High risk PCI of LM bifurcation with poor LVEF

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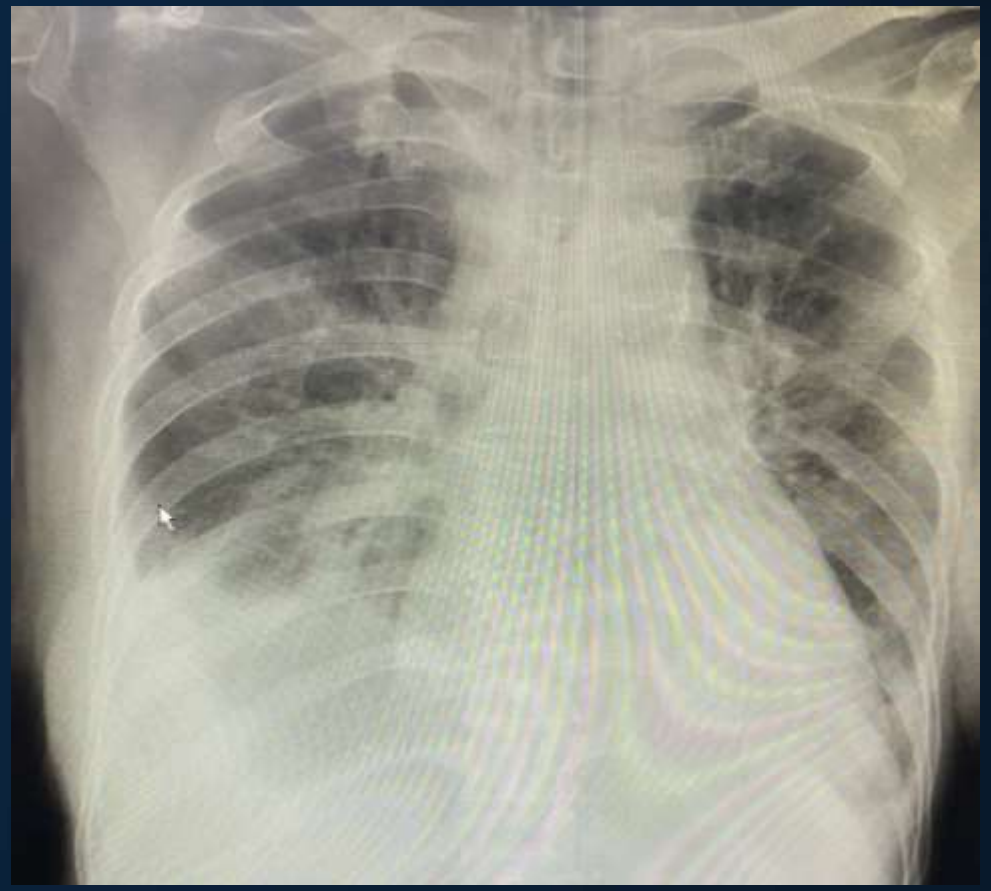
Disclosure

- I (Thanawat Suesat MD) DO NOT have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.

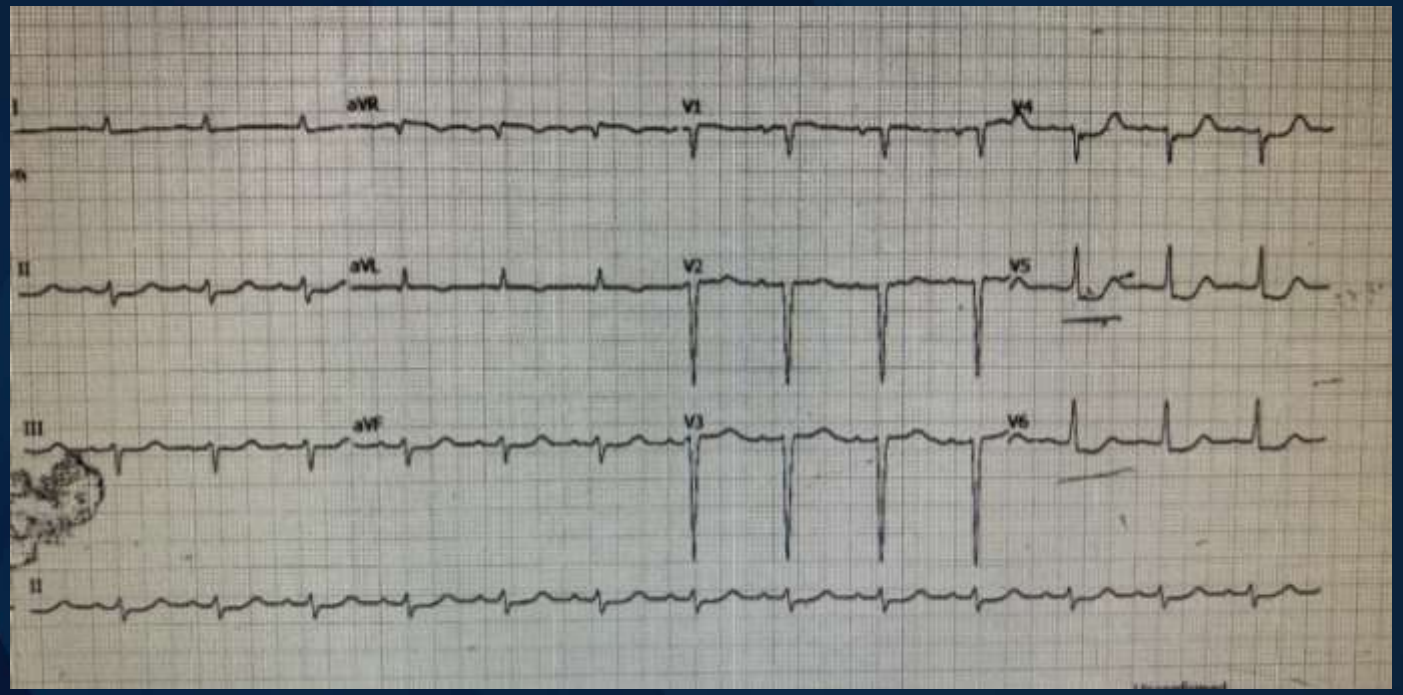
89 y/o woman , ICU nurse ‘s mother

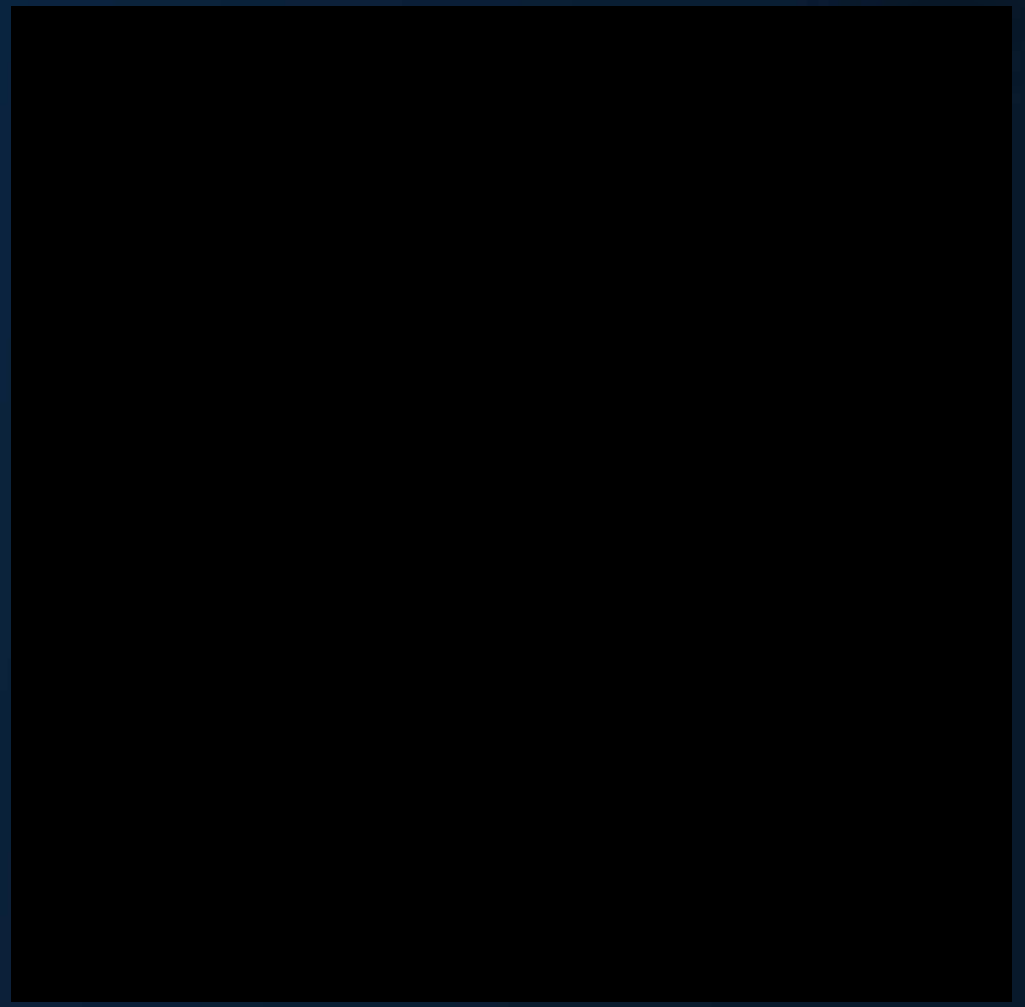
- chest pain and dyspnea for 1 day
  BP150/90 , RR 26 , HR 86
  BW 45 kg

- Recurrent CHF 4 times in 6 month
- ESRD on regular HD 3/week
- COPD,DM,HT
- DCM/ ICM EF = 22 % with global hypokinesia , Mild MR ,TR and AR
- previously refused to CAG
- and only medical Rx @CHF clinic



