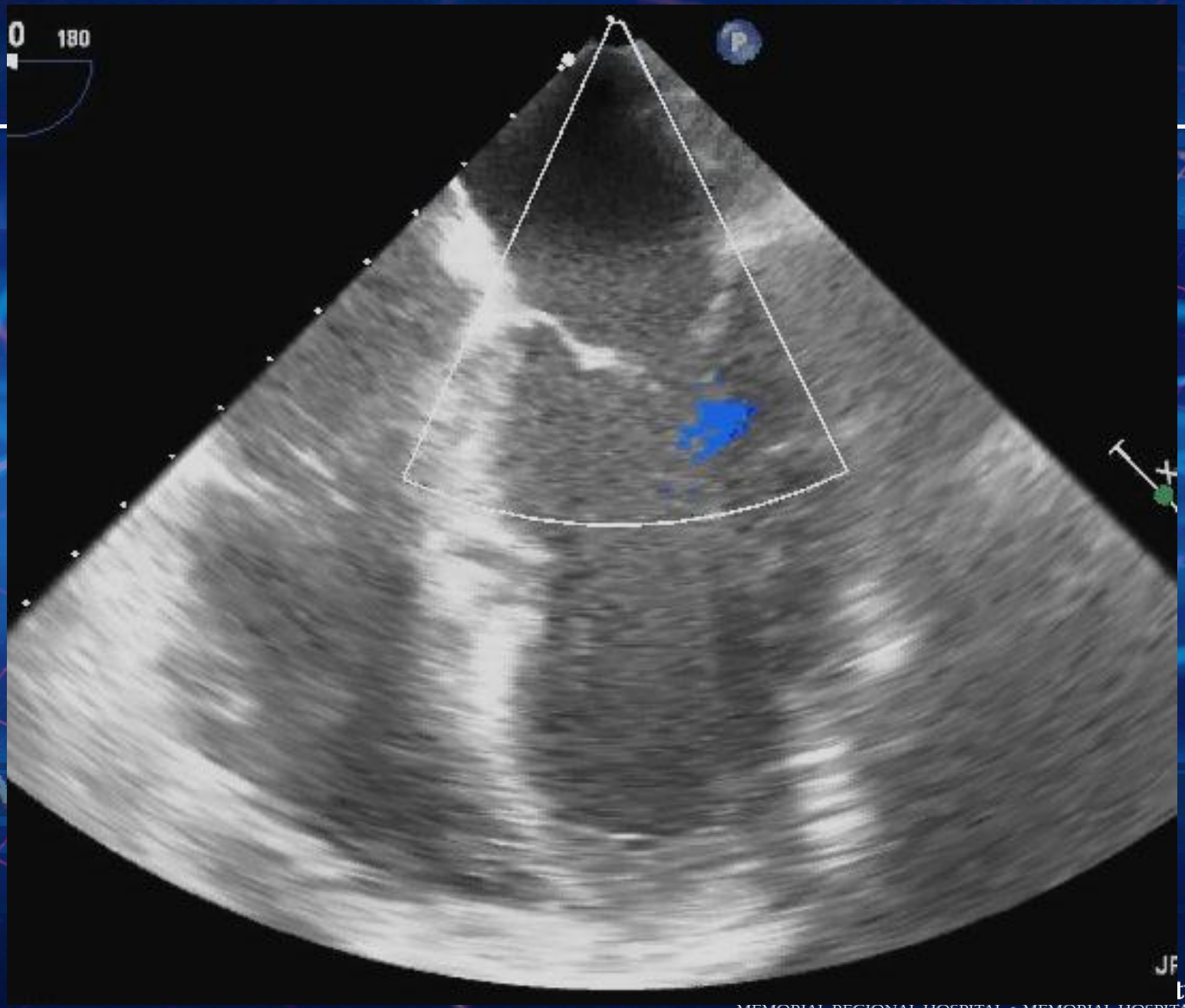
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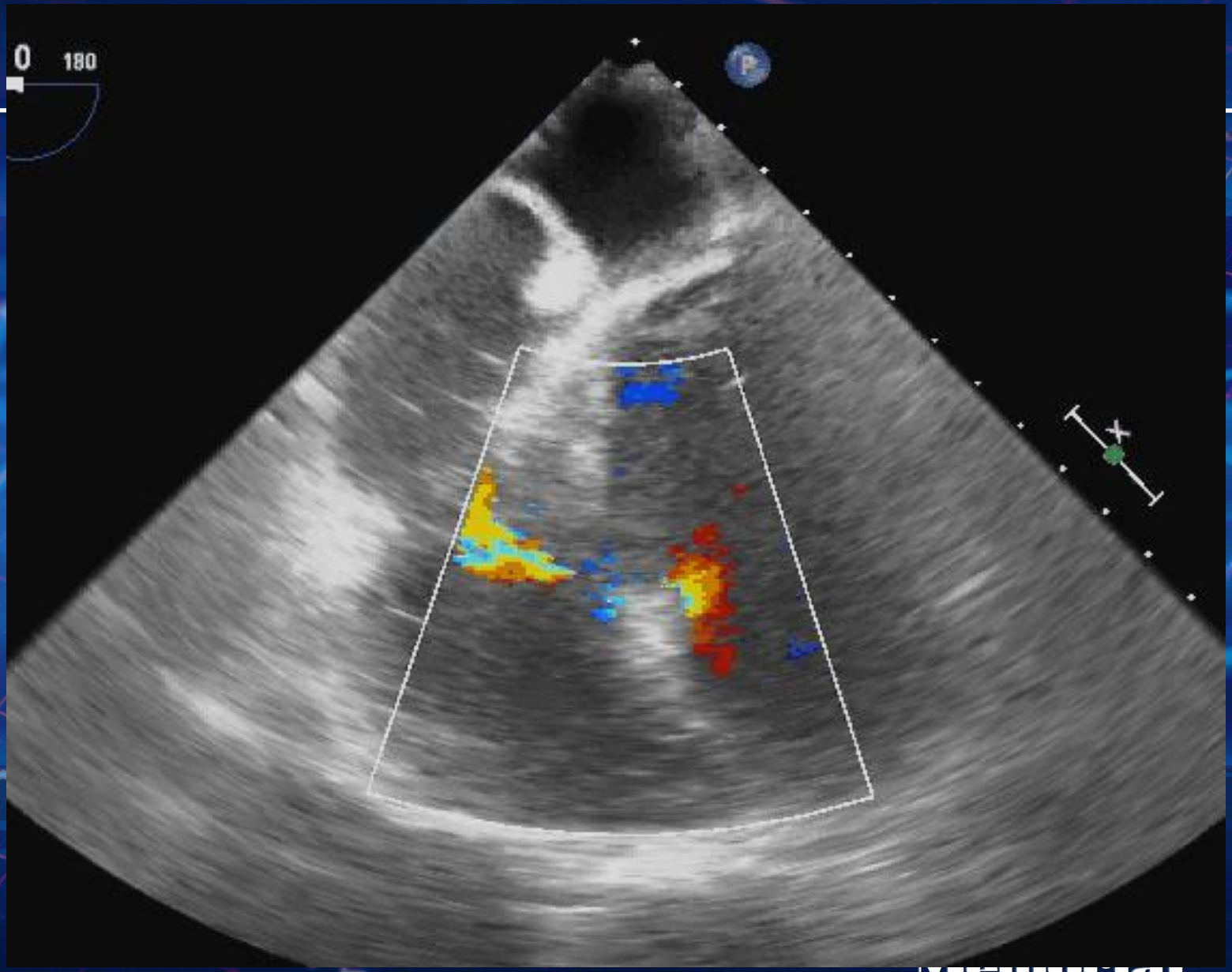
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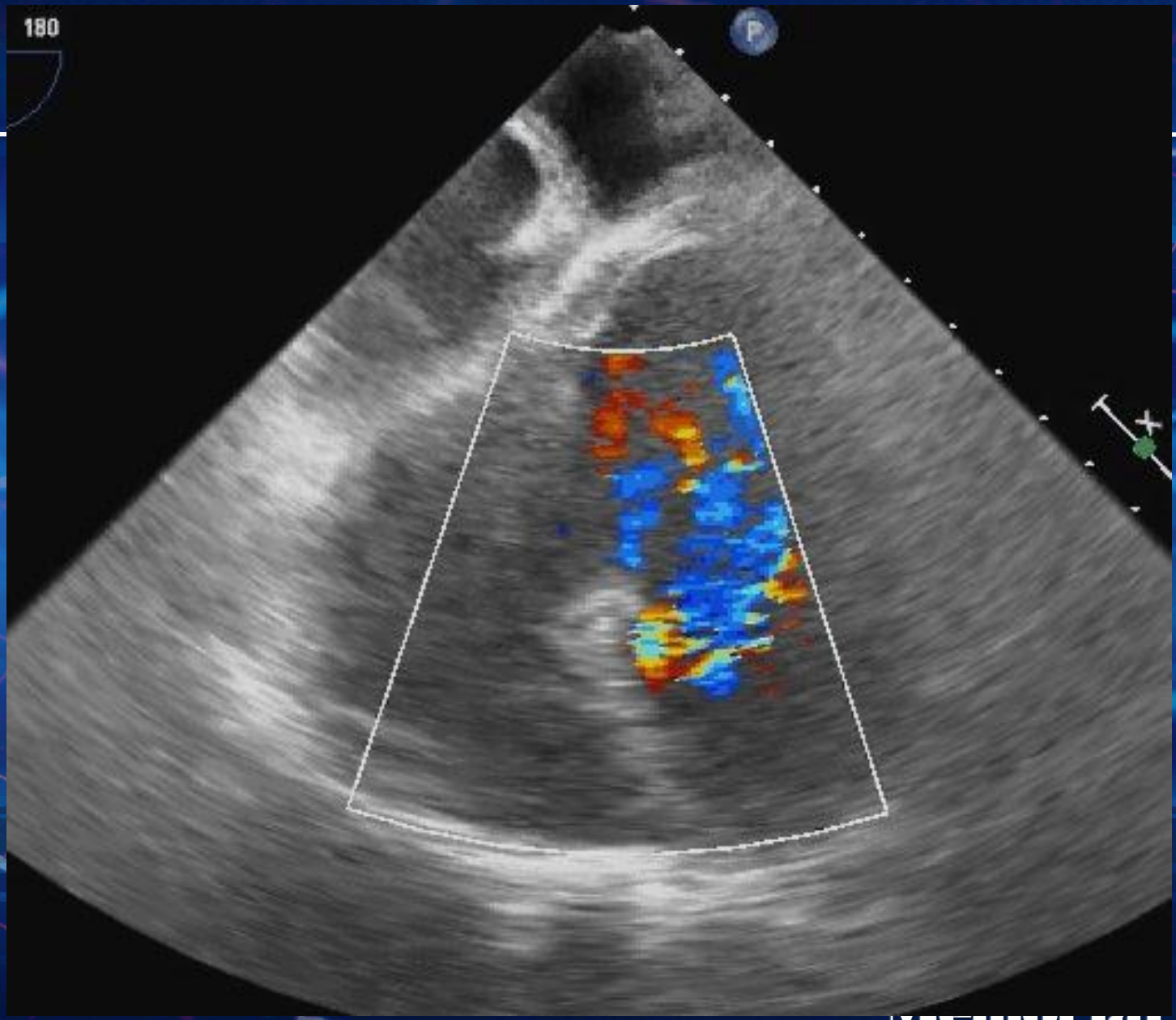
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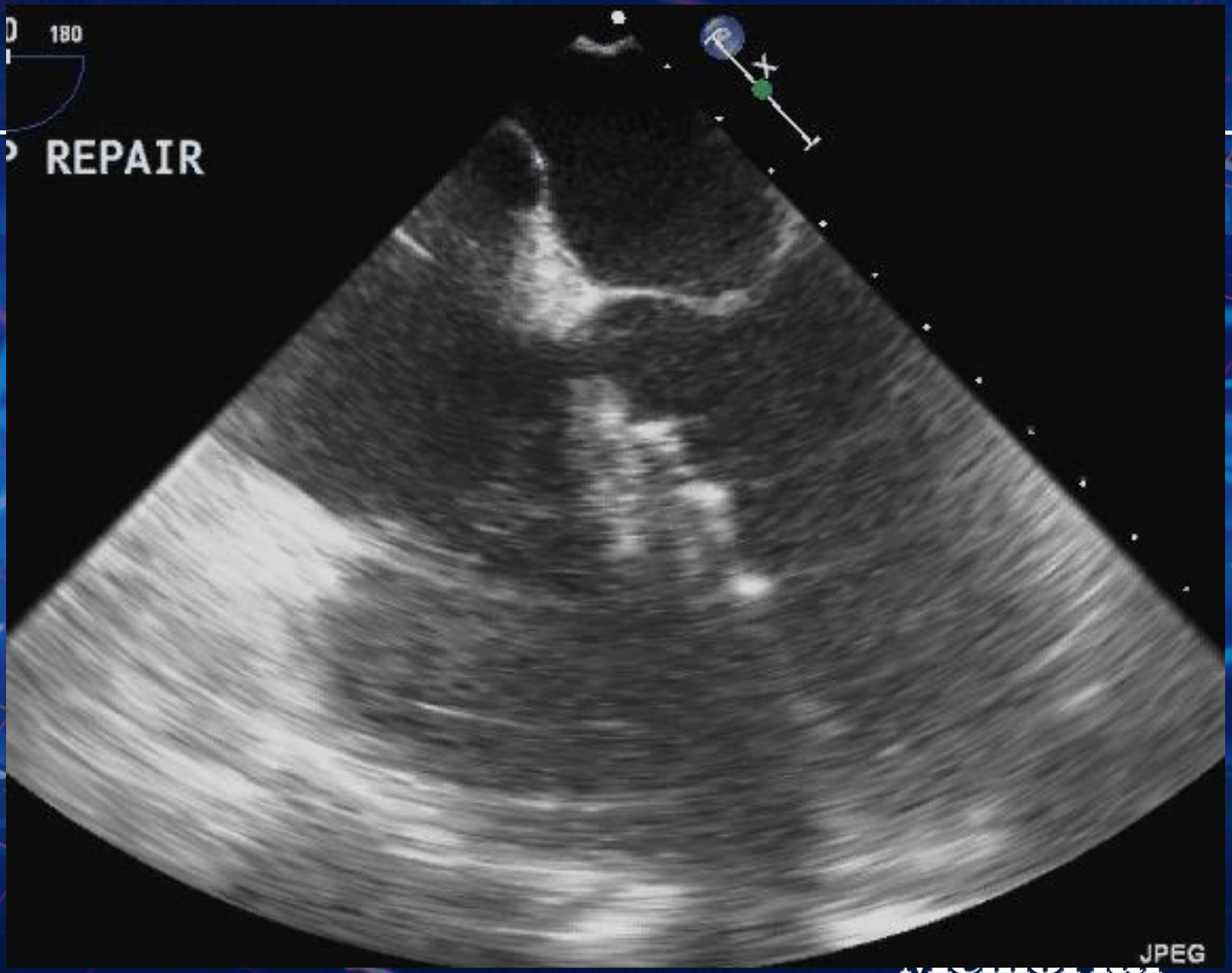
Case 2

