



# PCI in severe left main and triple vessels disease with mechanical supports

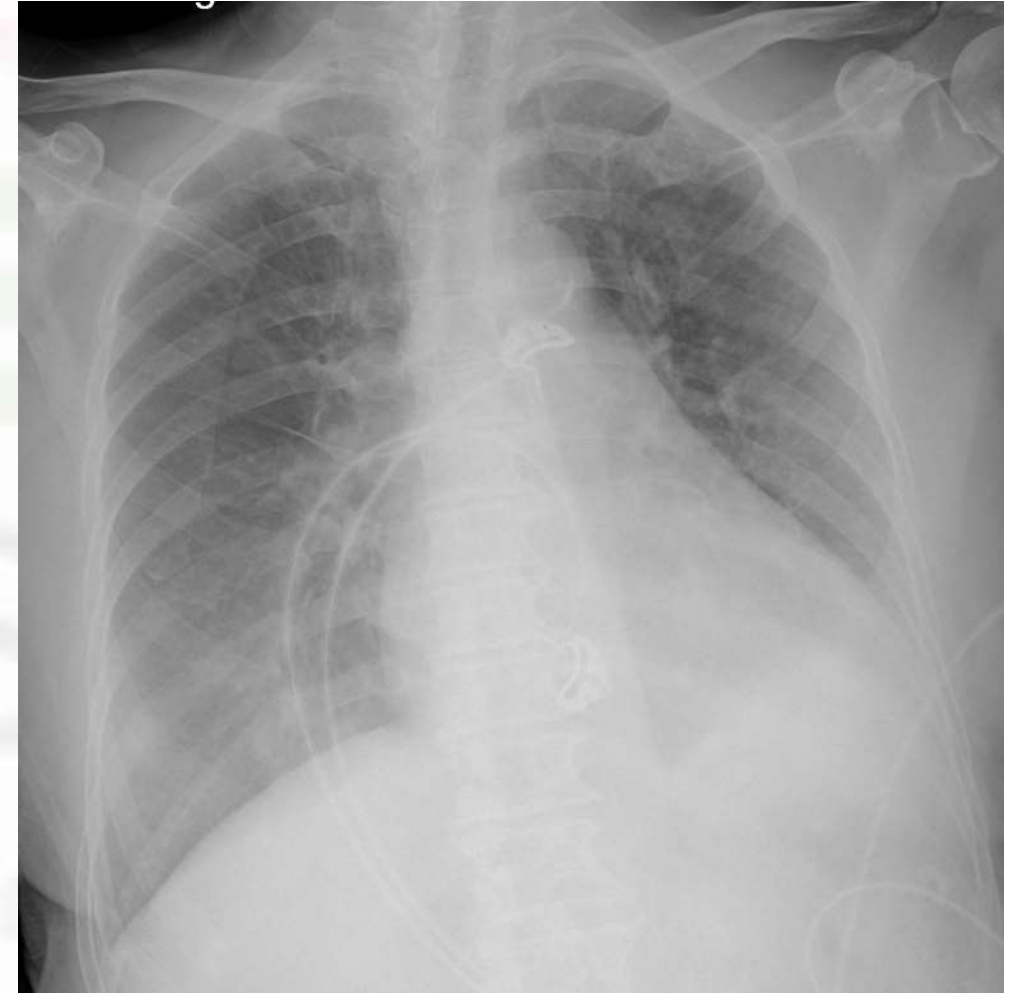
29<sup>th</sup> Nov 2019

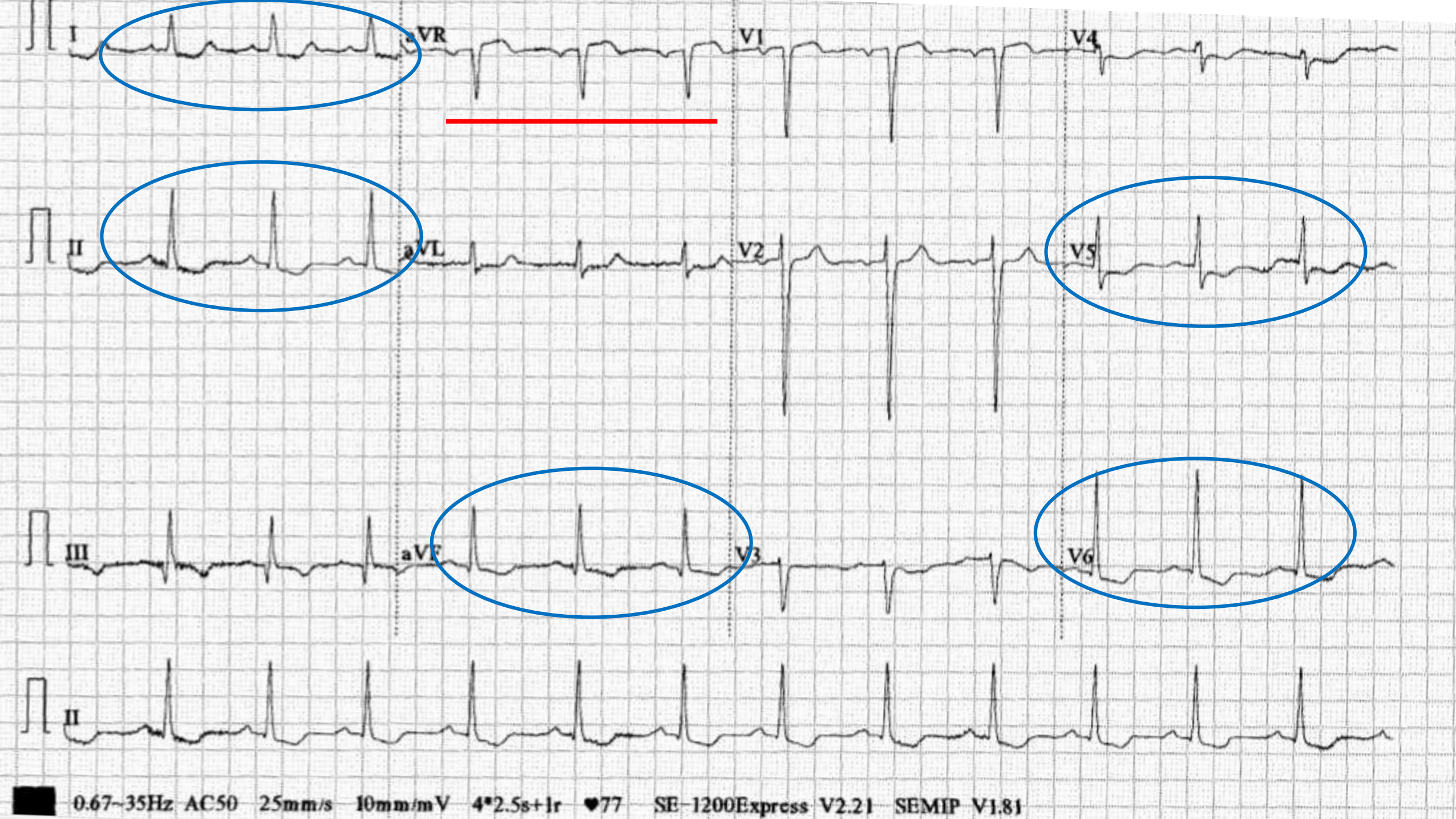
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# Case Presentation