ECG and Echo





LAB

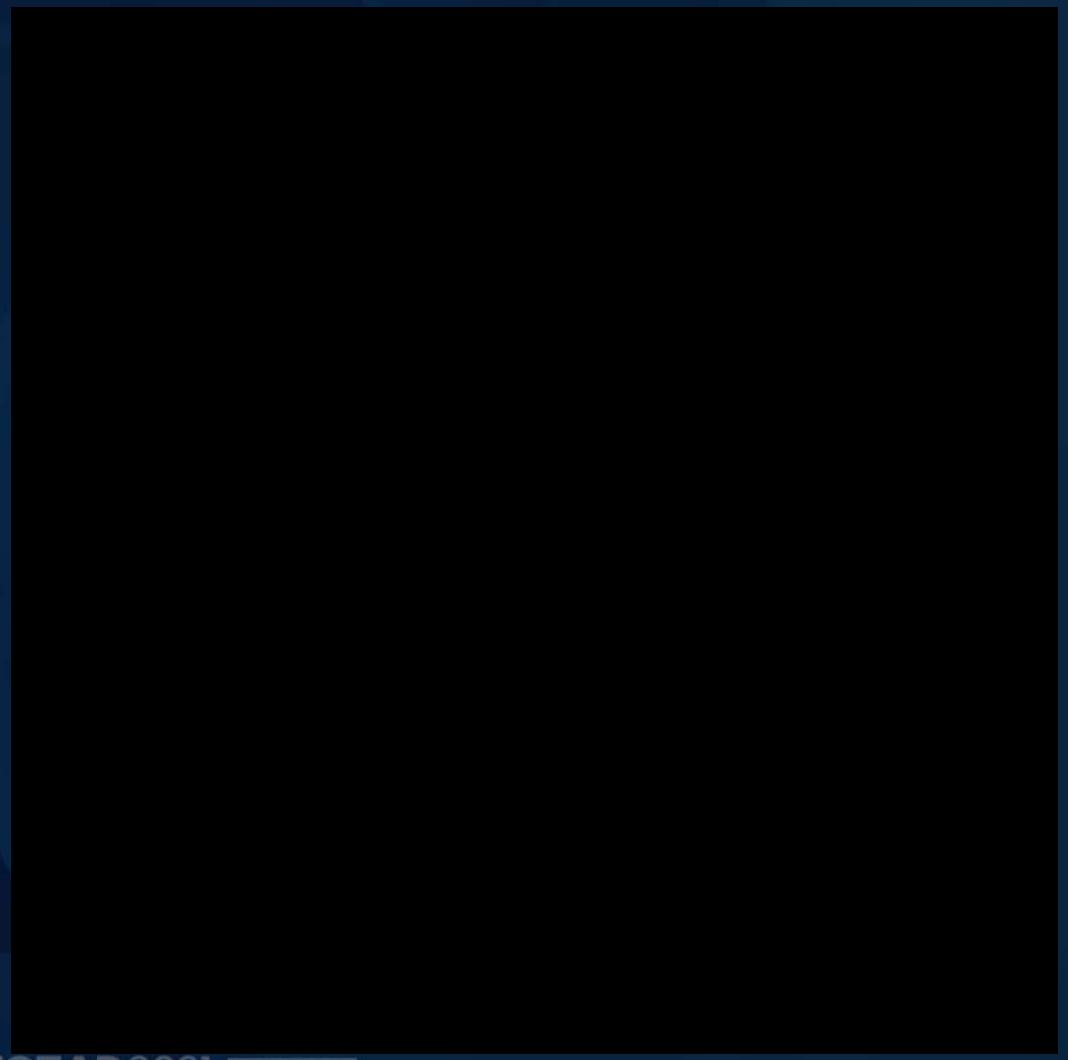
- BUN 56 Cr 5.94
- Hct 22 % , WBC 10,200 , plt 100,300
- K = 4.6
- serum albumin 3.3
- Trop T 307 ng/L

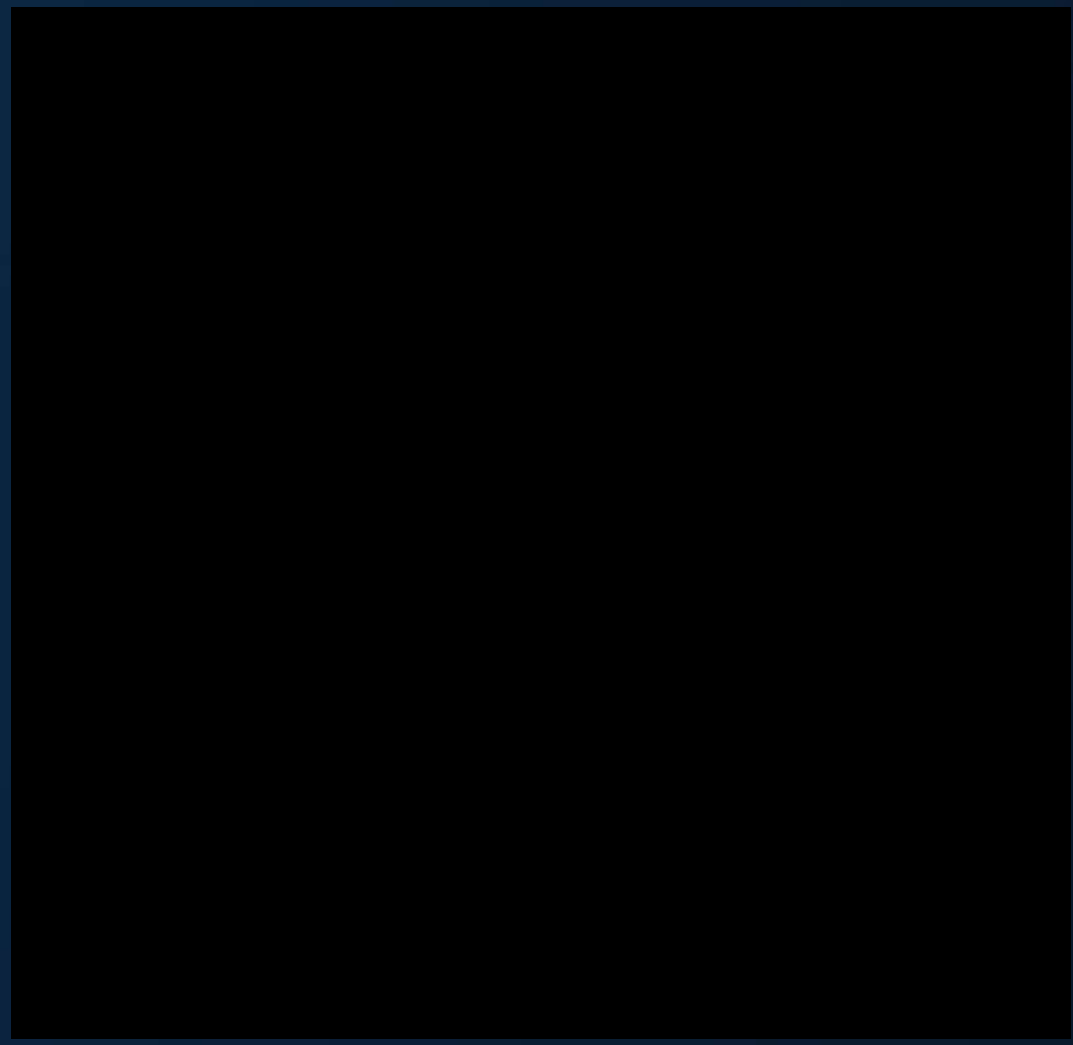
- DX. NSTEMI with CHF
  ICM
  ESRD

Medication

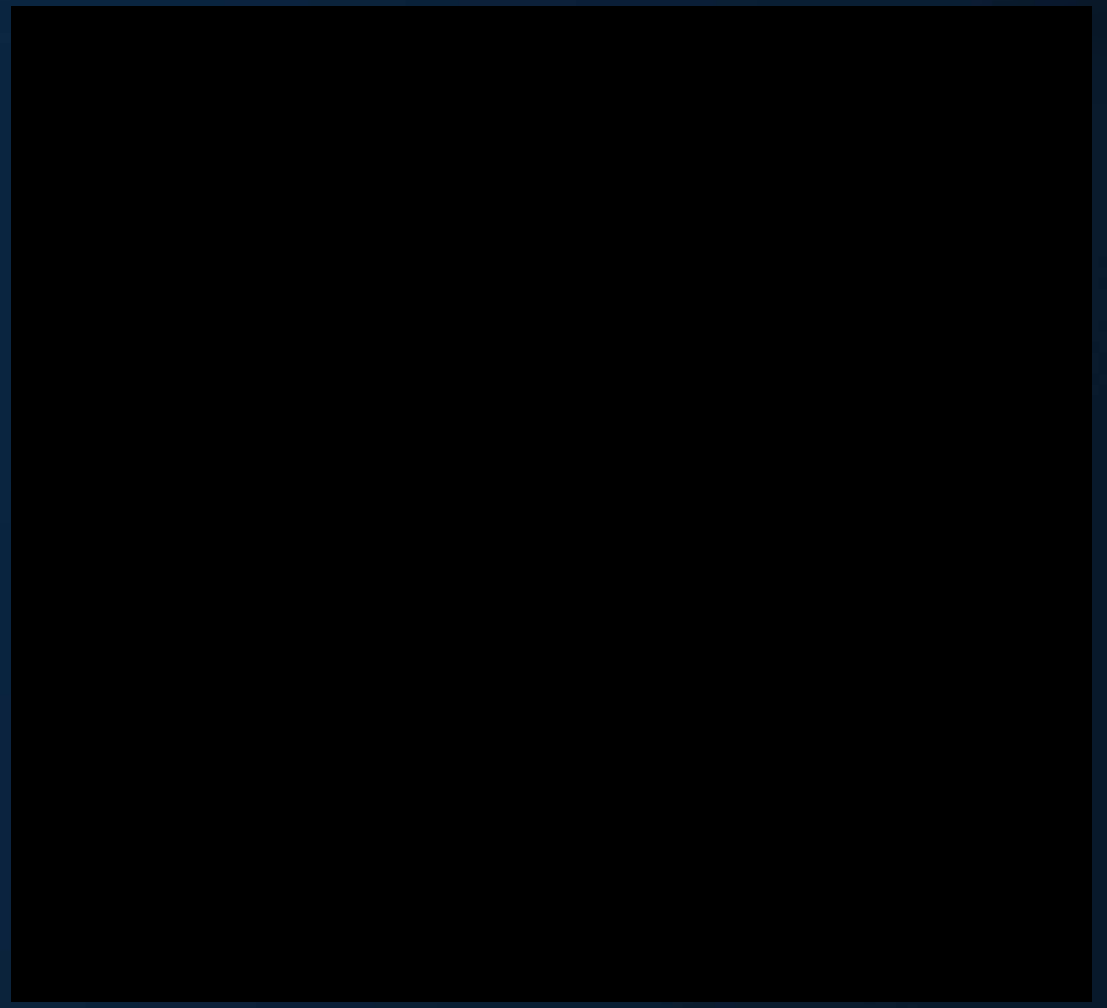
ASA , clopidogrel
Entresto
Bisoprolol
Atorvastatin
ISDN
Sodamint ,folic
Lasix
Enoxaparin
Calcium tab
Bronchodilator
Insulin