Surgery

Dacron patch repair of post-infarction infero-basilar vsd



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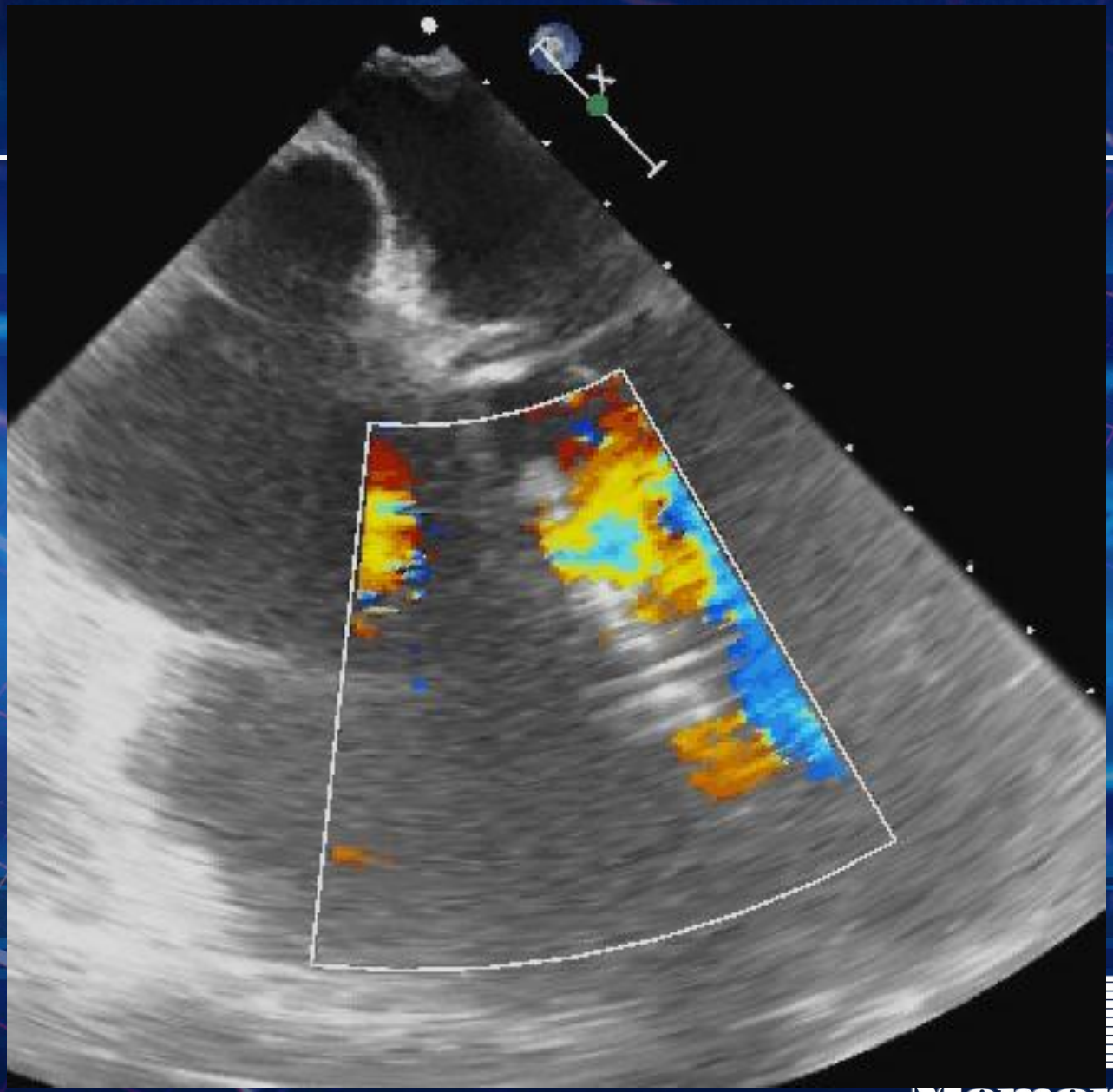