- 81 year-old female
- History of DM, HT, hyperlipidaemia
- Admitted on 6/17/2019 for chest pain and SOB
- P/E: raised JVP, bilateral lung crackles
- CXR: pulmonary congestion
- hsTnI 24950ng/L







PHILIPS

MI 1.2  
TIS 0.6

ECHO  
S5-1  
36 Hz  
14.0cm

2D

HGen  
Gn 78  
C 50  
3/3/2  
75 mm/s



P R  
1.6 3.2

PHILIPS

MI 1.2  
TIS 0.6

ECHO  
S5-1  
36 Hz  
14.0cm

2D

HGen  
Gn 78  
C 50  
3/3/2  
75 mm/s



P R  
1.6 3.2

PHILIPS

MI 1.2  
TIS 0.6

ECHO  
S5-1  
36 Hz  
14.0cm

2D

HGen  
Gn 78  
C 50  
3/3/2  
75 mm/s



P R  
1.6 3.2

PHILIPS

MI 0.9  
TIS 1.4

ECHO  
S5-1  
10 Hz  
14.0cm

2D

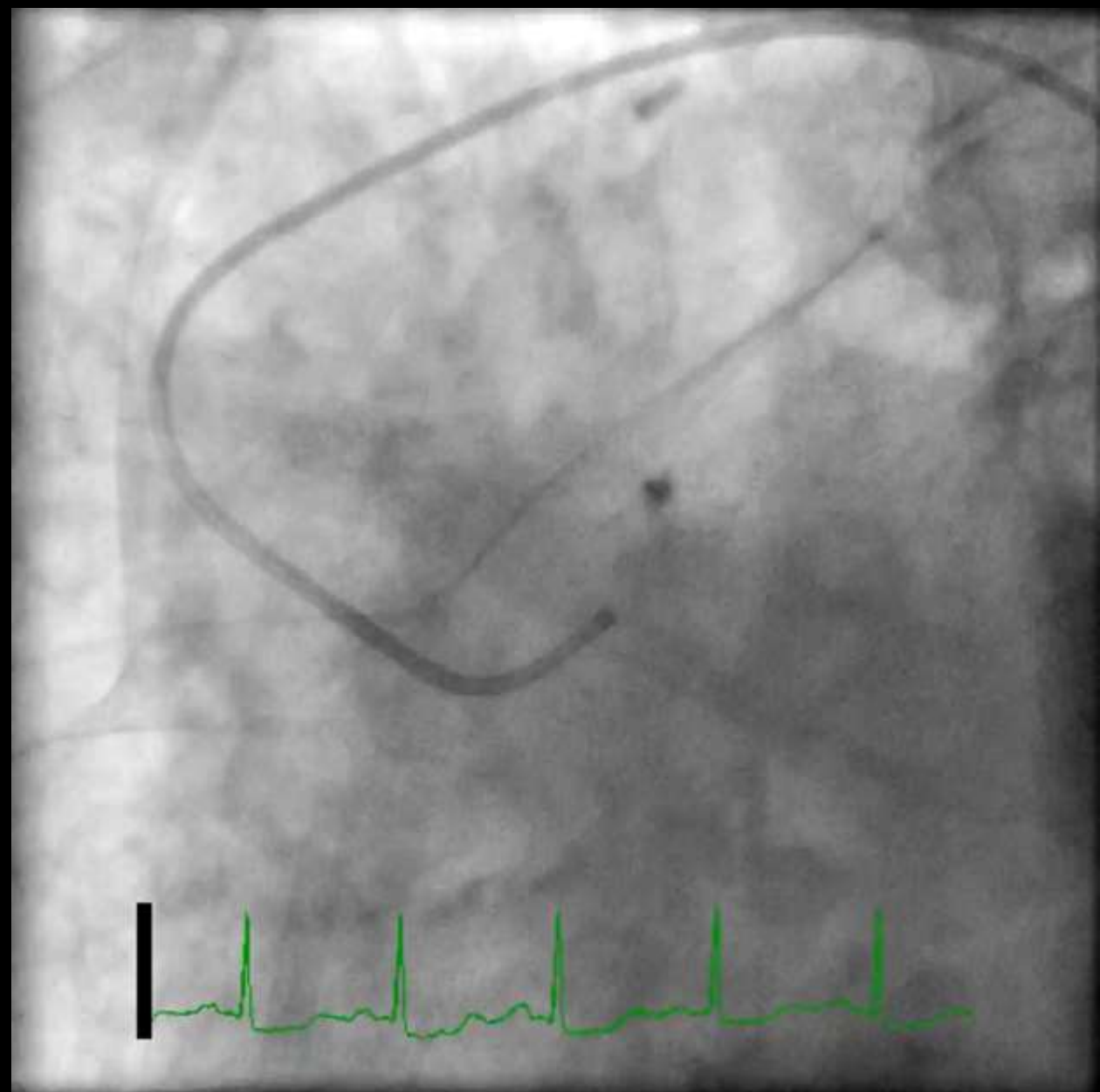
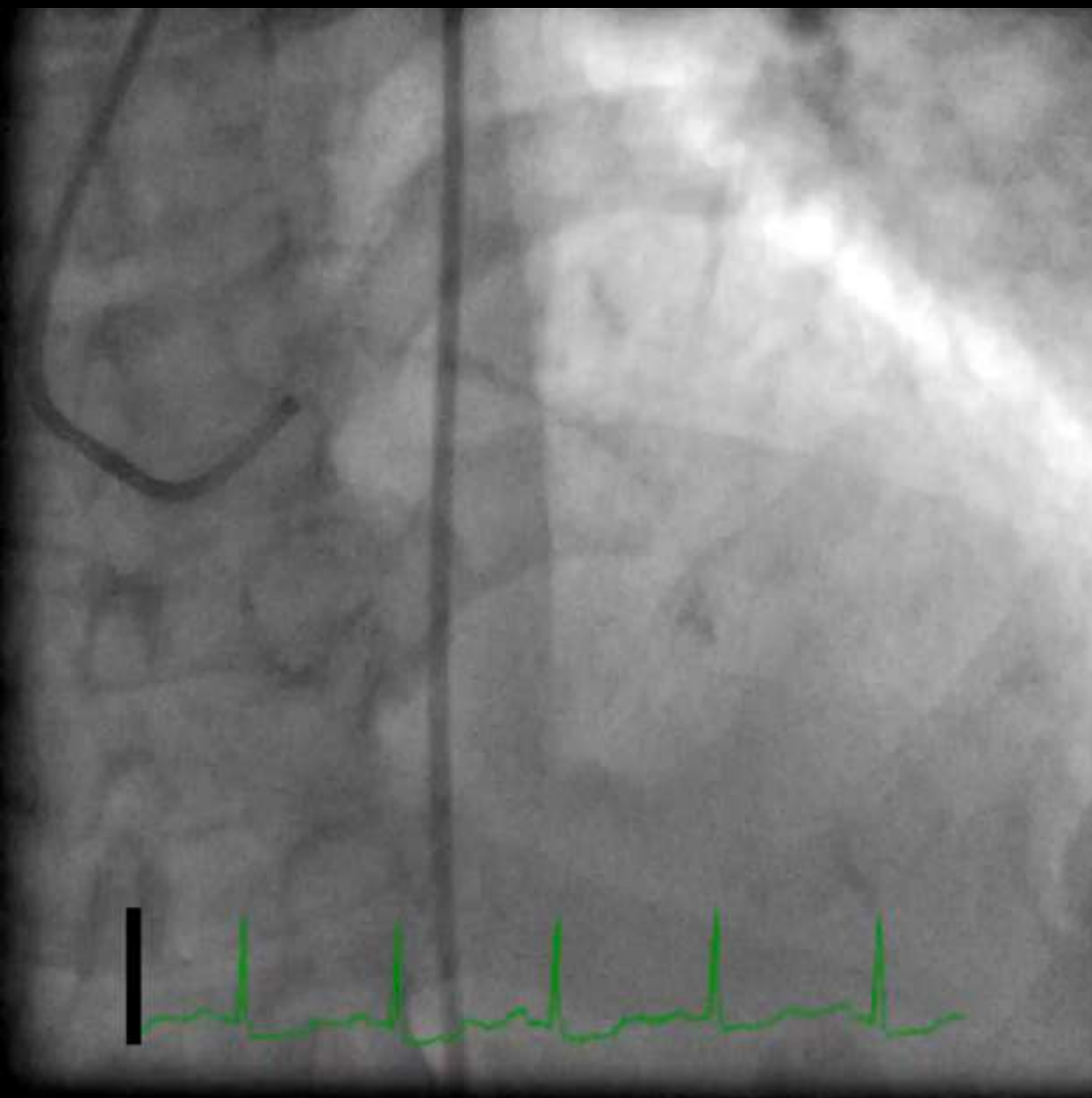
HGen  
Gn 78  
C 50  
3/3/0  
75 mm/s