Coronary Angiogram





Coronary angiogram



Coronary angiogram

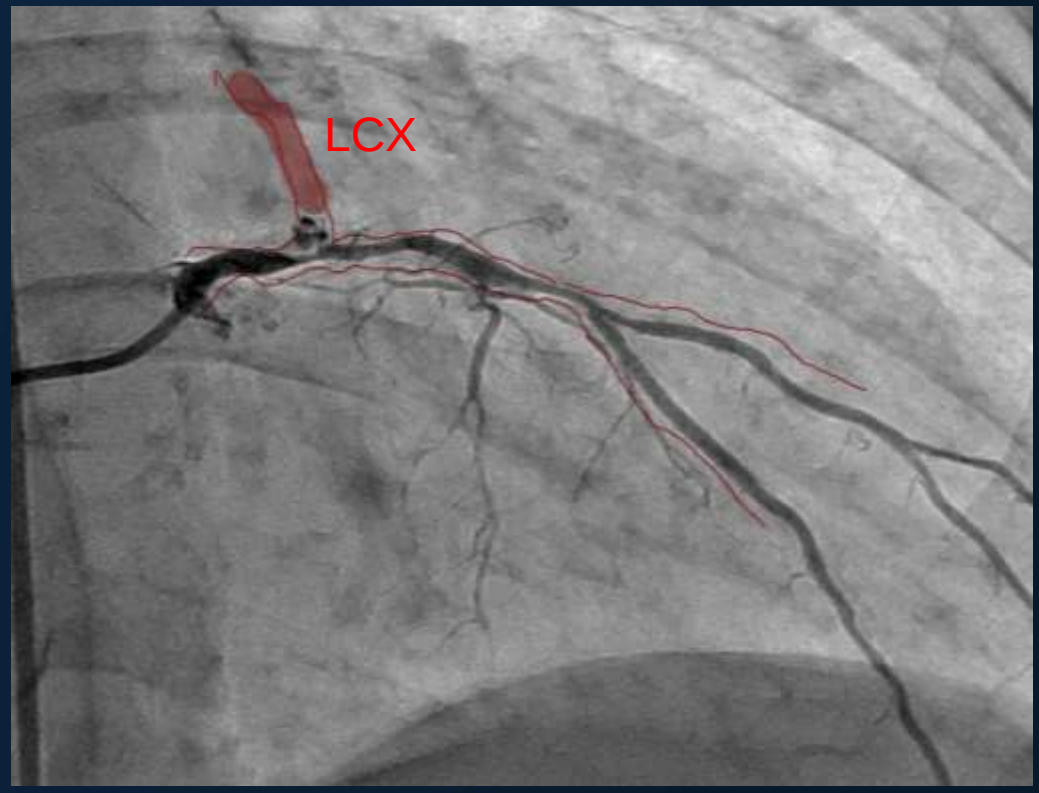
LM : calcification ,90 % distal LM stenosis (medina 1,1,1)

LAD : calcification , 80 % ostial LAD,70 %mid LAD stenosis

LCX : calcification , 100 % ostial LCX minimal bridging collateral

RCA : non significant stenosis

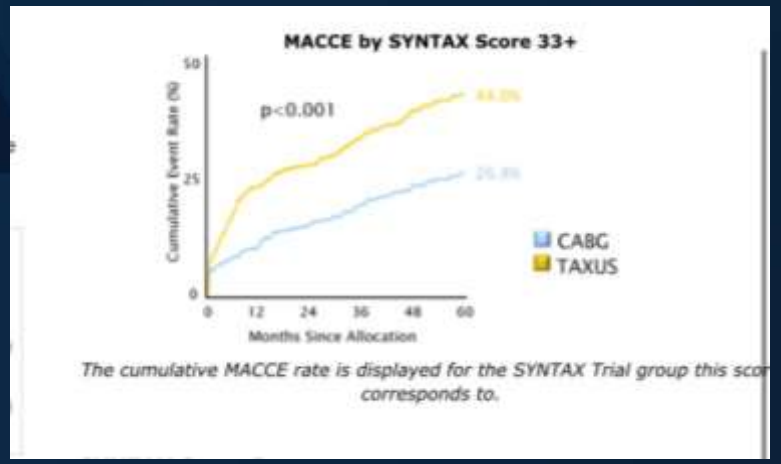
LVEDP = 30 mmHg



High SYNTAX and High STS score

SYNTAX Score I

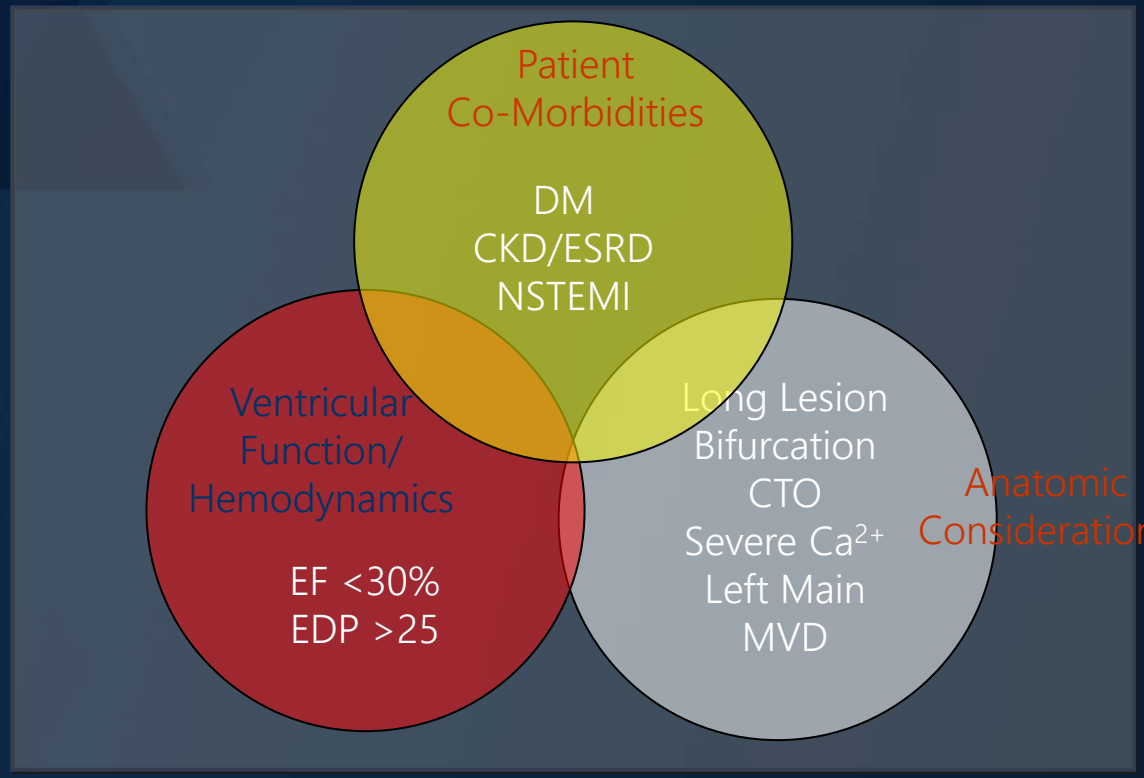
Lesion 1	
(segment 5): 6x2=	12
Bifurcation Type: Medina 1,1,1:	2
Length >20 mm	1
Heavy calcification	2
Sub total lesion 1	*17*
Lesion 2	
(segment 6): 3.5x2=	7
Length >20 mm	1
Heavy calcification	2
Sub total lesion 2	*10*
Lesion 3	
(segment 7): 2.5x2=	5
Length >20 mm	1
Heavy calcification	2
Sub total lesion 3	*8*
Lesion 4	
segment number(s)	
(segment 11): 2.5x5=	12.5
Age T.O. is yes	1
+ Blunt stump	1
the first segment beyond the T.O. visualized by contrast: 13	0
+ sidebranch: Yes, all sidebranches >=1.5mm	1
Bifurcation Type: Medina 1,1,1:	2
Heavy calcification	2
Sub total lesion 4	*19.5*
TOTAL:	*54.5*



SYNTAX 54.5

STS SCORES 54.92 %

Complex Higher-Risk (and Indicated) Patients



Heart team conference

- octogenarian , 89 year old , frailty
- multiple underlying disease (DM,HT,COPD , ESRD)
- VIP (our ICU nurse ‘ s mother)
- poor LVEF
- Complex LM bifurcation
  - calcified lesion
  - CTO ostial LCX with ambiguous

→ Surgical turndown
→ very high risk to PCI

→ refused to Sx and PCI by daughter

2 weeks later

- Re admission again with NSTEMI and CHF

- Patient ‘s daughter changed decision to angioplasty

- cardiac MRI show LVEF = 21.4 % , viable all myocardial segment (7/7 segmemnt)

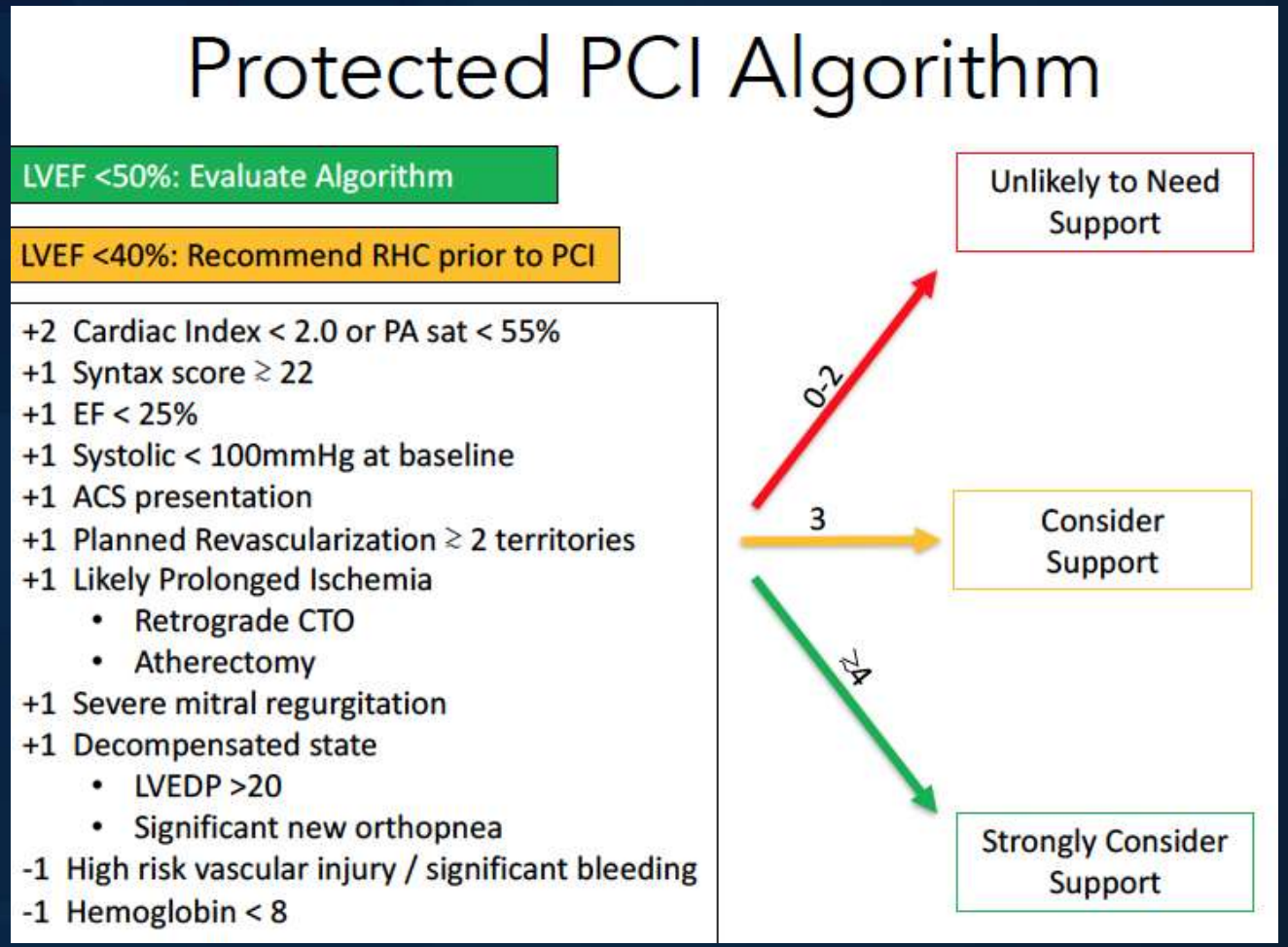
plan

- PCI + LM , LAD +/- LCX (if fail LCX → sacrifice of LCX)

- Heavy calcified : Atherectomy or cutting or scoring balloon ? → may be

- Hemodynamic support ? Low LVEF + CHF
  only IABP available

Case Planning: Hemodynamic support?