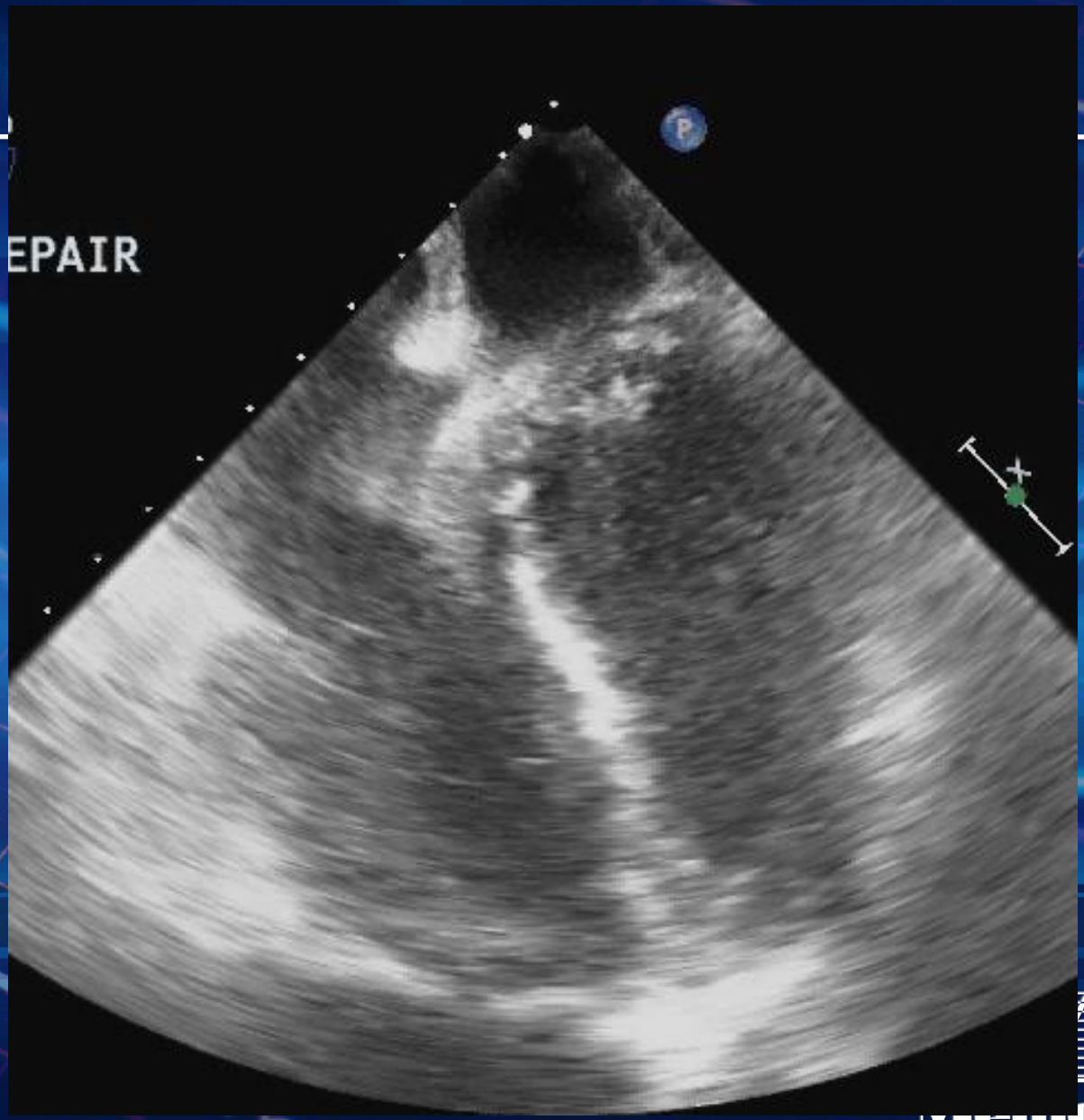

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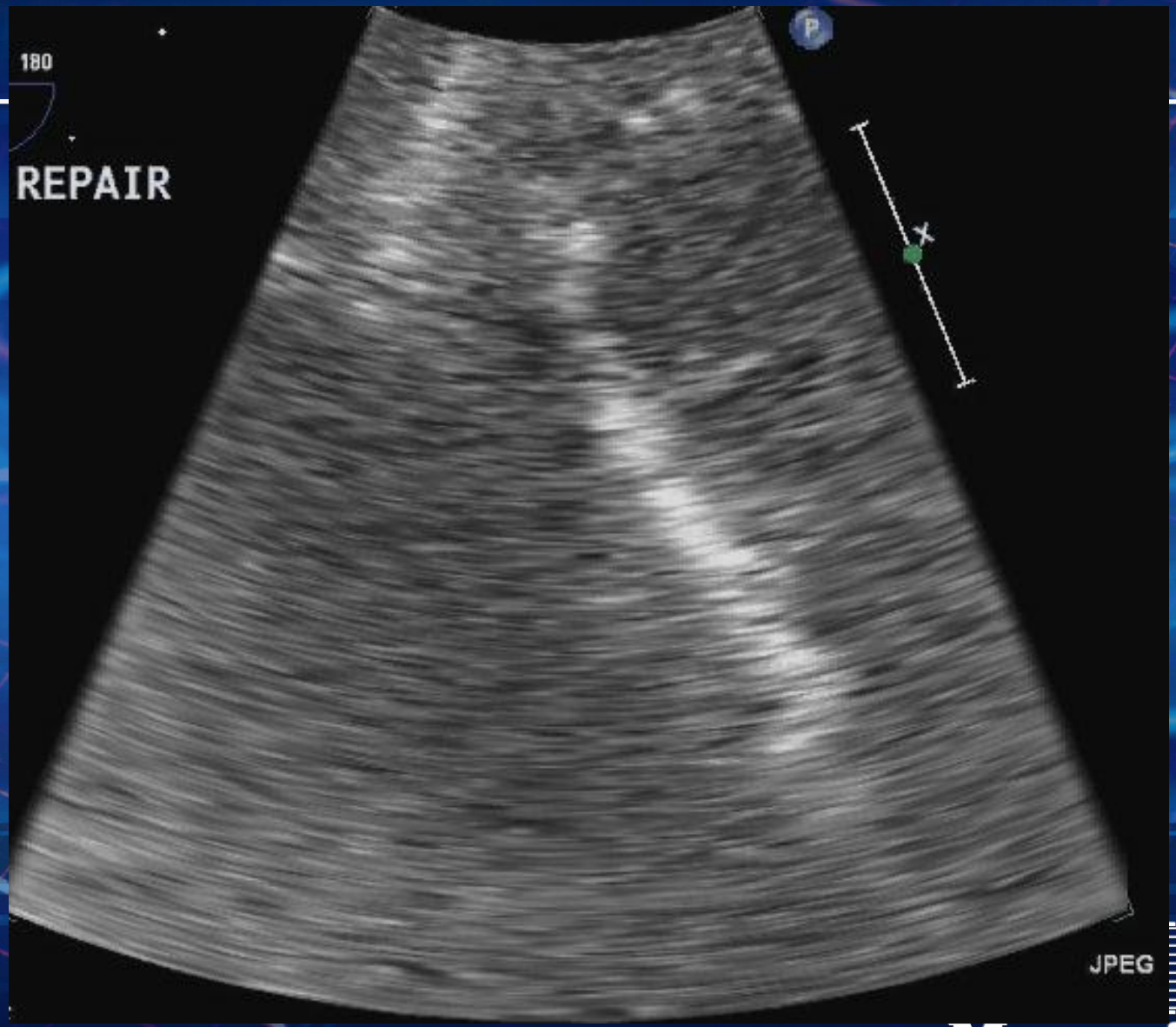