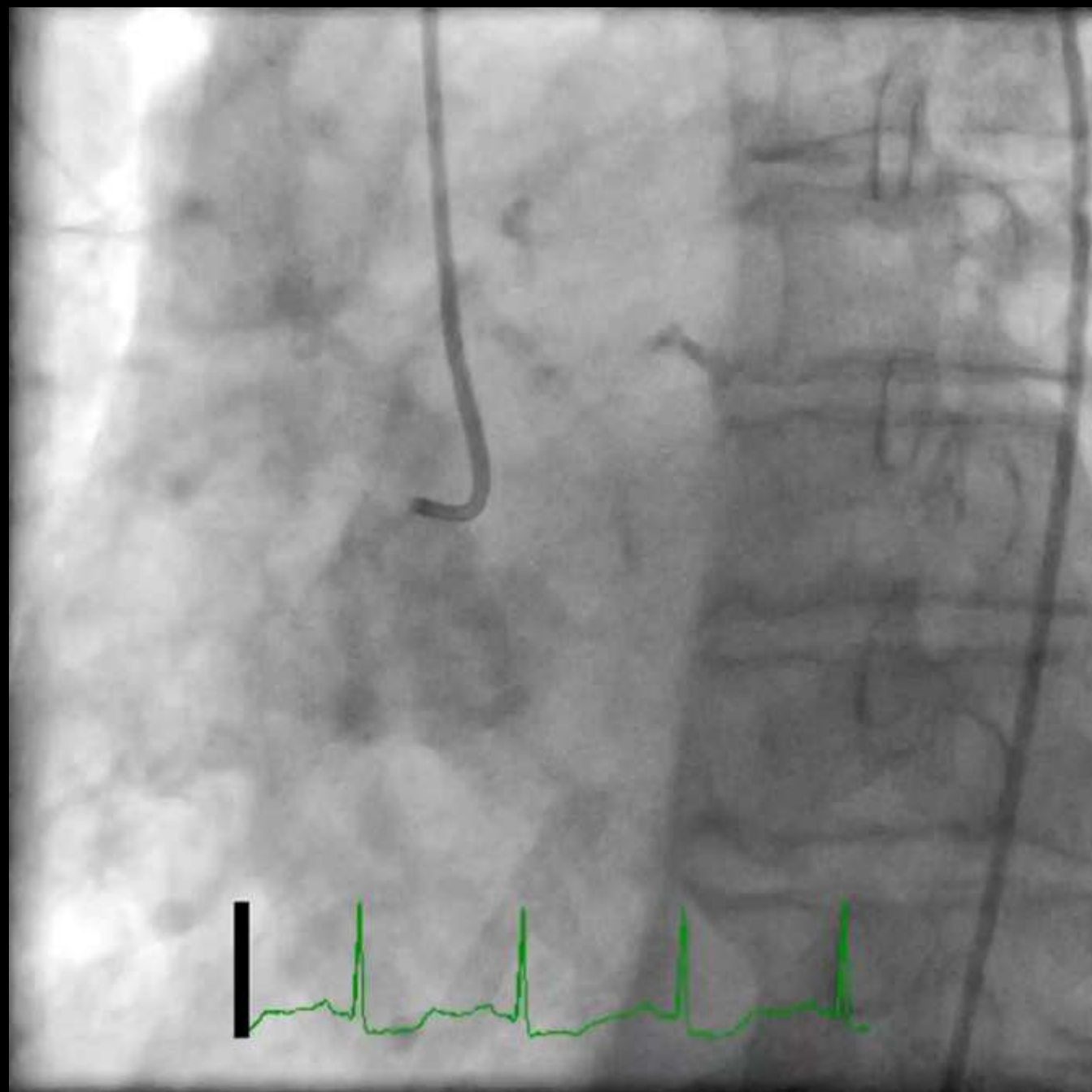
Color  
2.5 MHz  
Gn 60  
4/5/0  
Filtr High