Courtesy of Dr. Jame M.McCabe

Score: 6

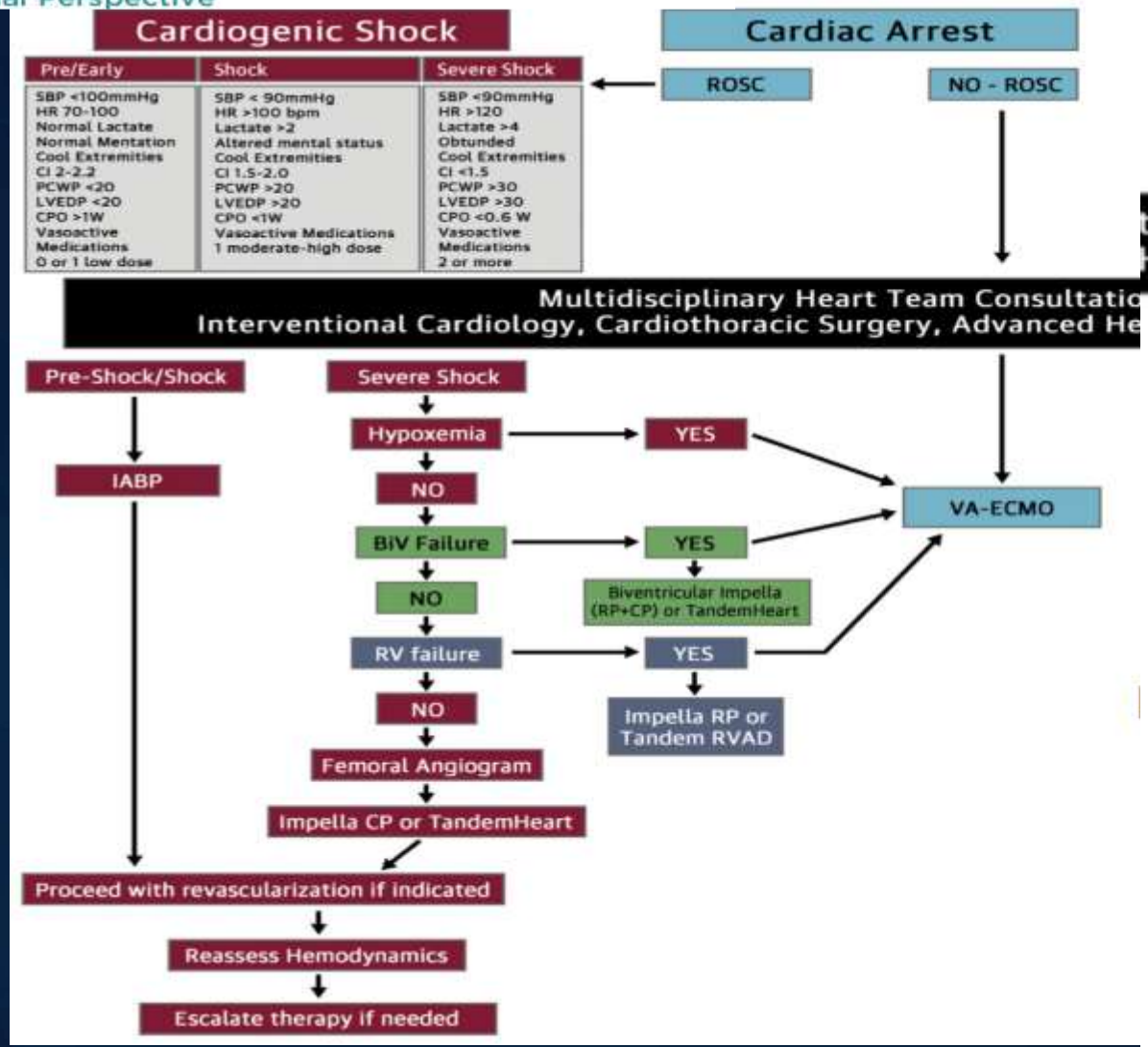
- SYNTAX 54
- EF < 25
- Plan revas > 2 territory
- Plan artherectomy
- ACS
- LVEDP > 20 mmHg

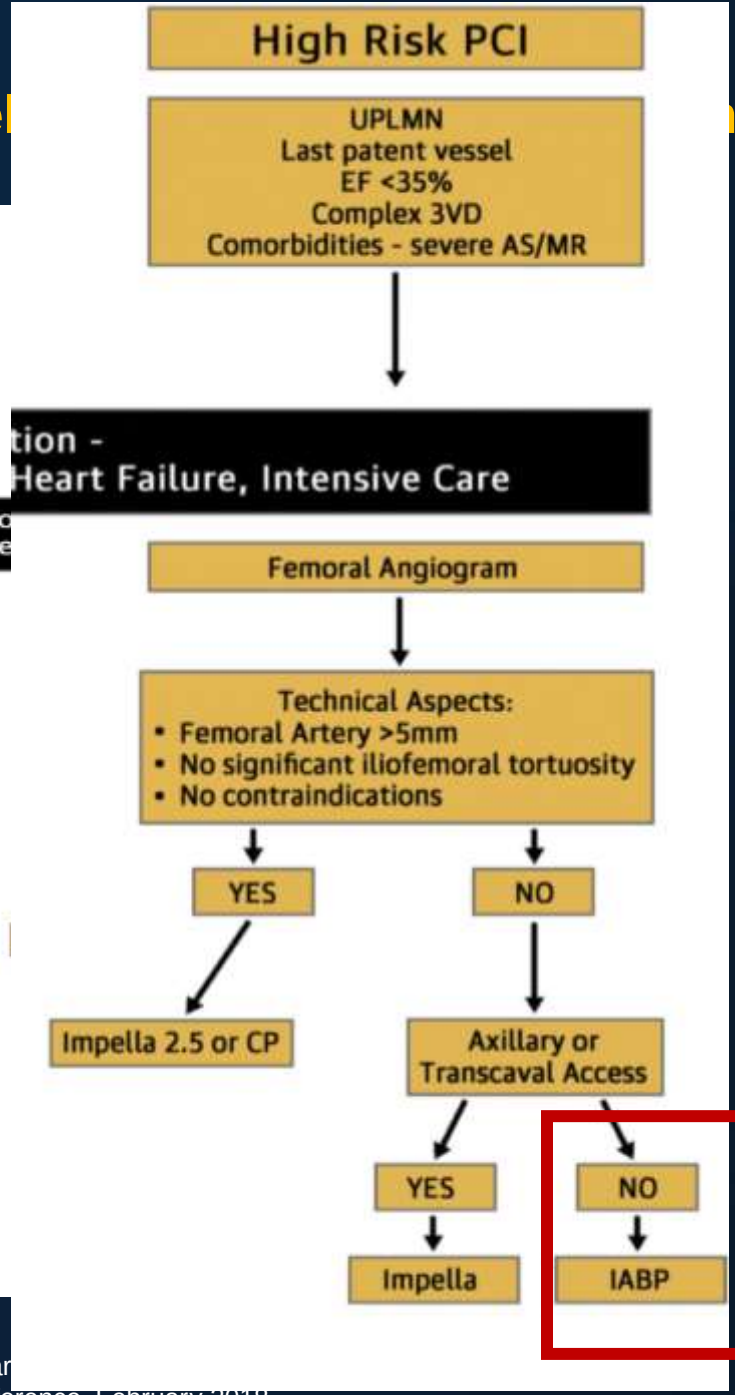
McCabe, J. CTO PCI in patients with low EF: When to Consider Hemodynamic Support. Presented at CRF CTO Conference, February 2018.

A Practical Approach to Mechanical Circulatory Support in Patients Undergoing Percutaneous Coronary Intervention

An Interventional Perspective

Risk Model





1. Atkinson, et al., A Practical Approach to Mechanical Circulatory Support in Patients Undergoing Percutaneous Coronar
2, McCabe, J. CTO PCI in patients with low EF: When to Consider Hemodynamic Support. Presented at CRF CTO Conference, February 2018.

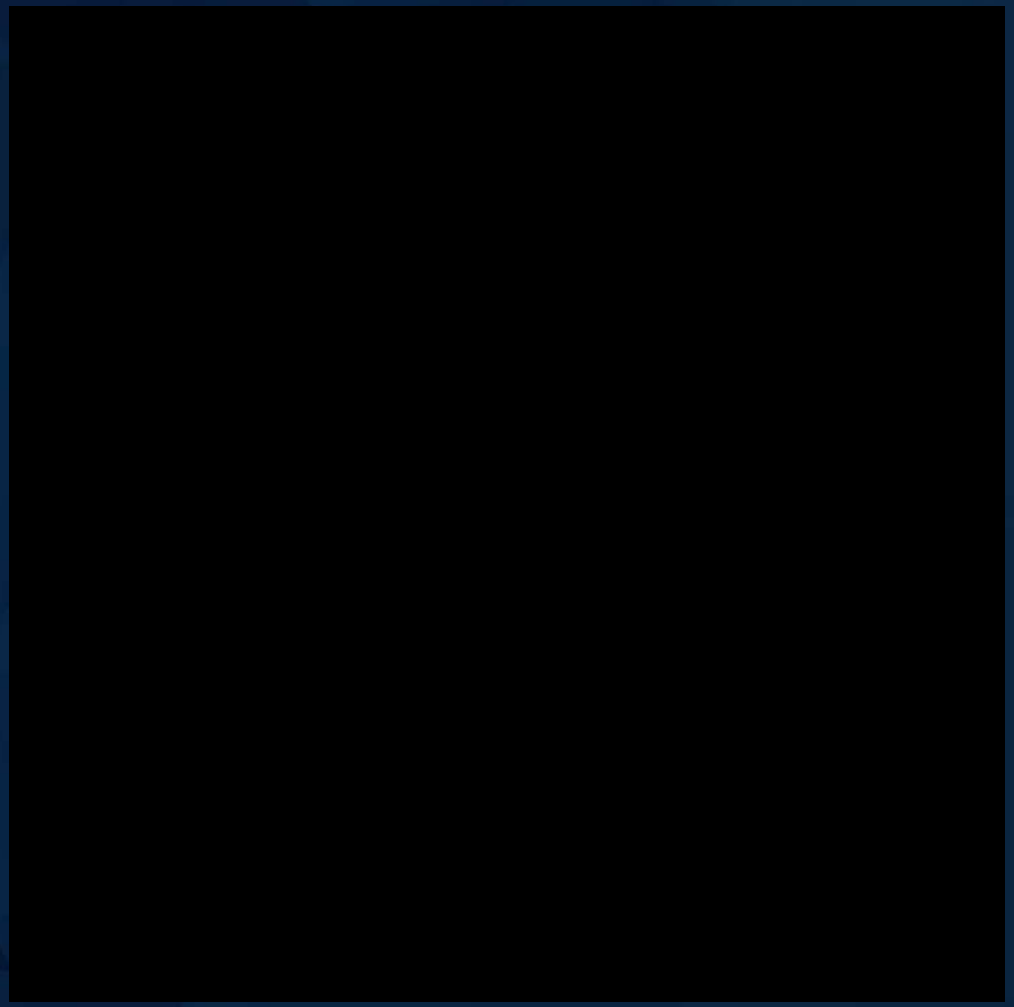
PCI to LM-LAD-LCX

- hyper K + bradycardia @ ICU → off BB , Temp pacemaker +extra hemodialysis one day before PCI