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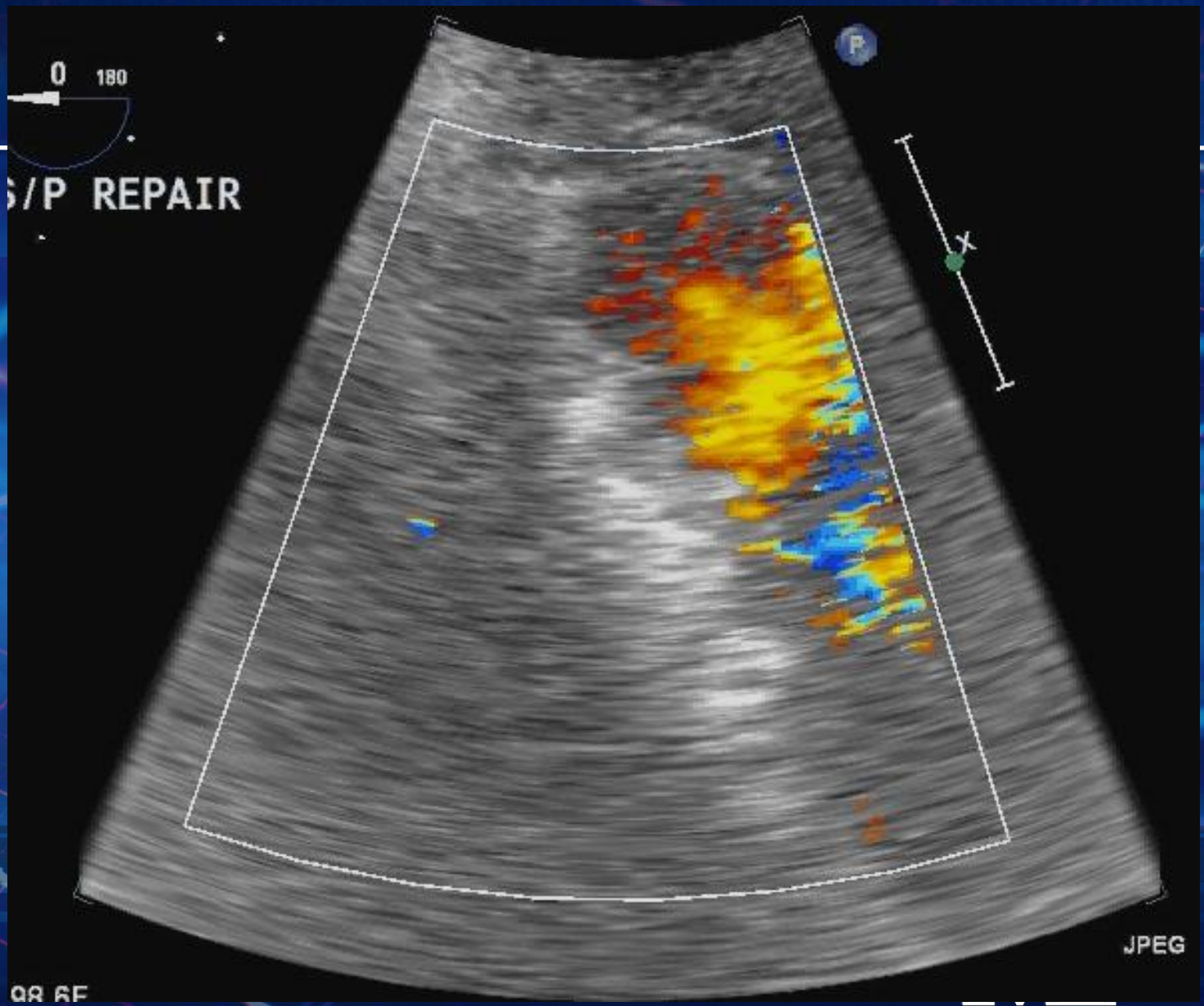

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Case 2

Post-op

- Cargiogenic shock
- Resp failure – tracheostomy
- Renal failure – dialysis
- Shock liver

Now

- Tracheostomy out
- Off dialysis
- At home

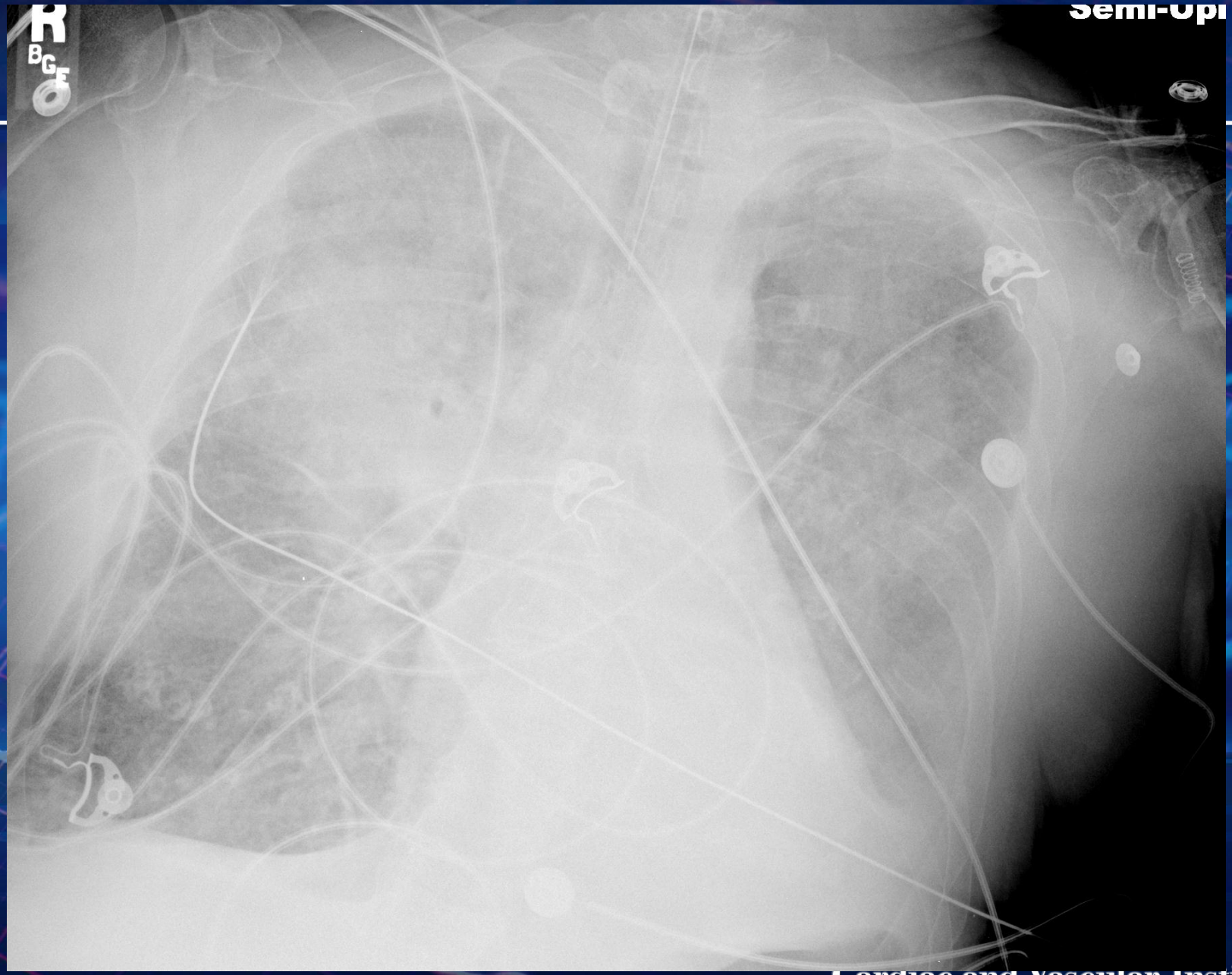
Case 3

- 75 y/o female with 2-day h/o dyspnea and fatigue
- E.R. with acute worsening SOB
- PMH: chronic asthma, hpl
- Surg: TAA aneurysm repair
- P.E.: SBP 60-70 mm Hg, HR 130-140, RR 30-40
  B crackles
- Intubated, ventilated, resuscitated
- Norepinephrine & Neosynephrine