P R  
1.6 3.2

+60  
cm/s  
-60



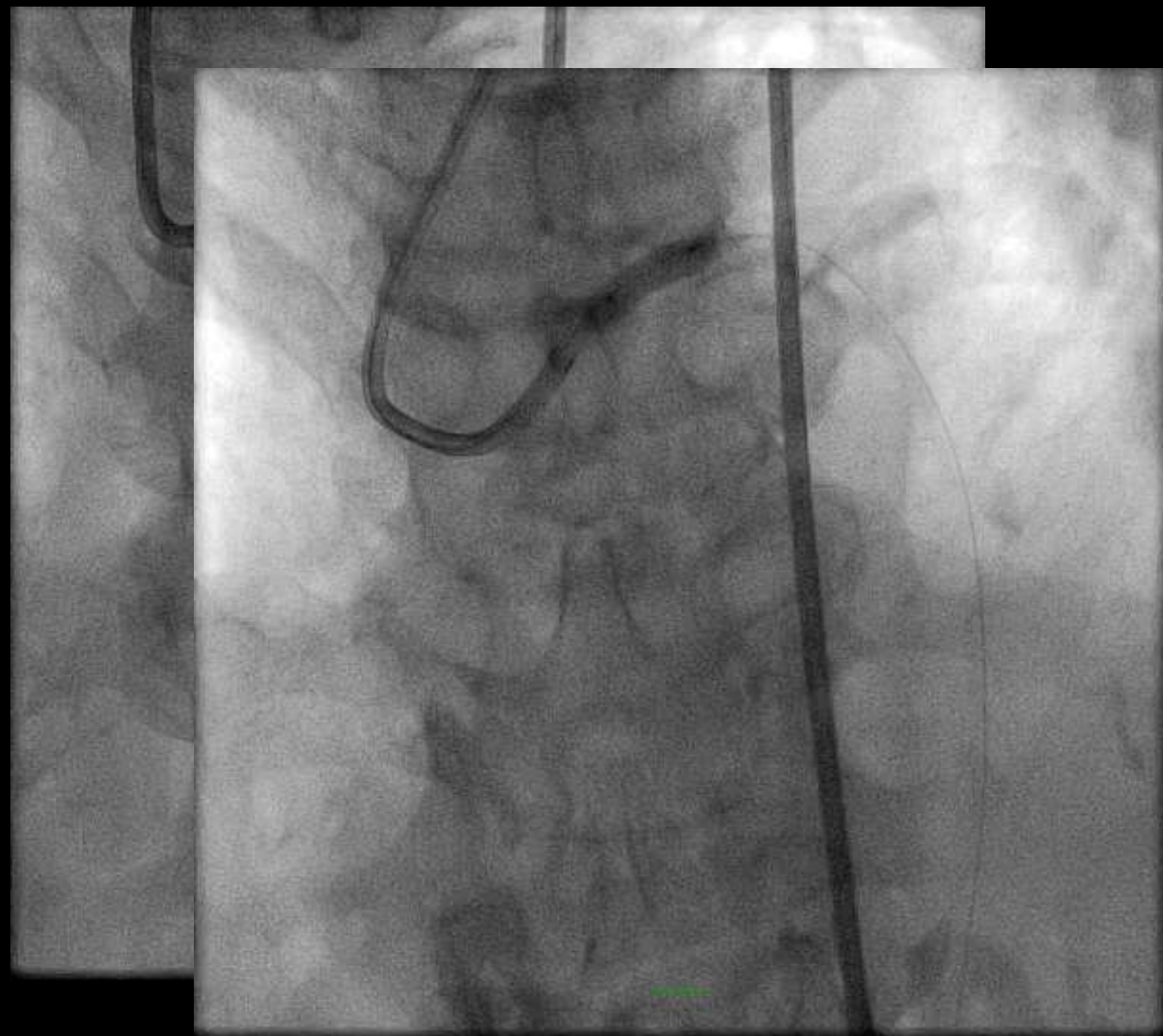
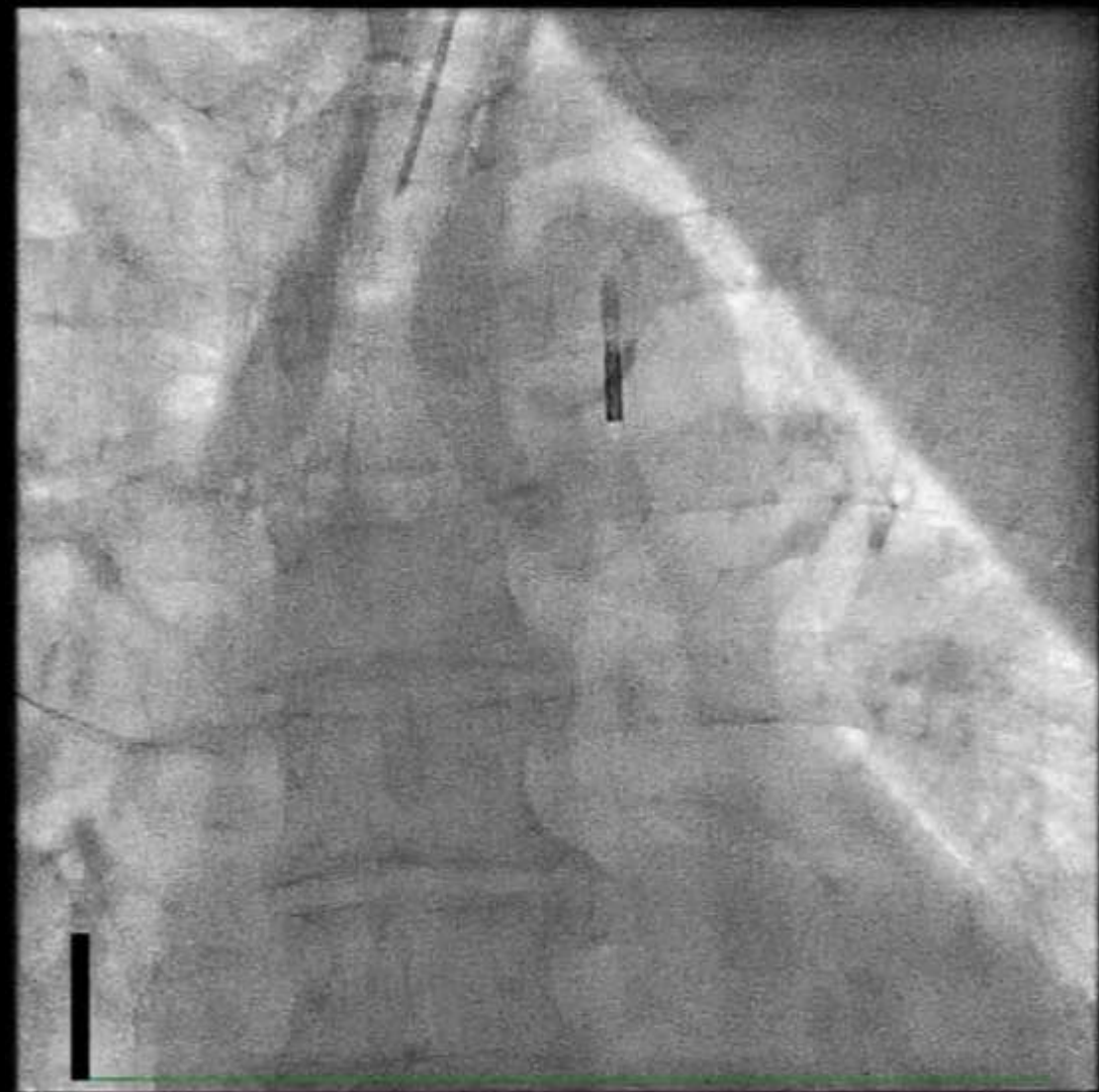