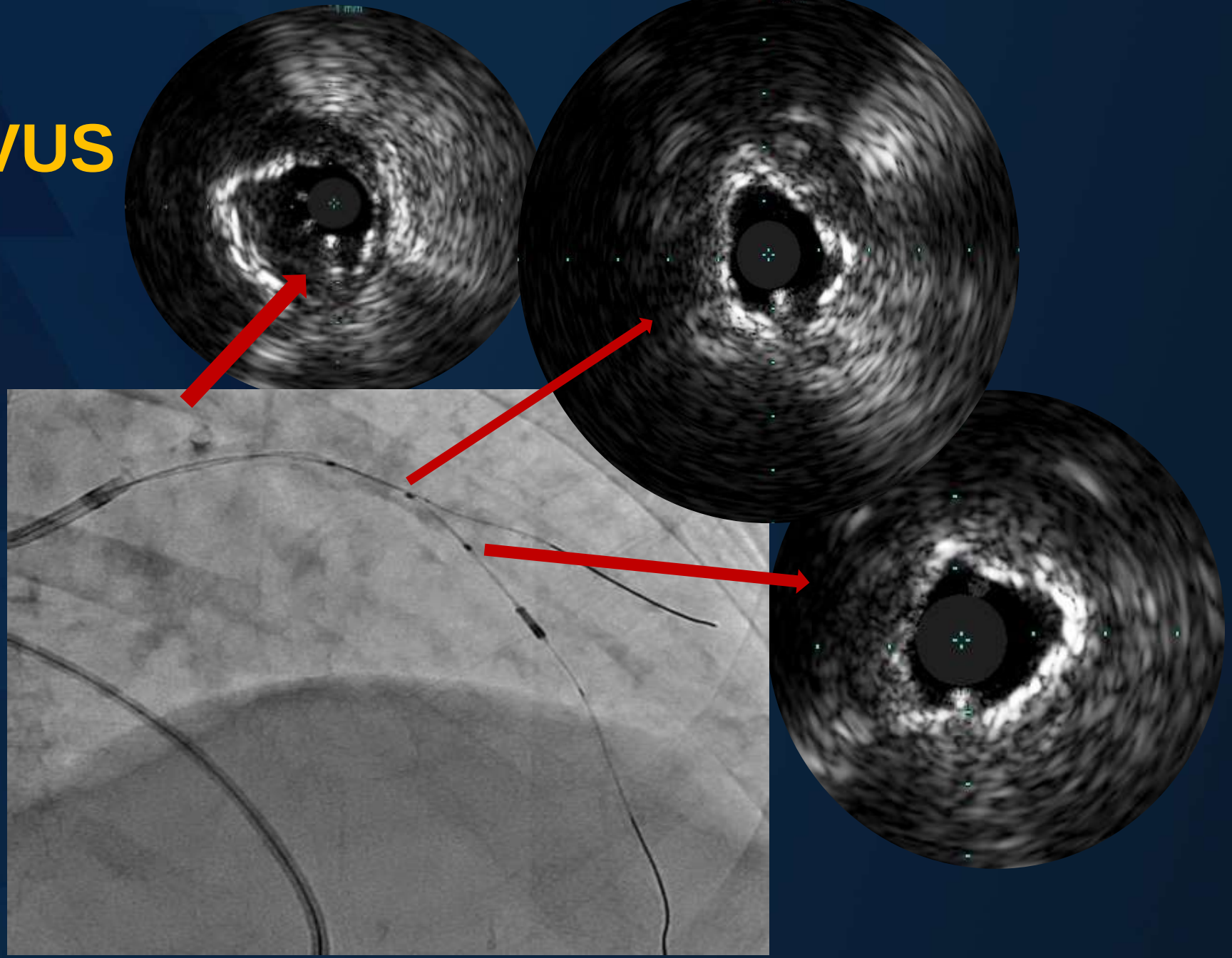
Day of PCI

- premed with heparin 100 U/kg
- RFA . 7F EBU 3.5 side hole GD
- LVEDP = 32 mmHg
- IABP via LFA , for hemodynamic supported
- Sion to LAD and DG to LAD and DG