Case 3

Labs

- BUN/CR – 24/1.46
- Trop T – 1.84
- Pro-BNP – 15234
- ABG's: 6.9-7.27/38-78/35-54
- INR: 1.2 → 1.8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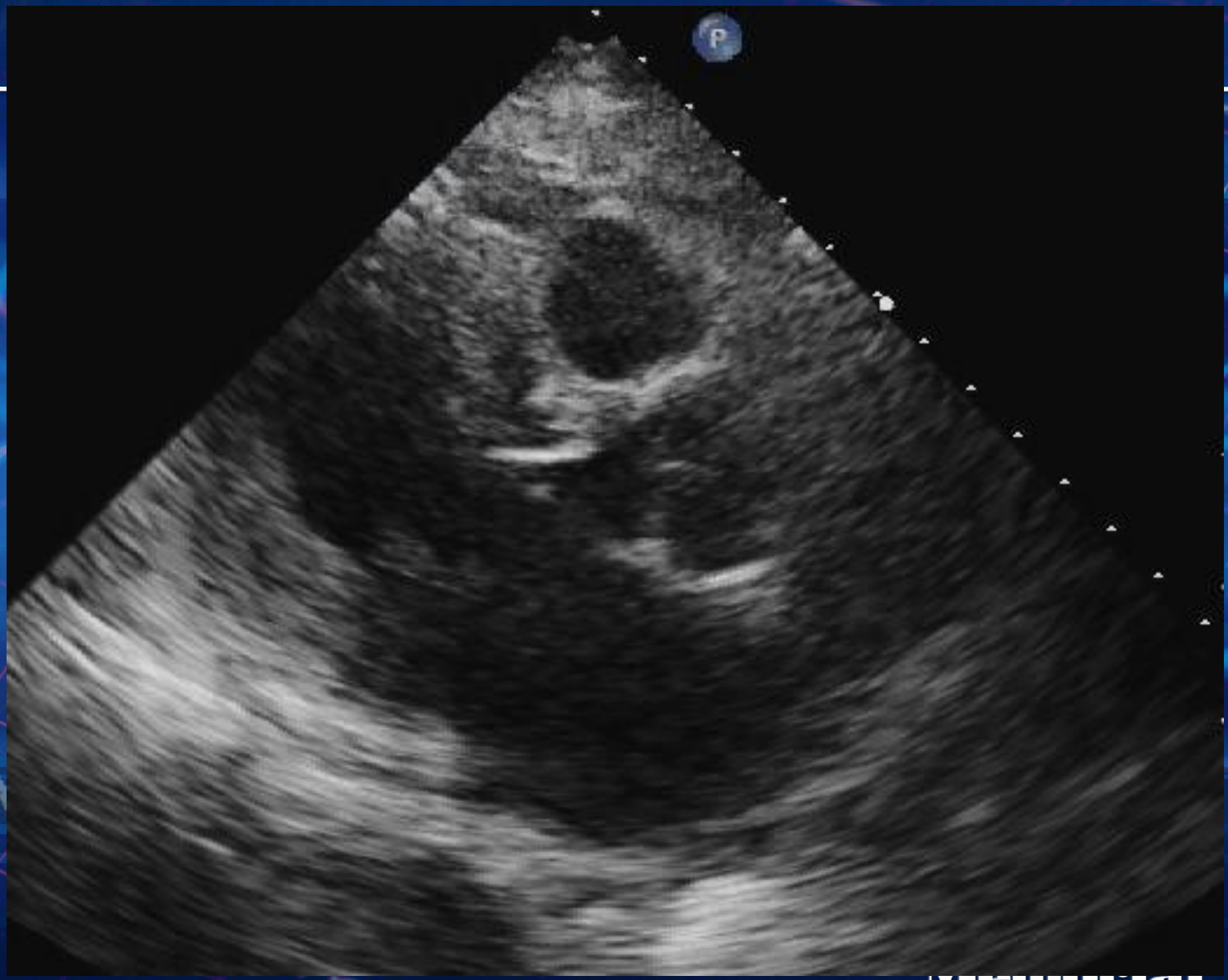
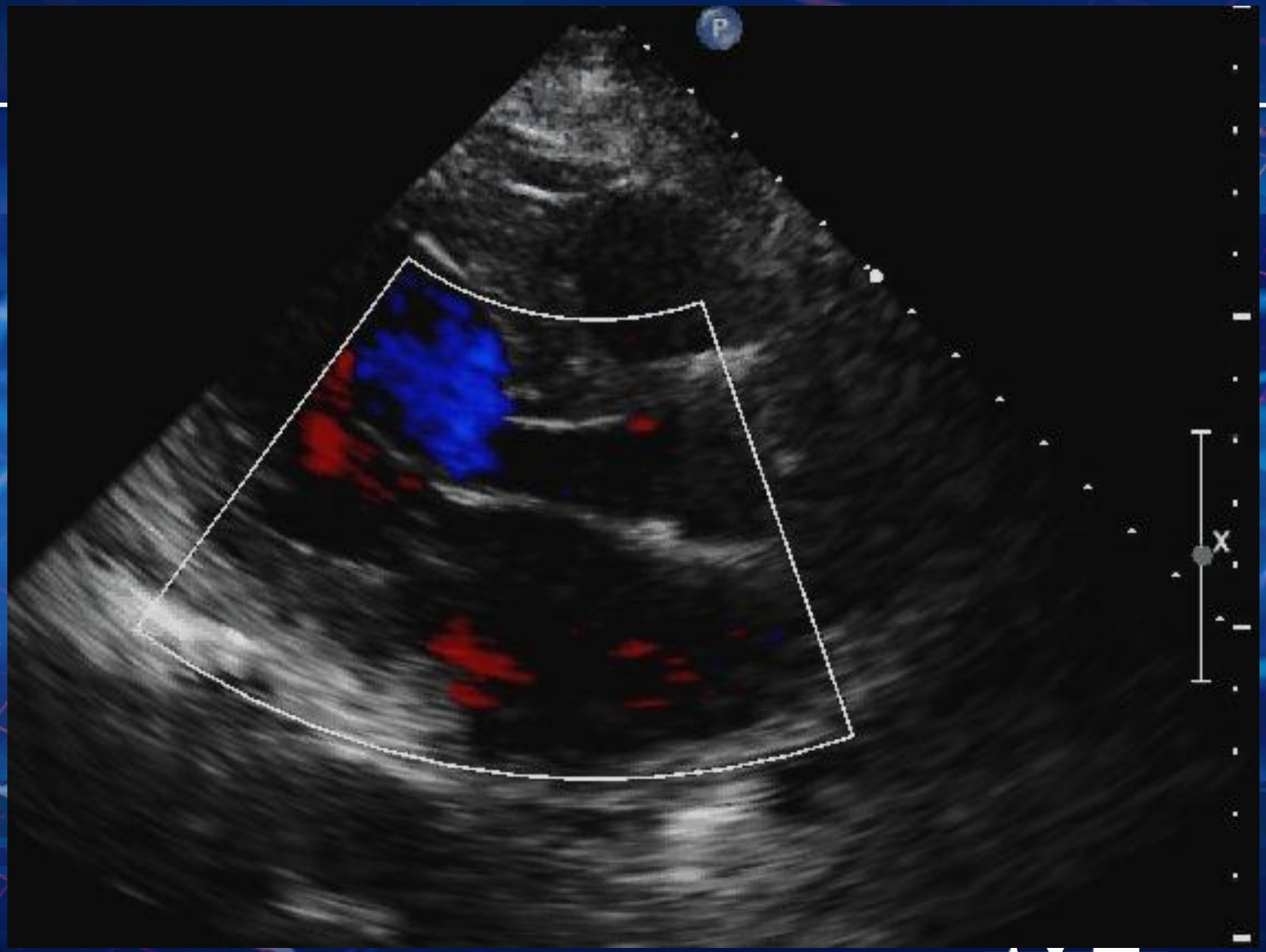
Semi-Upi

Case 3

What next?

ECHO





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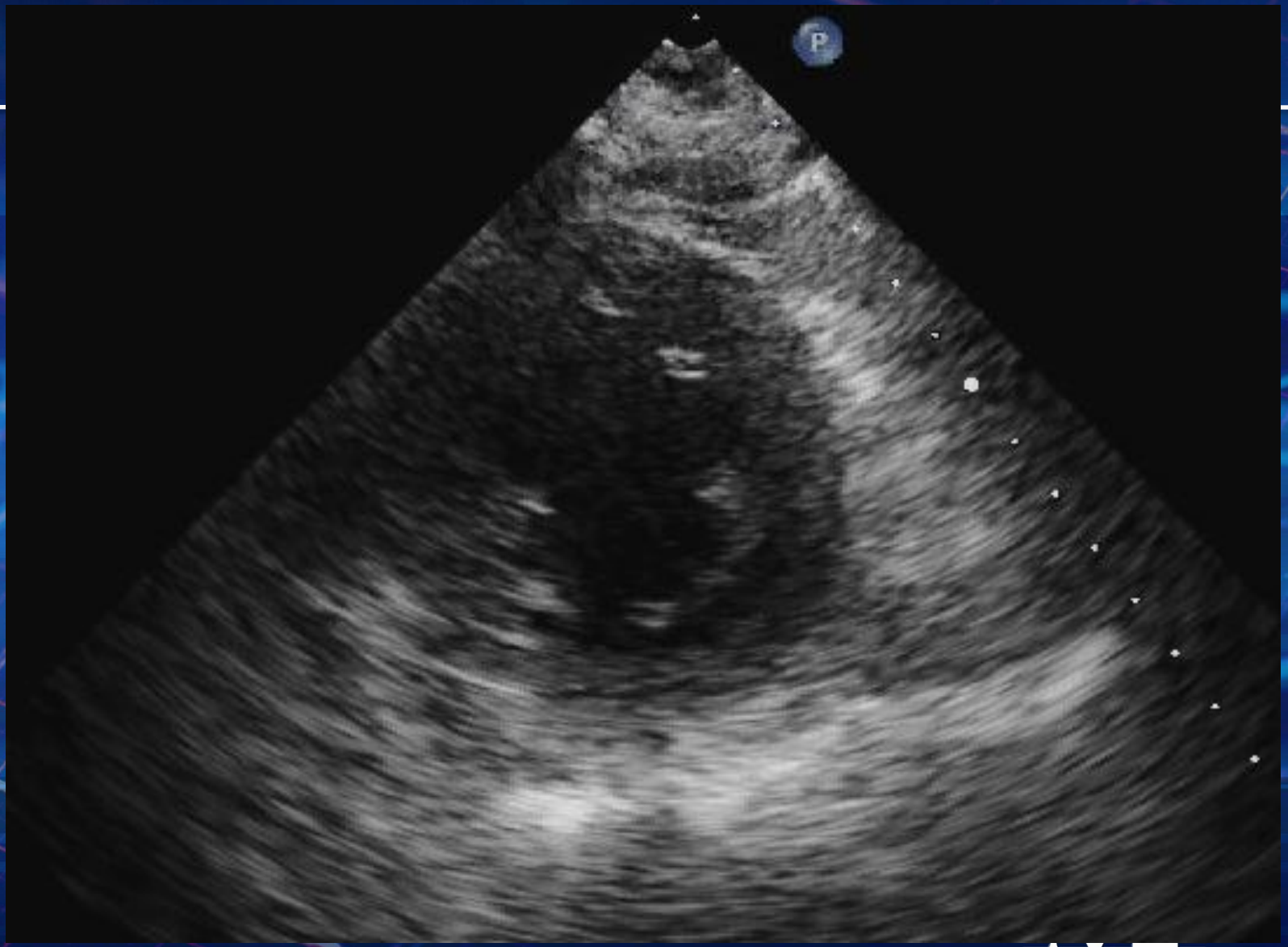