# Case Presentation

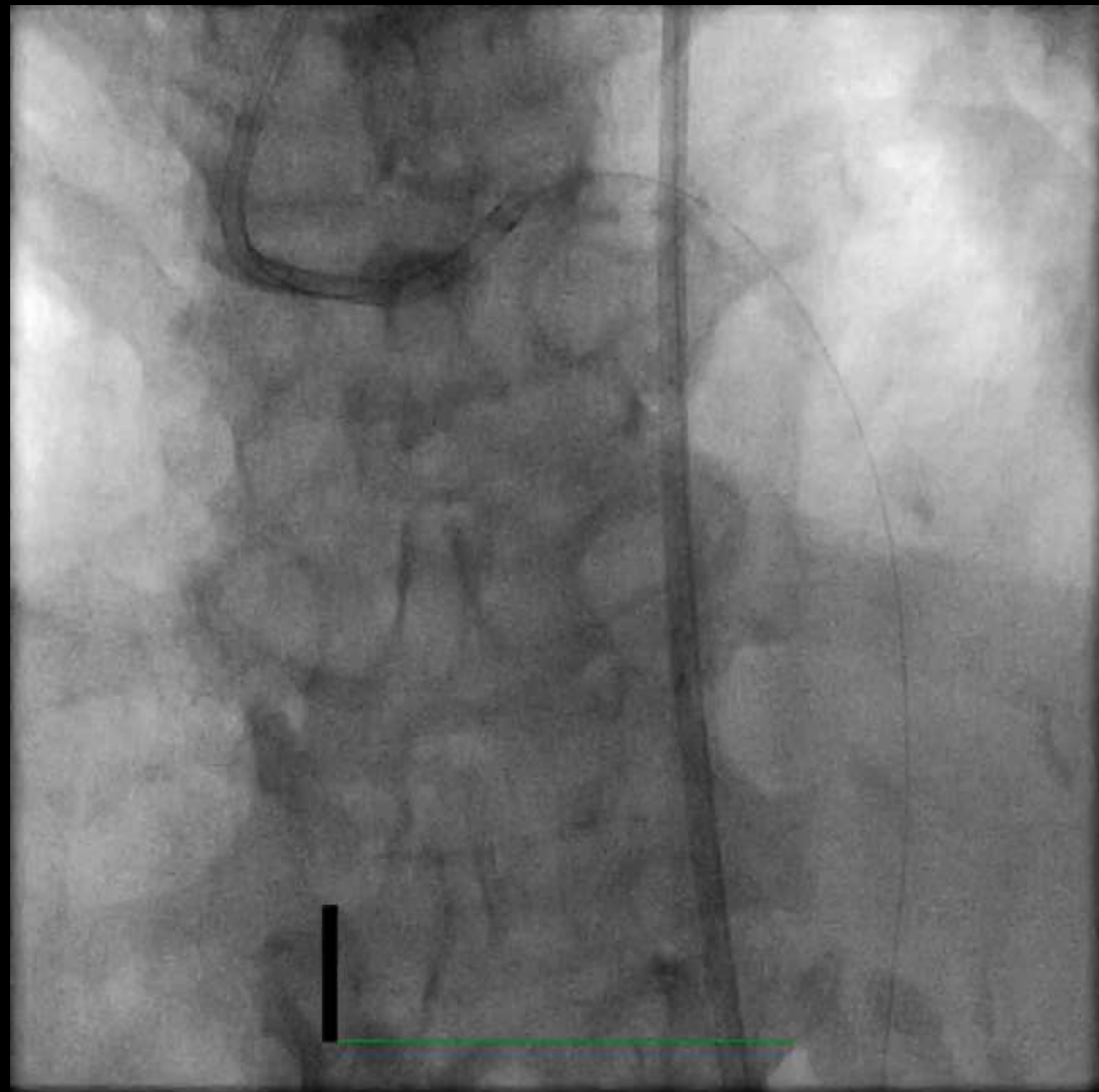
- Syntax score = 39
- Initially planned in-patient CABG
- Cardiogenic shock and APO again 2 days after coroangiogram
- Required mechanical ventilation and high dose inotropic support
- Surgeon – too high surgical risk