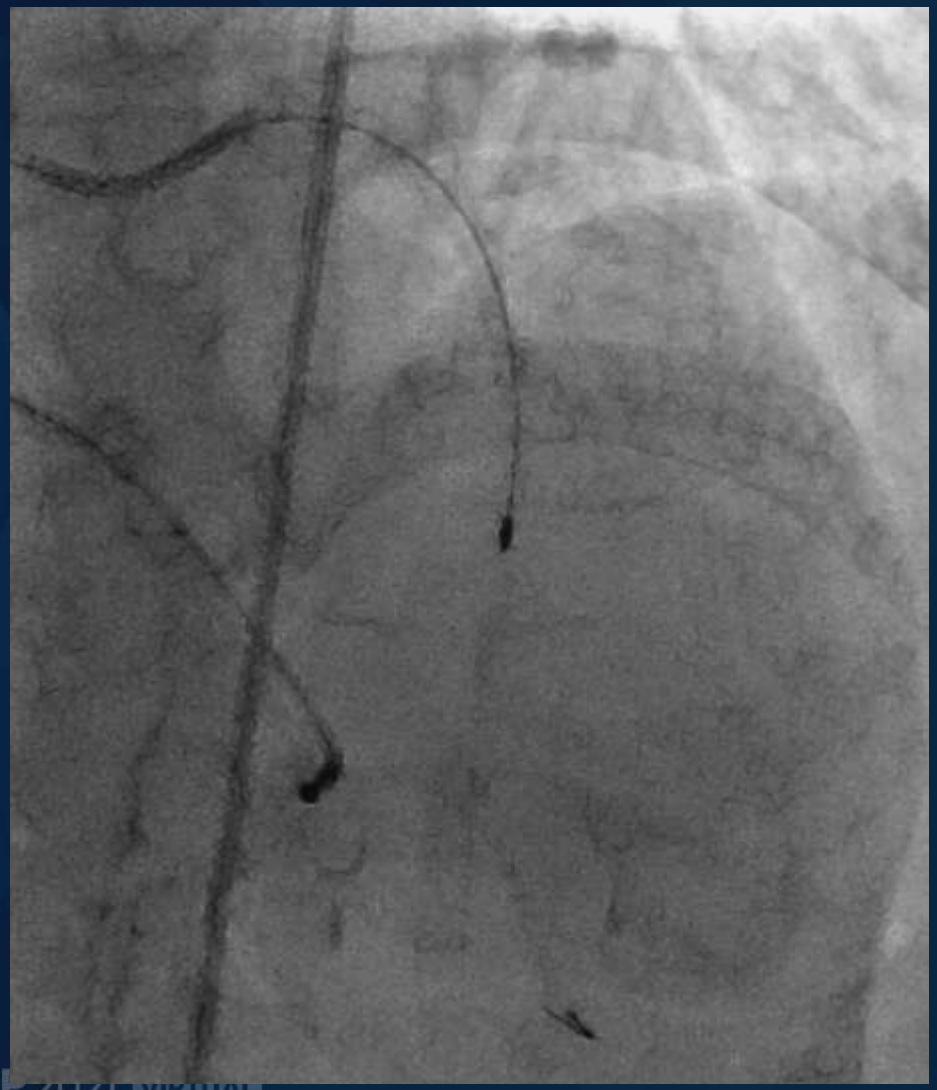
Predilated with small balloon 2.0 x15



IVUS



Plaque modification



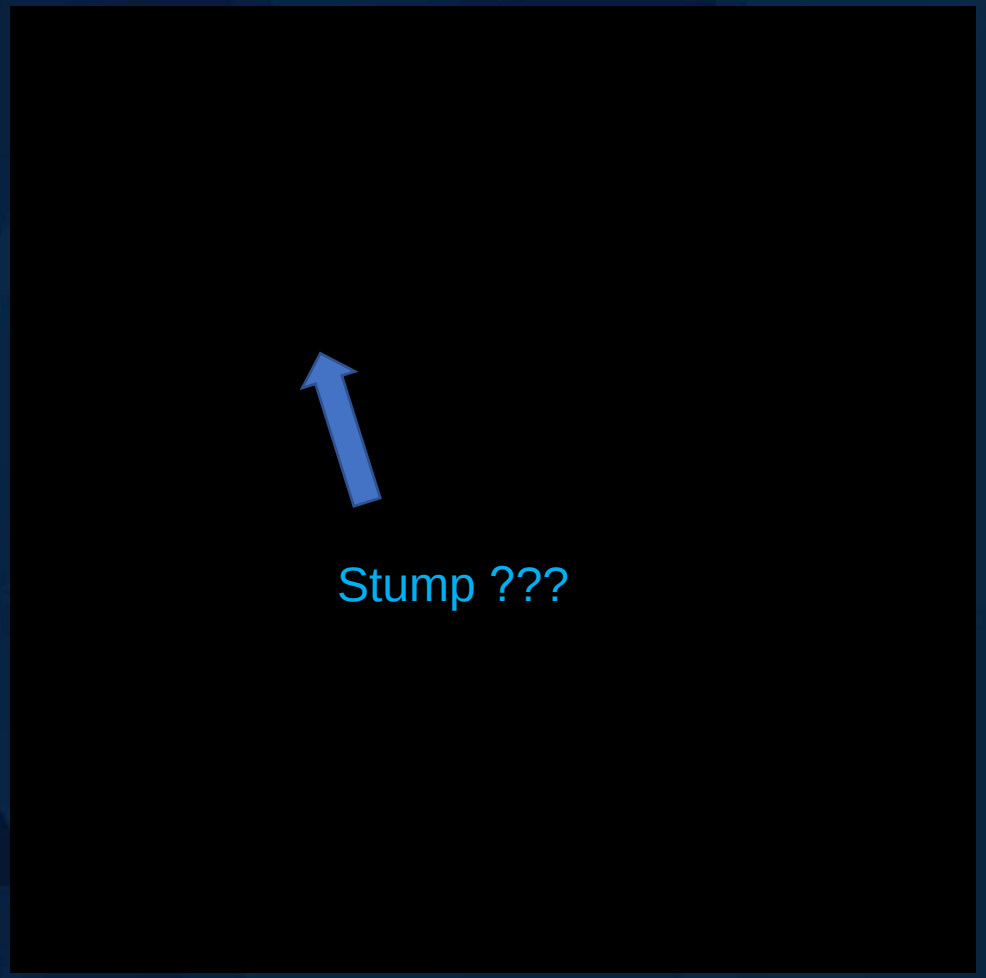
exchange to rota floppy

Rotablator 1.5 burr 180,000 rpm x 3 run

follow by NSE alpha scoring balloon
3.0 x 13 @ 14atm

NSE 3.0 x 13 @ 14atm

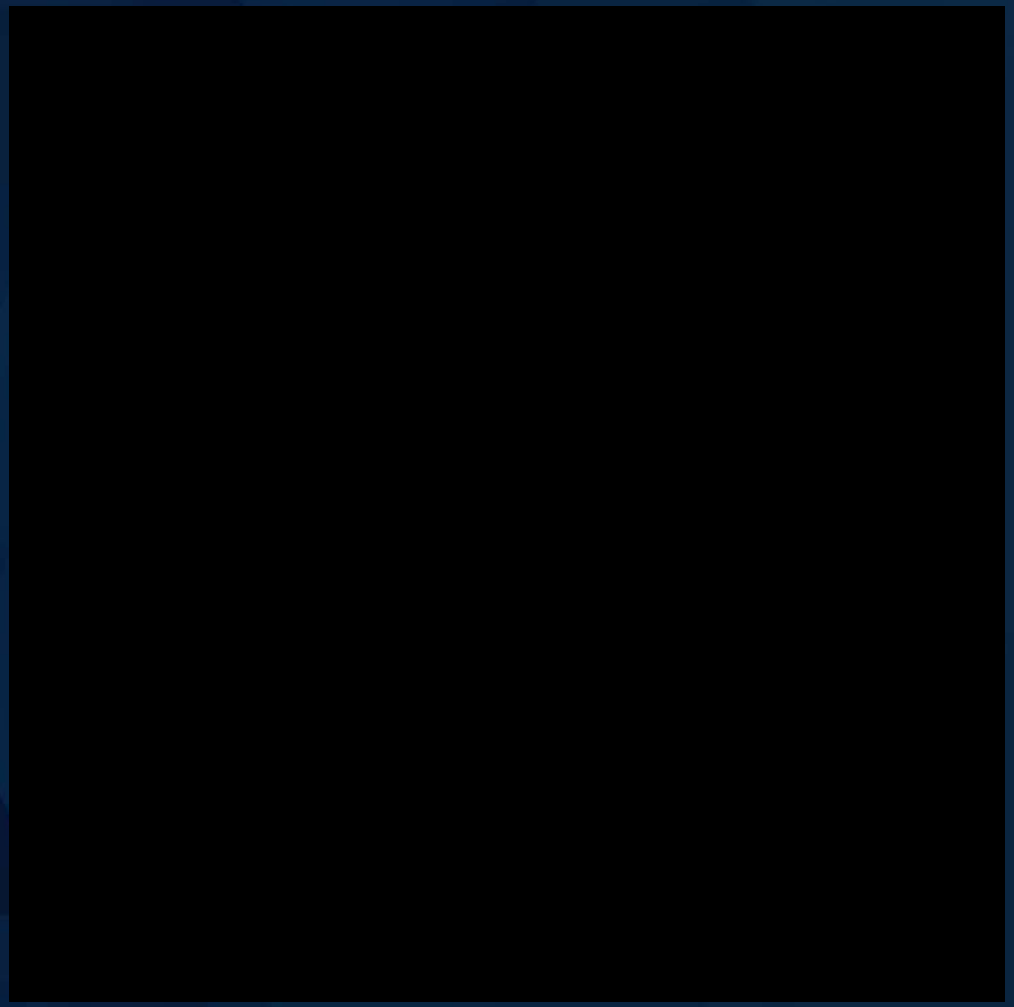
Try to open LCX



Pilot 50 + Finecross→ failed

Pilot 200 + Crusade type R double lumen MC