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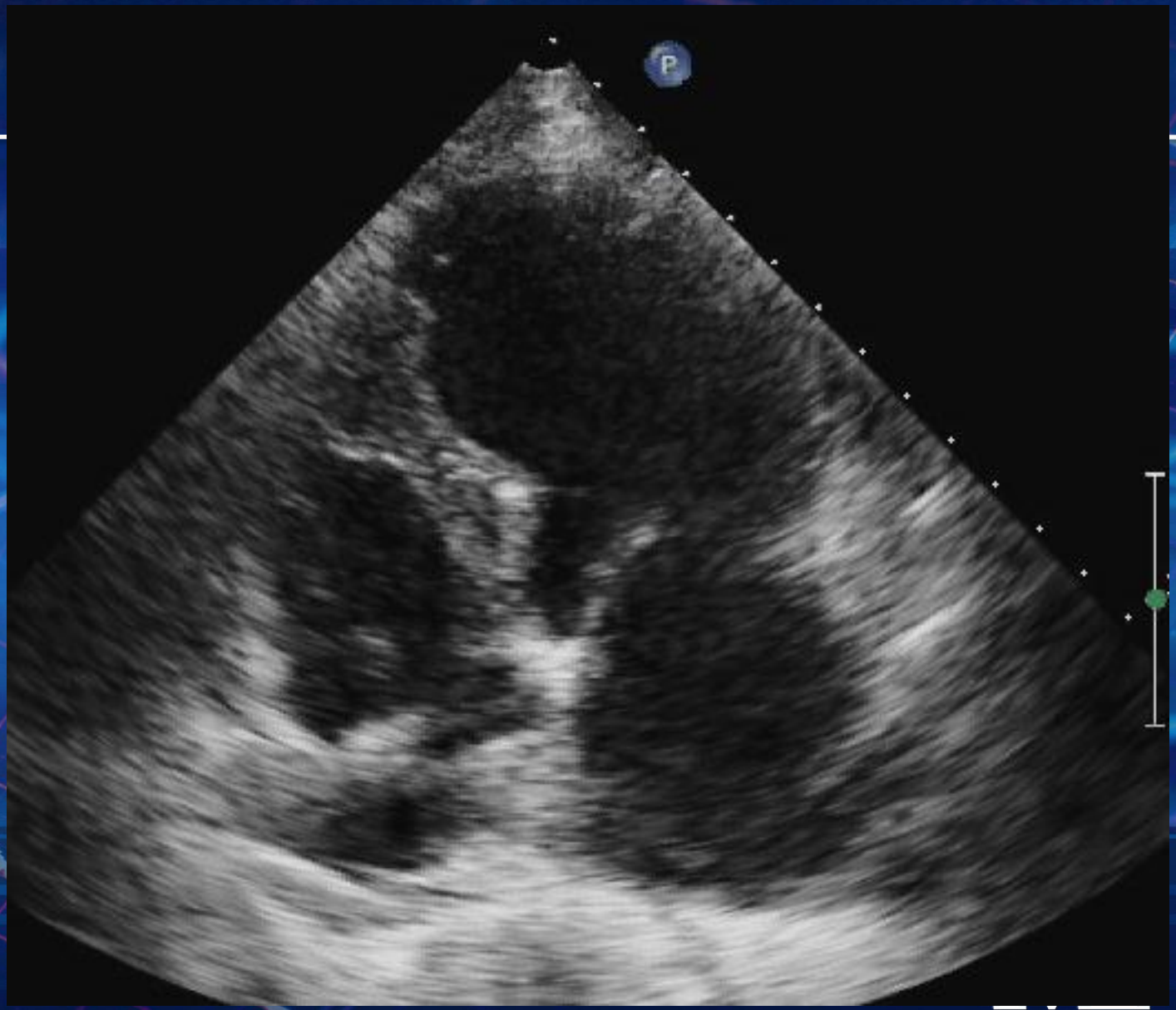


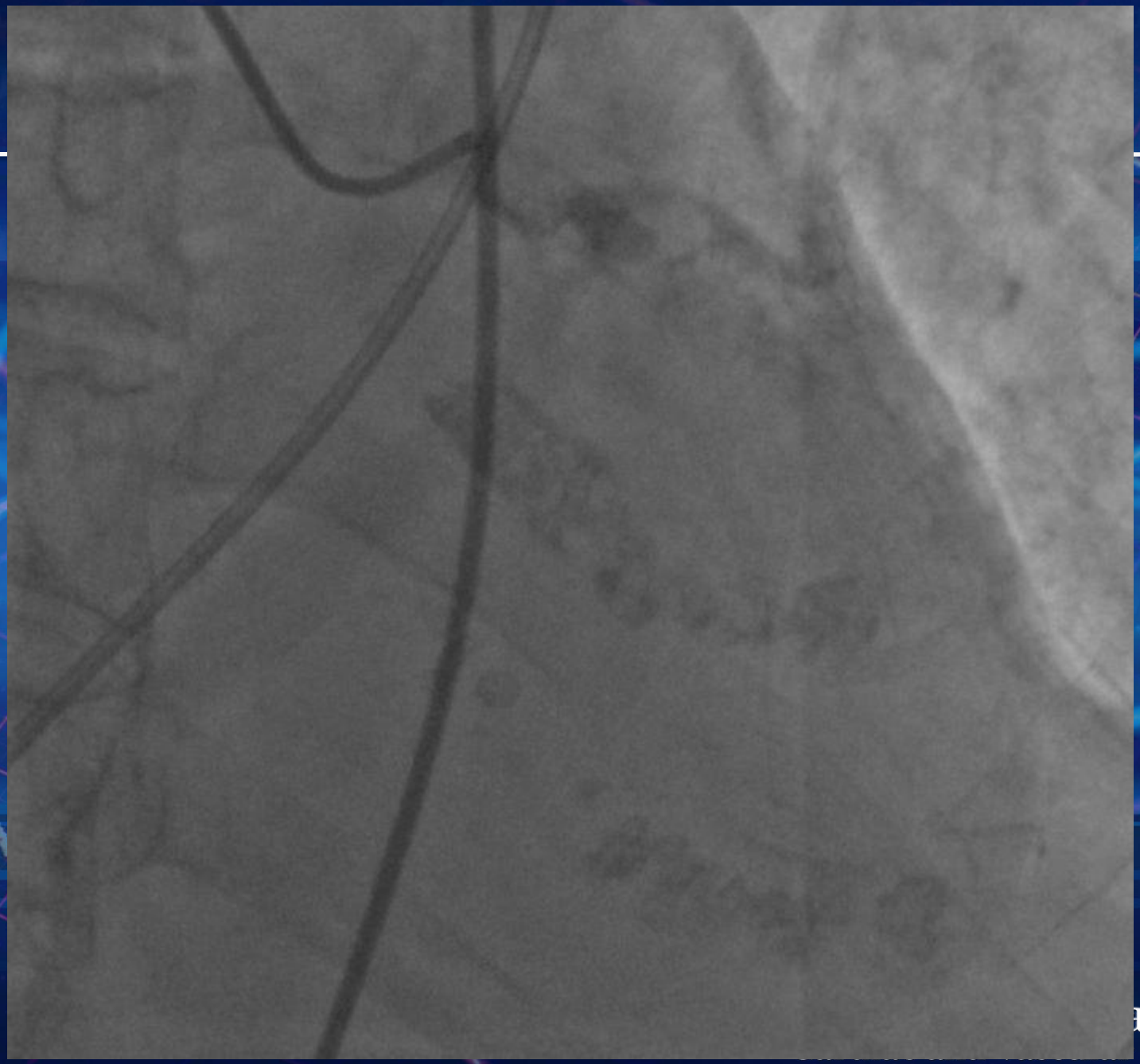
Case 3

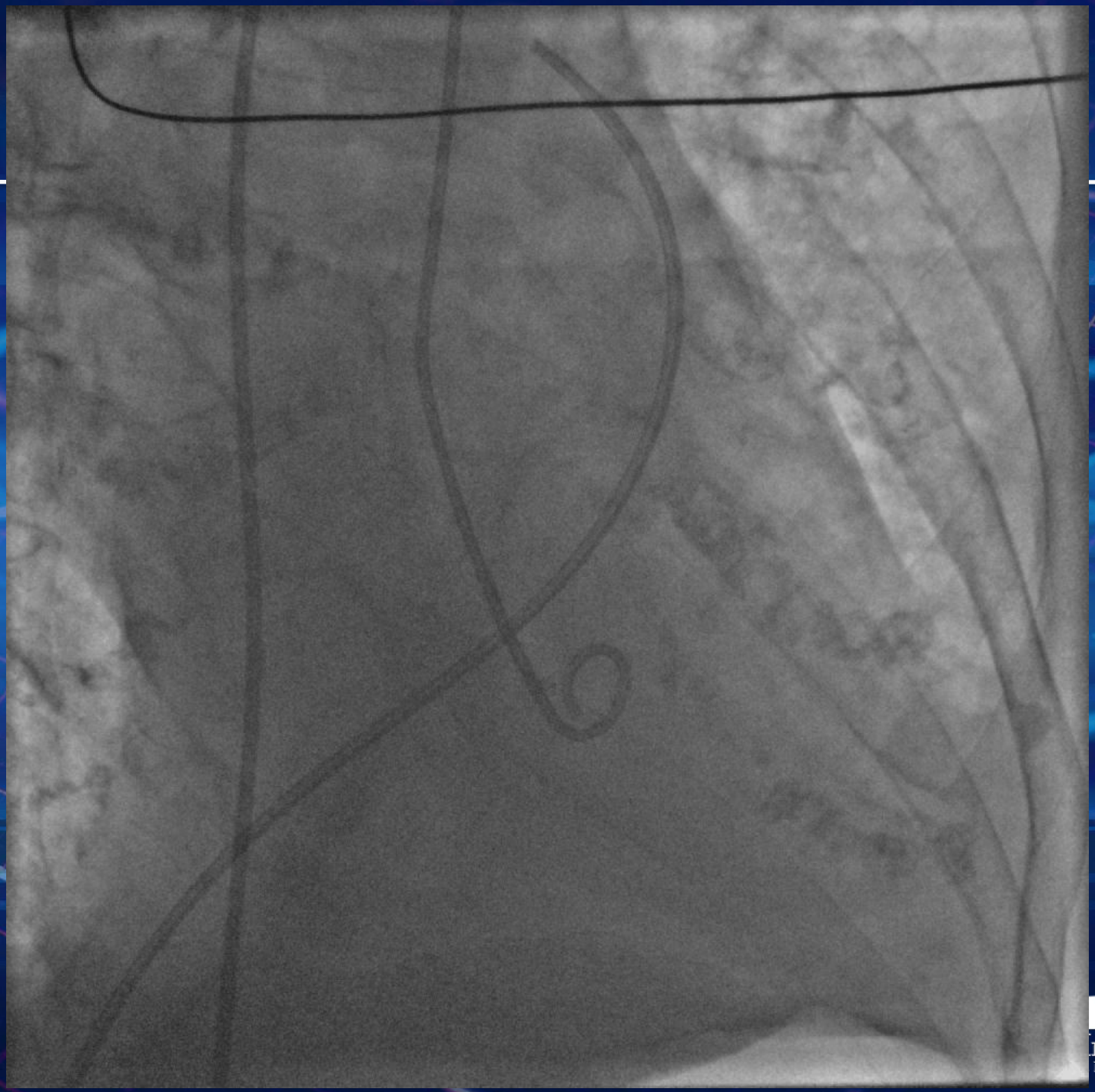
What's the diagnosis?