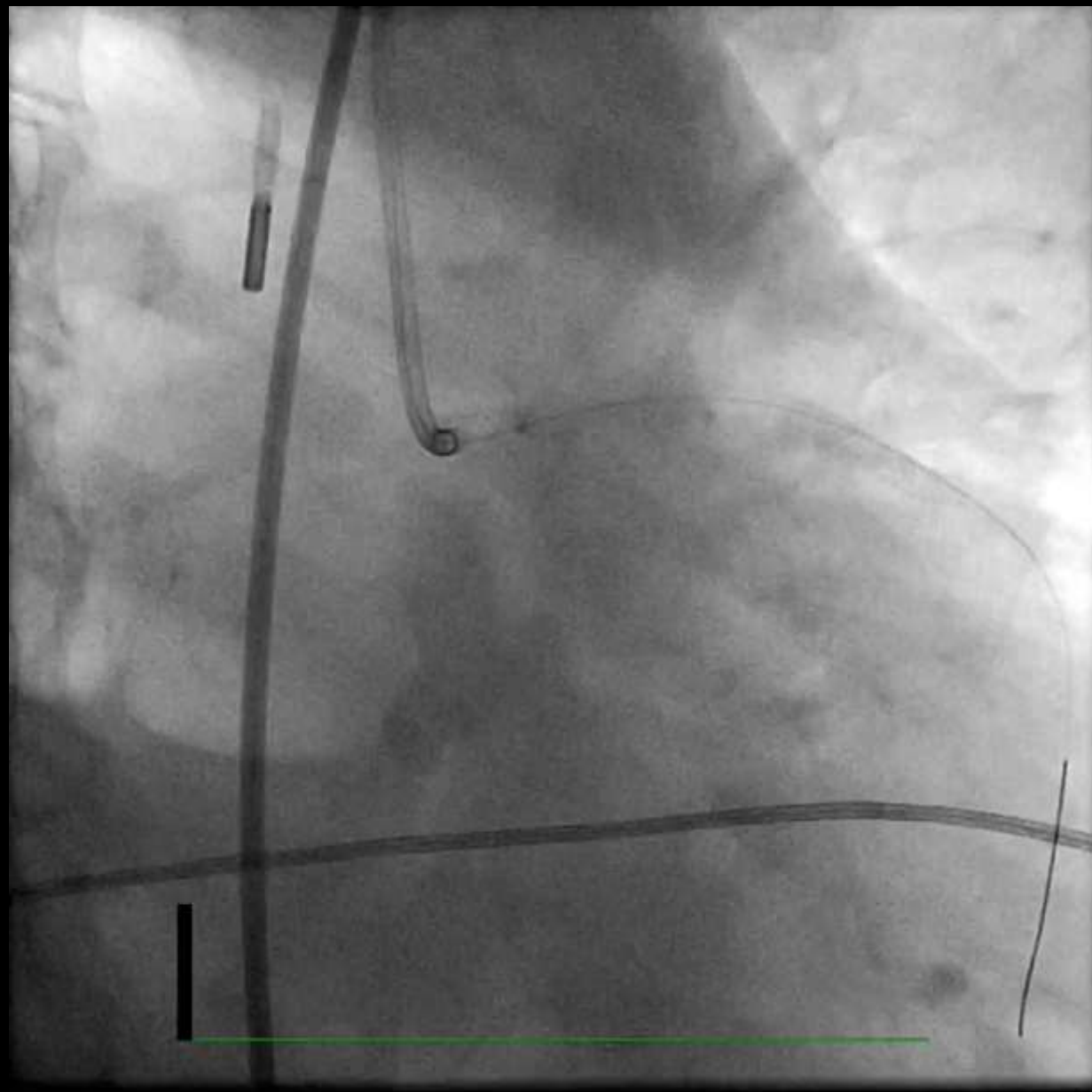
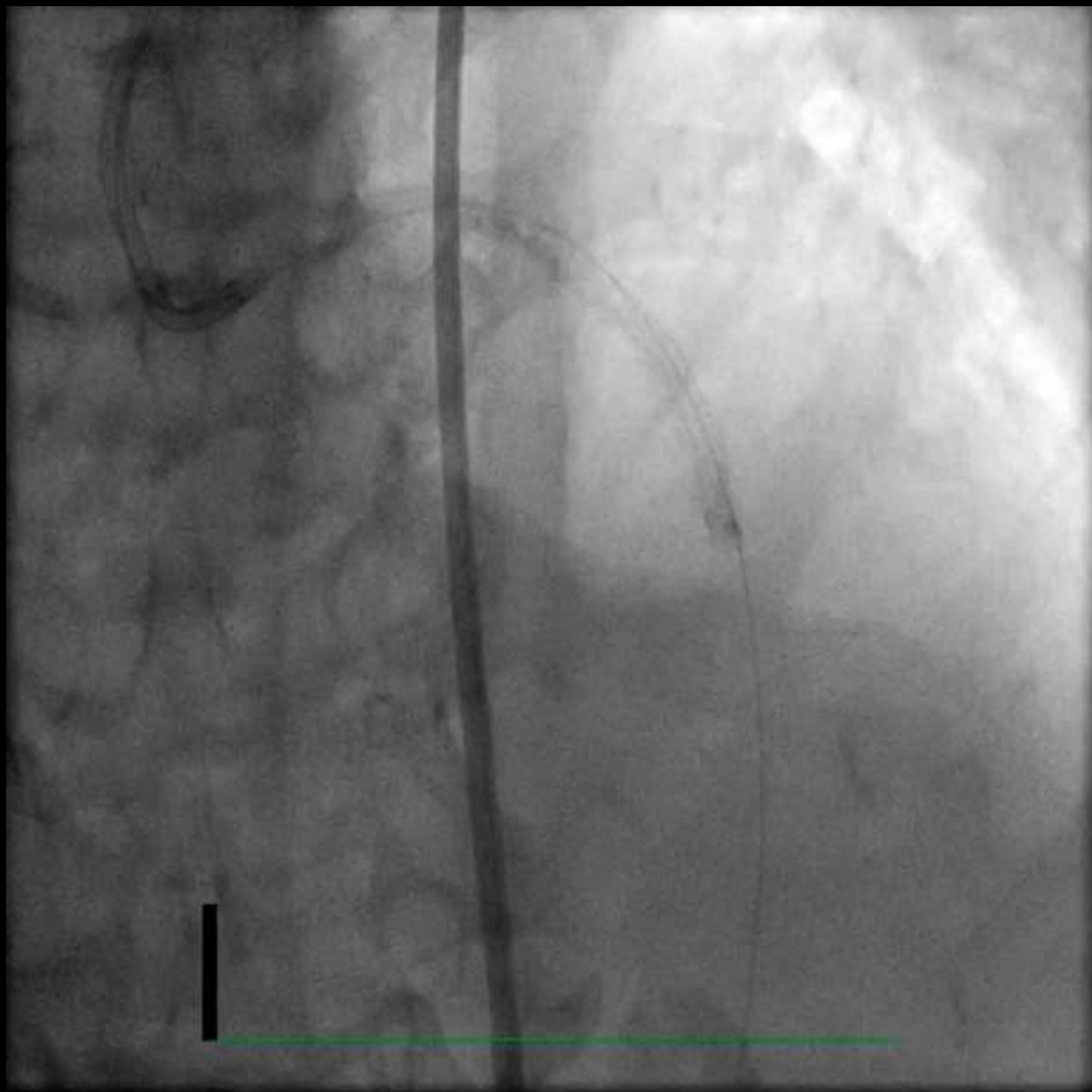