Try to open LCX

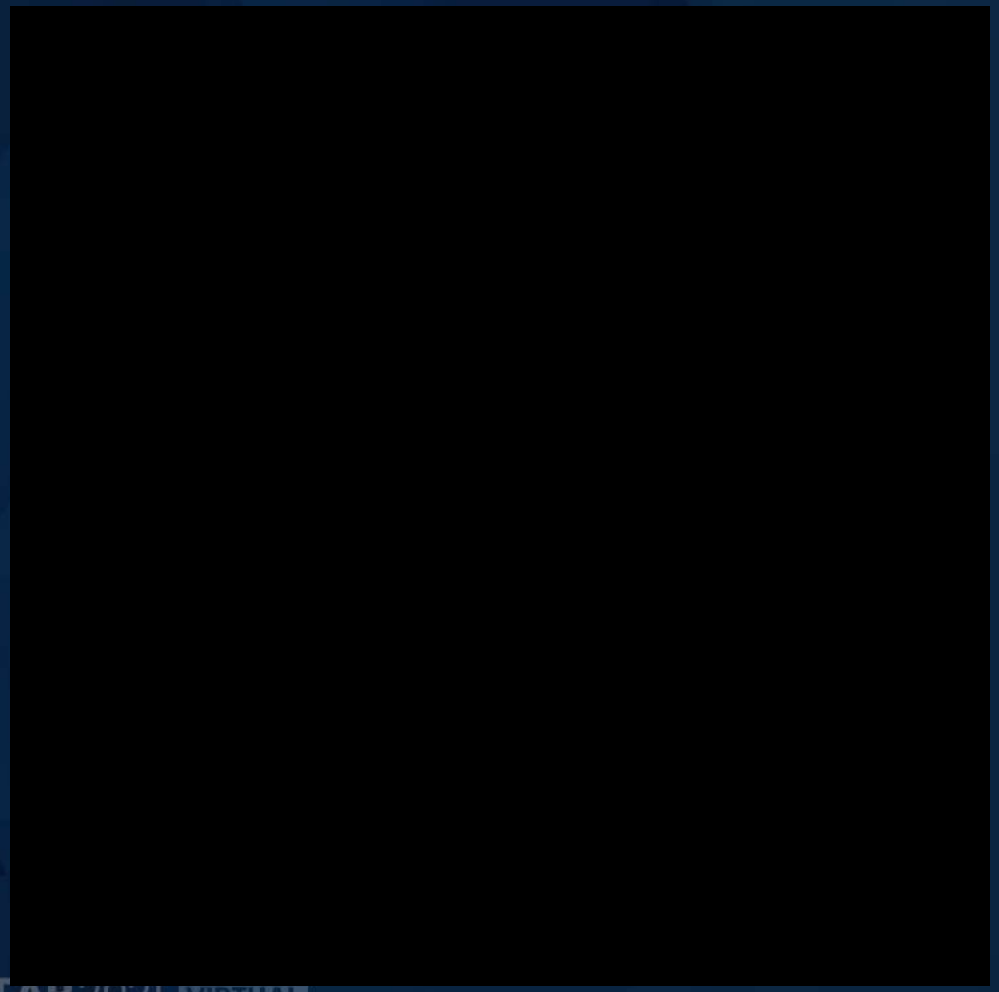


Injection from MC

Seqential dilated with

Balloon SC 1.5 x 15
Balloon SC 2.0 x 15
Balloon NC 2.5 x 15

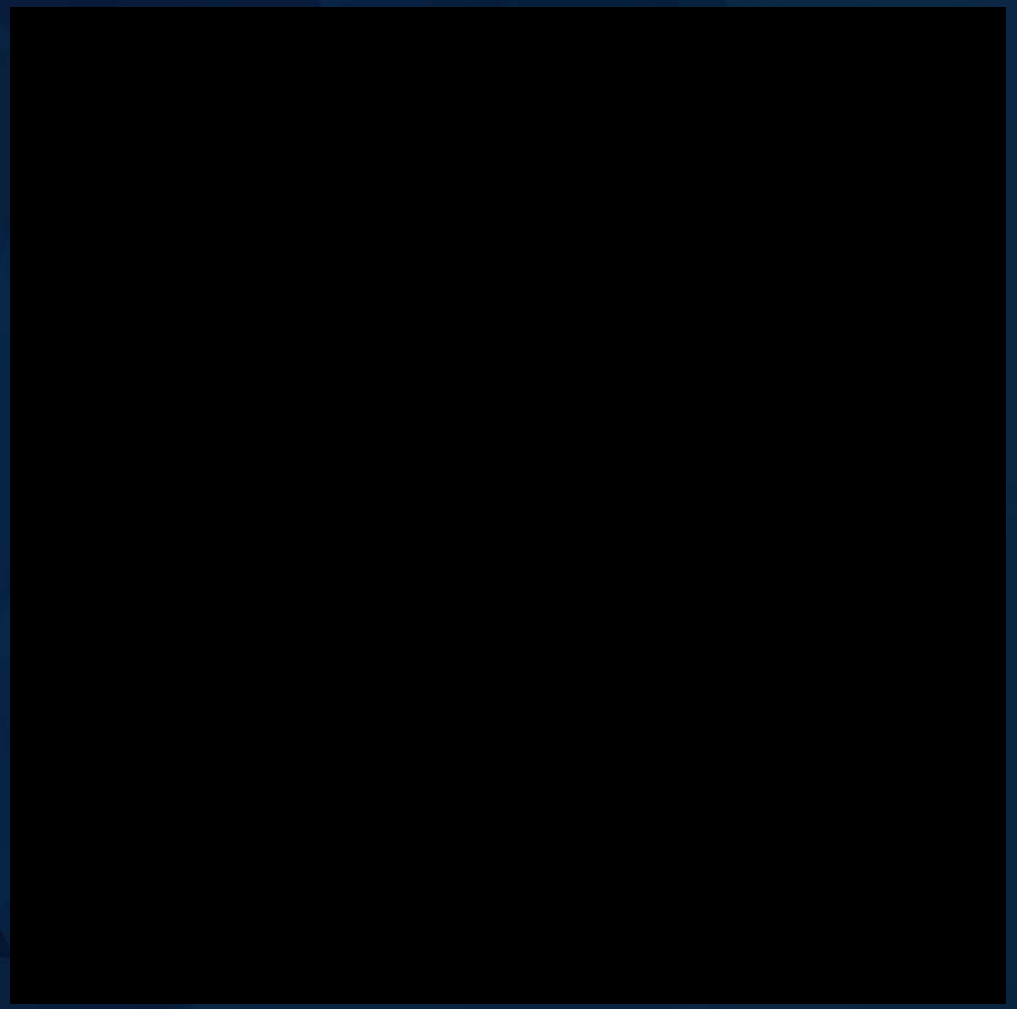
After dilated LCX + IVUS

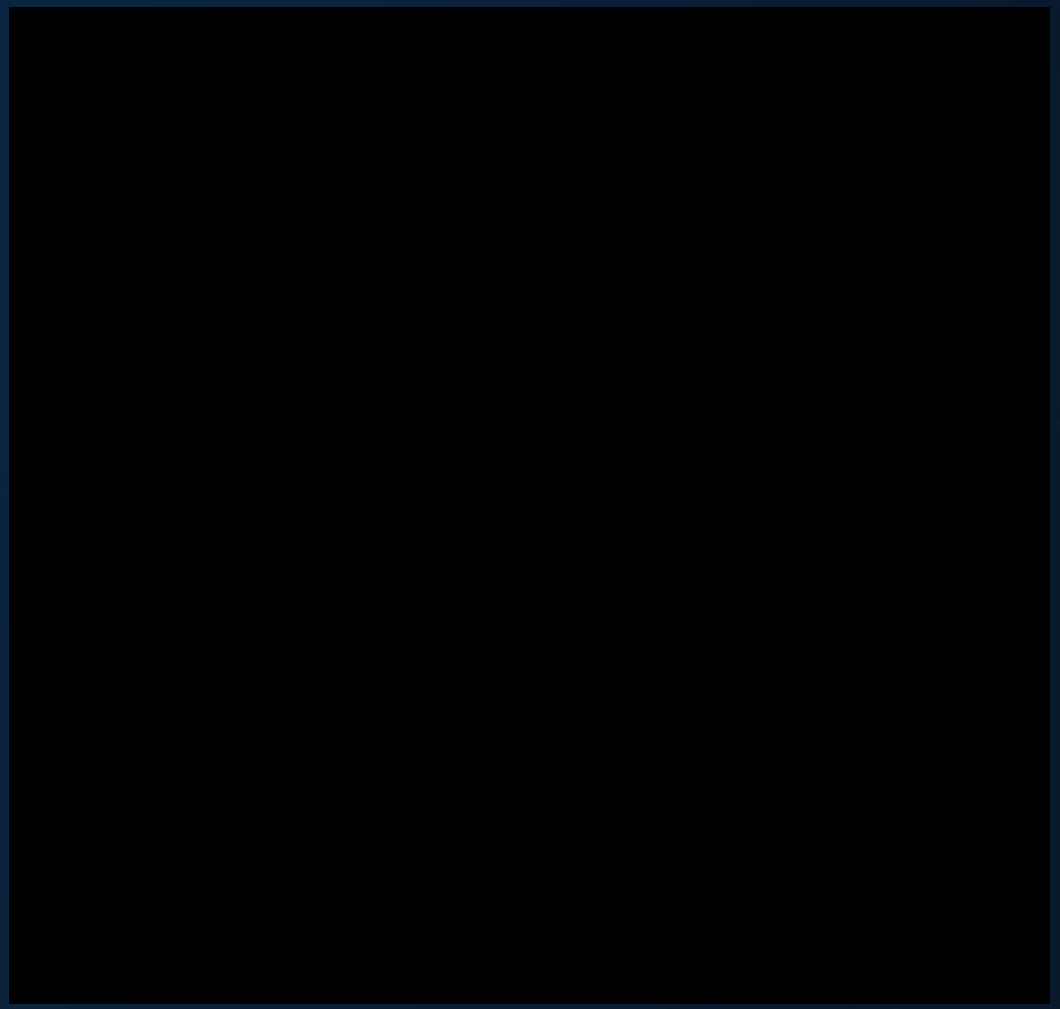


Patient was dysnea with agitation

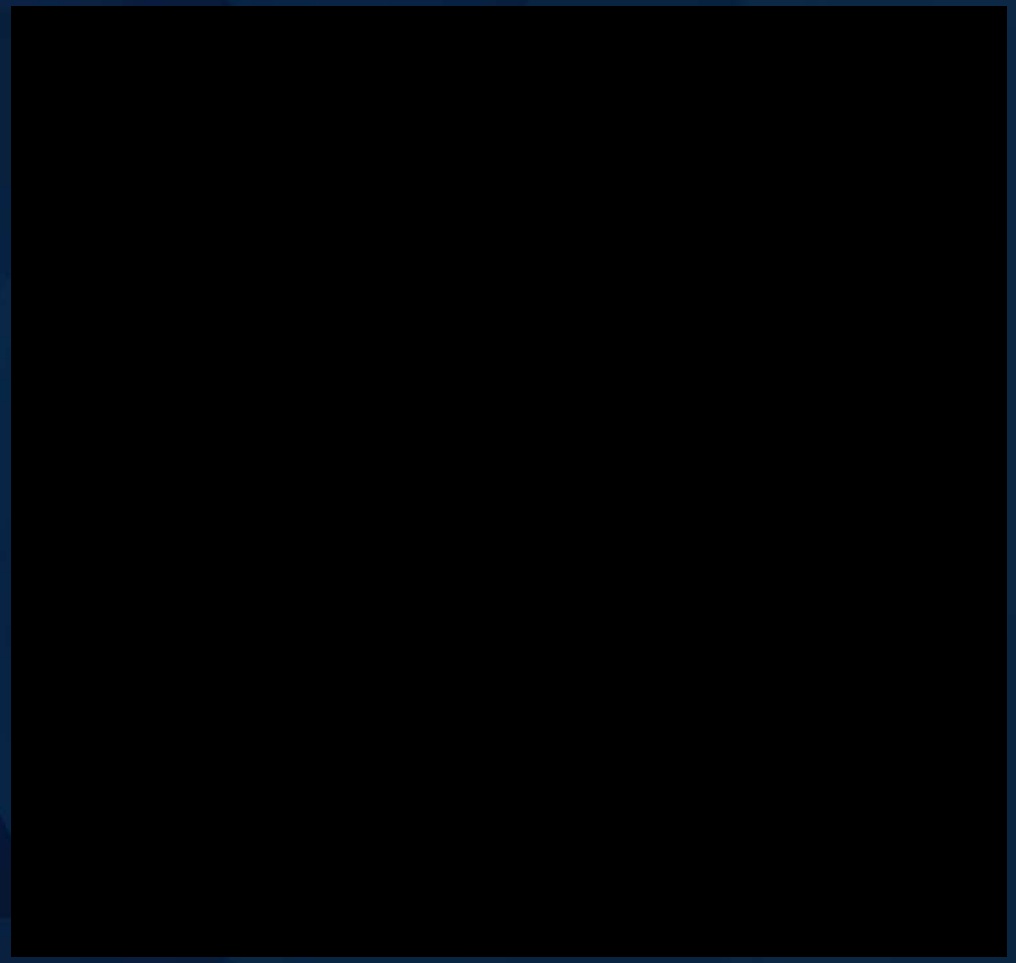
- 50 minutes passed
- crepitation both lung
- on ET tube
- Lasix 80 mg V
- dye 70 ml