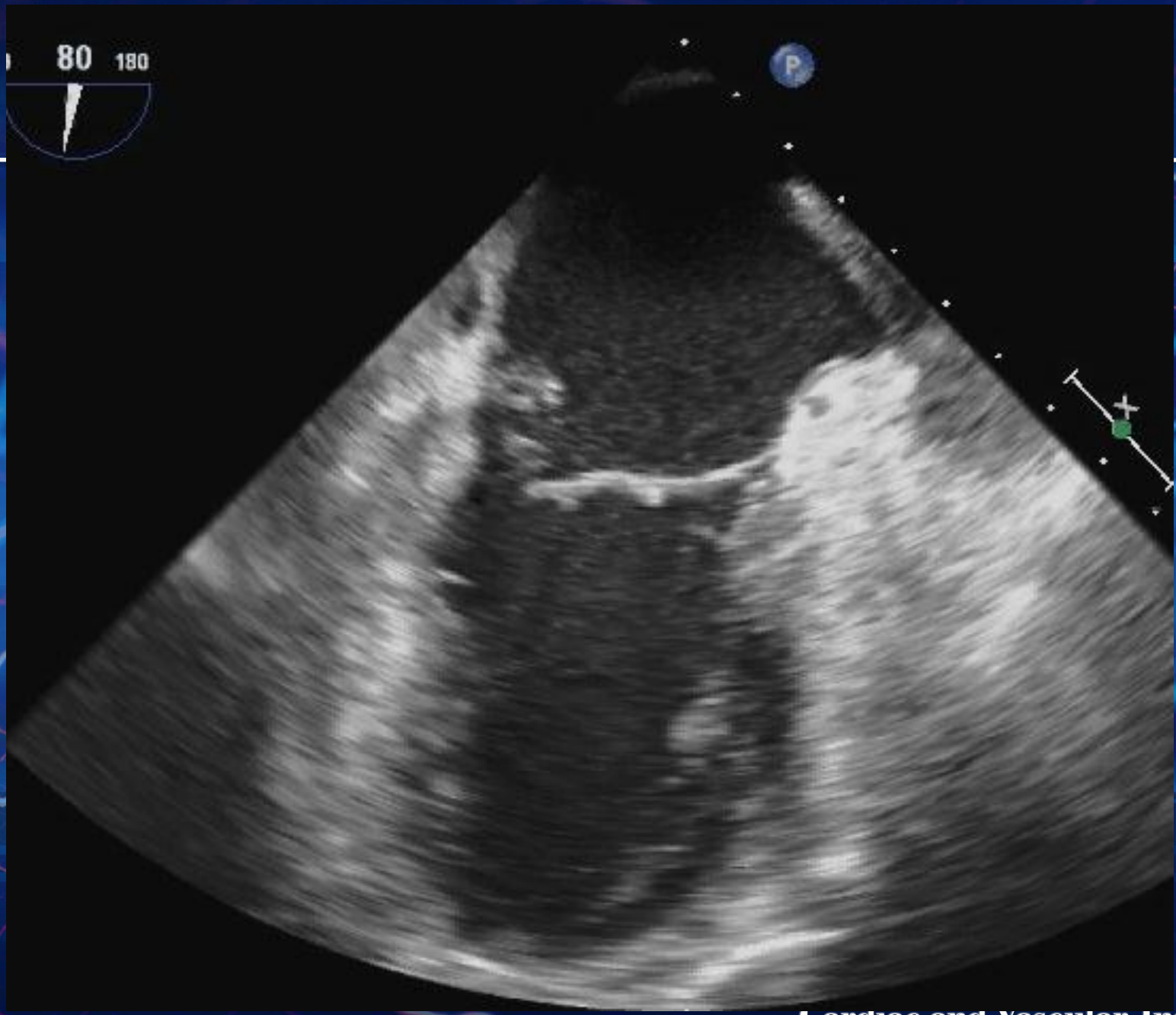
Flail MV

What next?

Operate



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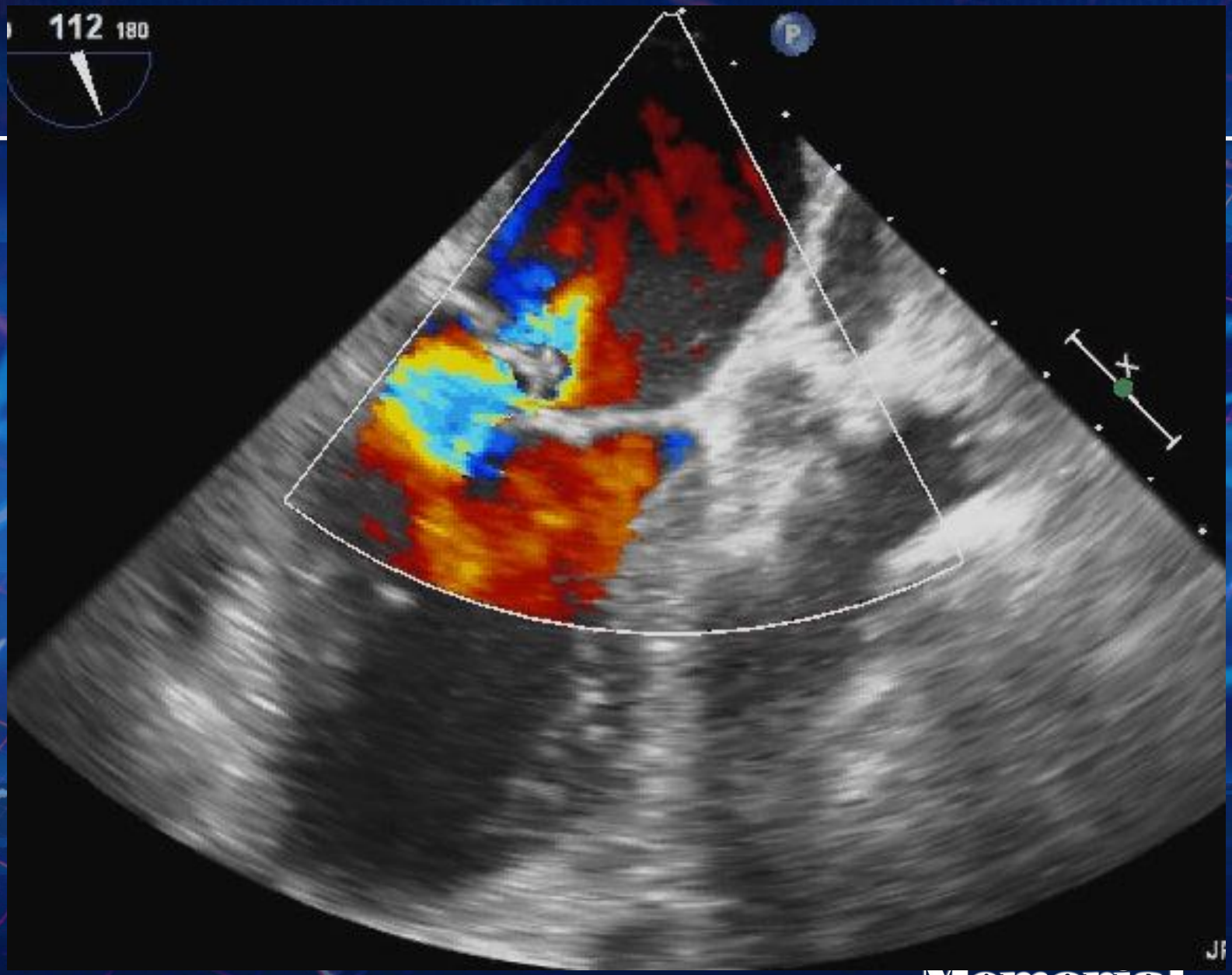
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Case 3

Surgery: MVR (27mm pericardial valve)
Cabg x 1 (Lima→LAD)

Post-op:

Case 3

Post-op

- Cargiogenic shock
- Resp failure
- Renal failure – dialysis
- Shock liver

Now

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KUDOS

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Mechanical Complications of Acute Myocardial Infarction