Stent mid LAD ZES 3.0 x 18 overlapped position with ZES 3.5 x 24





Position LCX stent and deployed mini crush technique

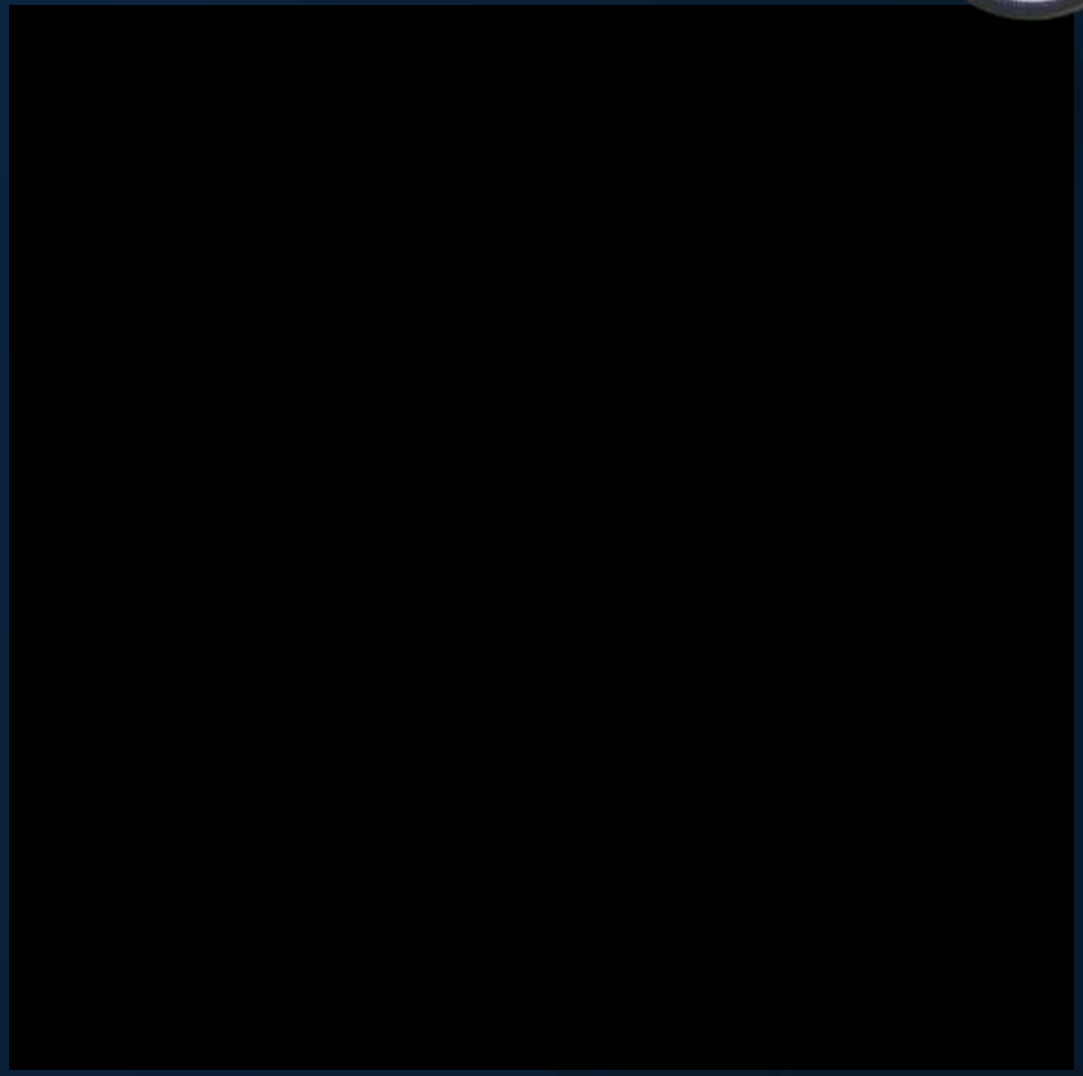


position LCX stent with

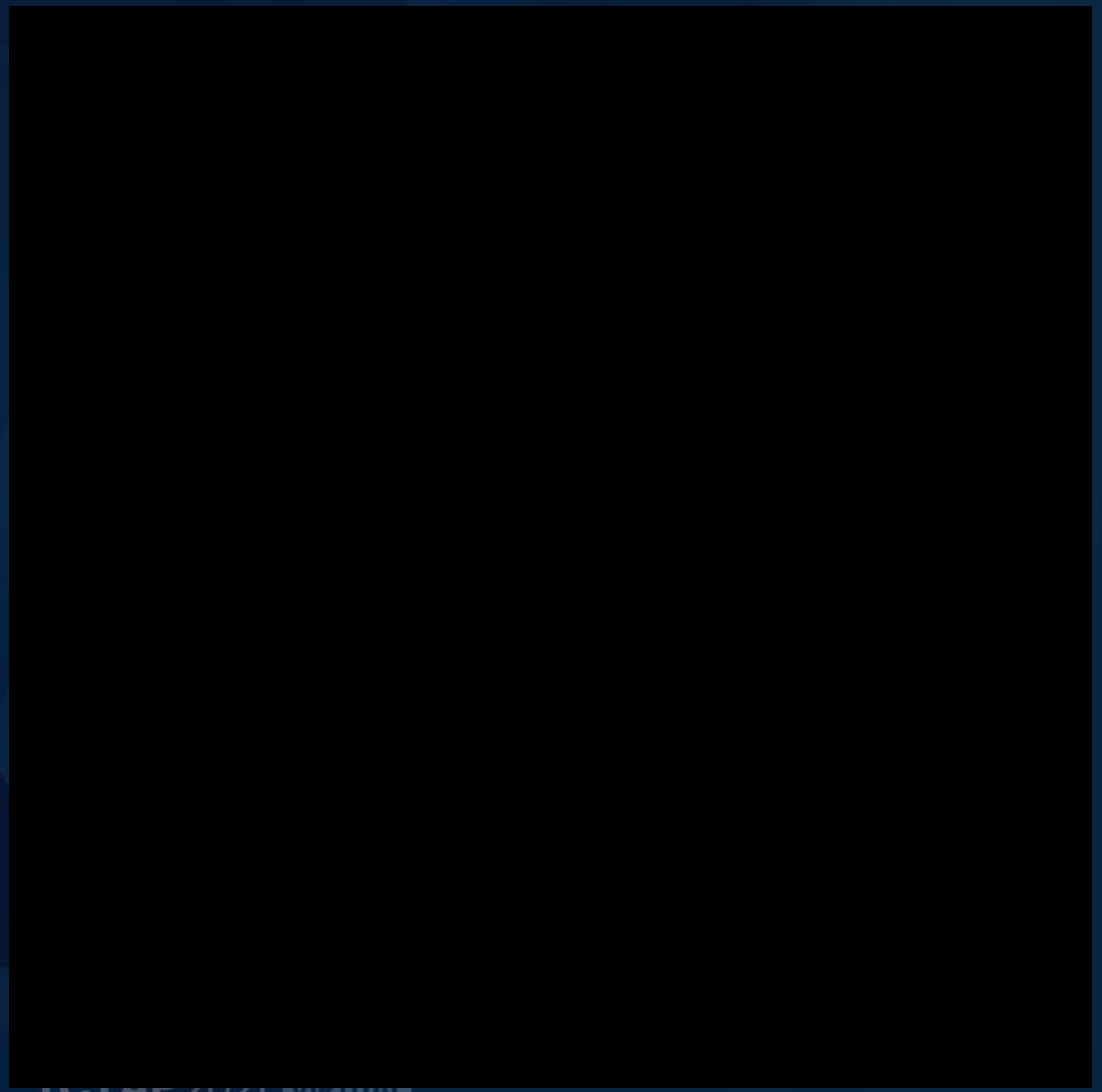
ZES 3.0 x 14

(with Guidezilla guide extension)

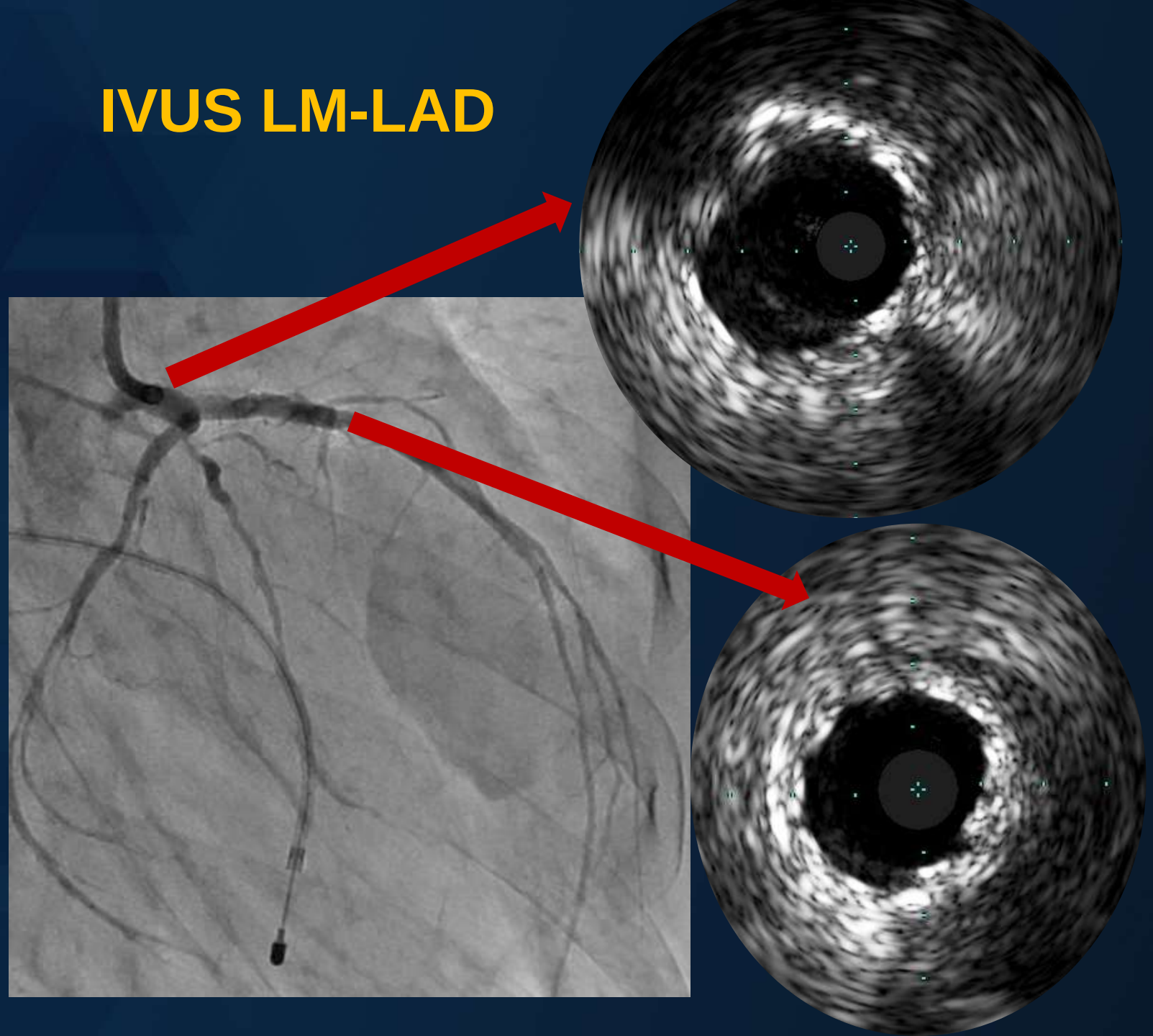
Mini crush with LM-LAD stent , rewire and kissing



POT NC with NC 4.0 x 8 and final angiogram



IVUS LM-LAD

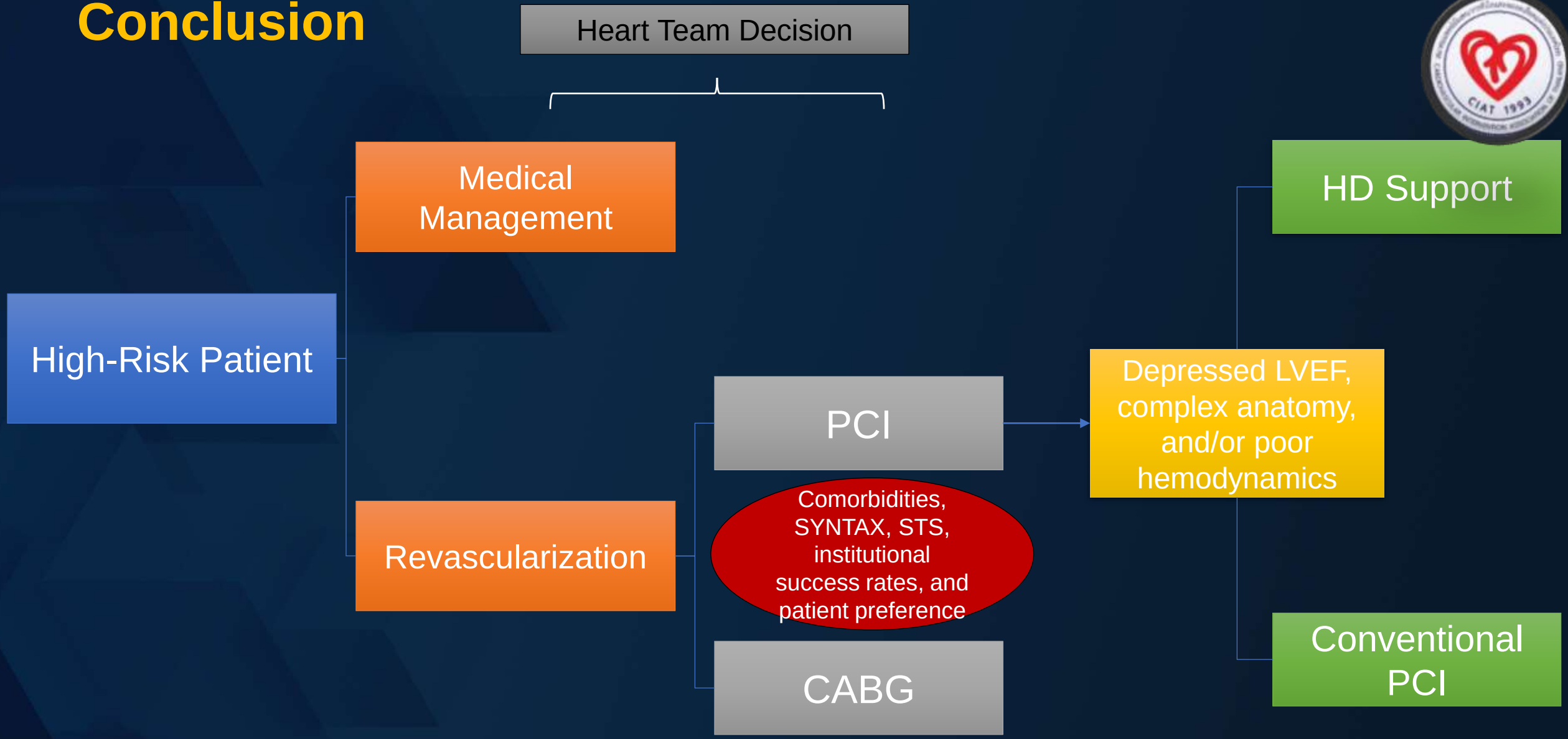


After procedure

- contrast 100 ml
- 80 minutes procedure time
- off IABP 6 hr after PCI
- Off ET tube 24 hr later
- D/C 3 days after PCI
- Improve symptoms , No cheat pain
- Follow up regular at CHF clinic without readmission for 6 months

  Improve LVEF to 42 %

Conclusion



Approch to CHIP case in my center

Thank you for your attention