I. Rupture of left ventricular free wall
II. Rupture of interventricular septum
III. Development of mitral regurgitation

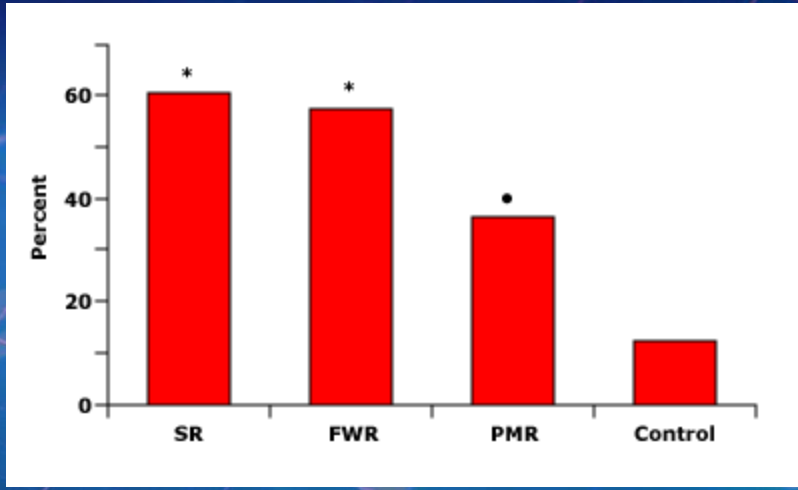
All associated with cardiogenic shock

Mechanical Complications of Acute Myocardial Infarction

Risk of rupture increased:

I. Delayed hospitalization (>24 hr)
II. Undo in-hospital physical activity
III. Post-infarction angina

Postinfarction angina more common with mechanical complications



Among patients with a first transmural myocardial infarction, the incidence of postinfaction angina was higher in those with a mechanical complication, including septal rupture (SR), free wall rupture (FWR), and papillary muscle rupture (PMR) compared to the controls who did not have one of these complications. * P<0.0001.
• P<0.04.
Redrawn from Figueras, J, Cortadellas, J, Calvo, F, et al. J Am Coll Cardiol 1998; 32:135.

Rupture of Left Ventricle

Incidence

- <1% in all patients with acute M.I.
- 14-26% in patients dying with acute M.I.
- Decline
  - Reperfusion therapies
  - Better blood pressure control
  - B-blockers
  - ACE-I's
  - ASA

Rupture of Left Ventricle

Risk factors

- Absence of collateral blood flow
- Size of the infarct
- Persistent ST elevation
- Persistent or recurrent chest pain
- Anterior wall M.I.
- Age > 70
- Females

Rupture of Left Ventricle

Clinical presentation

- Sudden death – hemopericardium and tamponade
  - Right heart failure → PEA → death
- Incomplete or subacute rupture
  - Persistent or recurrent chest pain
  - Hypotension
  - Pericarditis on EKG

Rupture of Left Ventricle

Management: survival depends on fast action

- ECHO and pericardiocentesis
- Resuscitation
  - Fluids
  - Inotropes
  - Pressors
  - IABP
- Surgery

Rupture of the Septum

Incidence

- ½ that of free wall rupture
- 3 – 5 days after acute M.I.

Risk factors

- Single-vessel disease (LAD)
- Extensive myocardial damage
- Poor septal collateral circulation

Rupture of the Septum

Site of rupture

- Anterior = Non-anterior
- Anterior – apical septum
- Inferior – base
- Size determines shunting and survival

Rupture of the Septum

Clinical manifestations

- Hypotension
- Bi-ventricular failure
- Murmur
  - Harsh, loud, holosystolic
  - Lower left and right sternal borders
- Thrill in up to 50% of patients

Rupture of the Septum

Diagnosis

- Pulmonary artery catheter: L → R shunt
- ECHO

Rupture of the Septum

Management

- Resuscitation
  - Fluids
  - Inotropes and Pressors
  - IABP
- Cardiac catheterization – coronary anatomy
- Surgery – early
  - Mortality 20-40%
  - Survival improved with concomitant CABG
- Transcatheter closure

Mitral Regurgitation

Incidence

- Ischemic MR – often managed conservatively

- Papillary muscle or chordal rupture
  - 5% of acute MI deaths
  - 2 - 7 days after infarct
  - More common in prolonged admission delay and recurrent chest pain

Mitral Regurgitation

Location

- Posteromedial 6-12x more than Anterolateral
- Blood Supply
  - Posteromedial – posterior descending artery
  - Anterolateral – LAD and Cx

Mitral Regurgitation

Clinical Manifestations

- Hypotension
- Pulmonary edema
- Active precordium
- Mid-, late-, or holosystolic murmur
  - Little or no murmur at all

Mitral Regurgitation

Diagnosis – suggested by

- Acute M.I.
- Hemodynamic compromise
- New murmur

Diagnosis – confirmed by

- ECHO
- Cardiac cath to define coronary anatomy
- TEE

Mitral Regurgitation

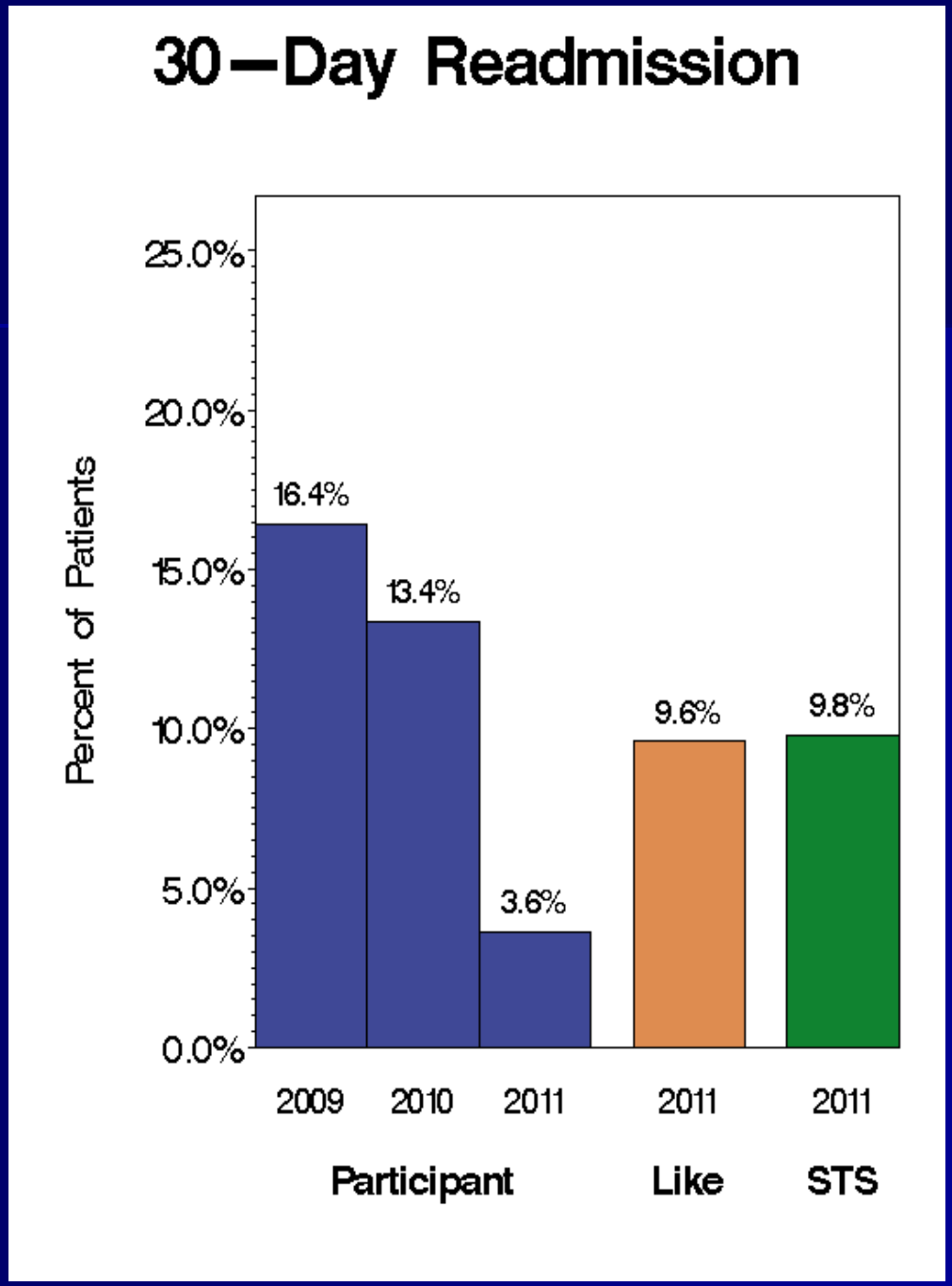
Treatment

- Resuscitation
  - Fluids
  - Inotropes
  - IABP
- Surgery
  - Usually MVR
  - 20-25% mortality

More KUDOS

Memorial
Cardiac and Vascular Institute
MEMORIAL REGIONAL HOSPITAL • MEMORIAL HOSPITAL WEST

CAB


30–Day Readmission
Percent of Patients
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
16.4%
13.4%
3.6%
9.6%
9.8%
2009
2010
2011
2011
2011
Participant
Like
STS

30 Day Readmission Rate

- Discharge education lectures
- Discharge process by cardiac surgery team
- Follow up visit within 1 week of discharge by CTS team
- Phone call to patients by Medical Director and nursing staff within 72 hrs.