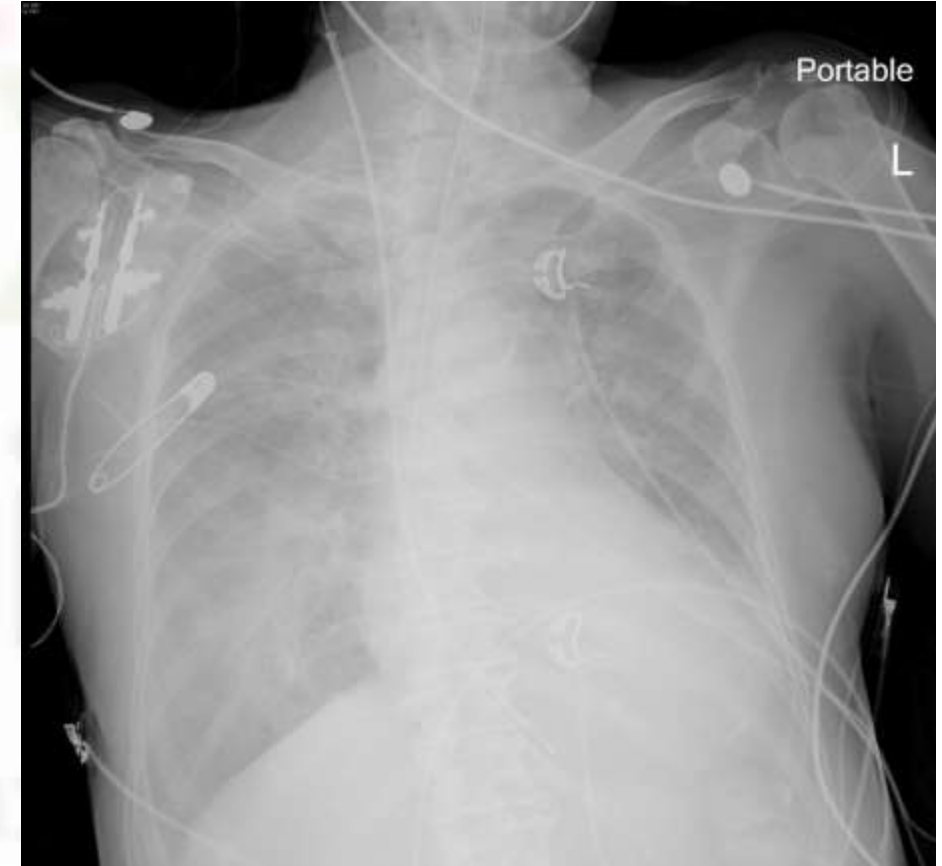




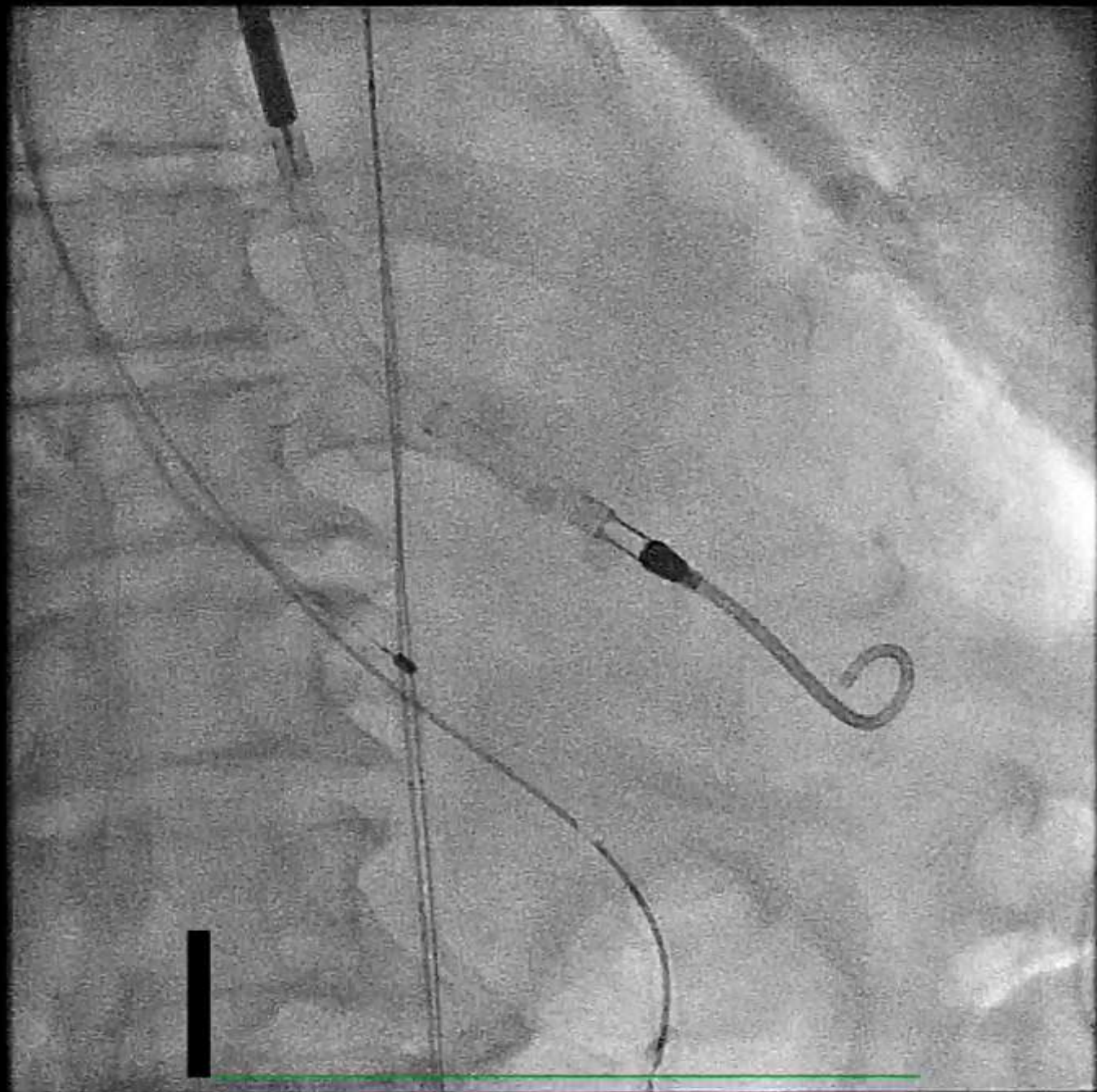


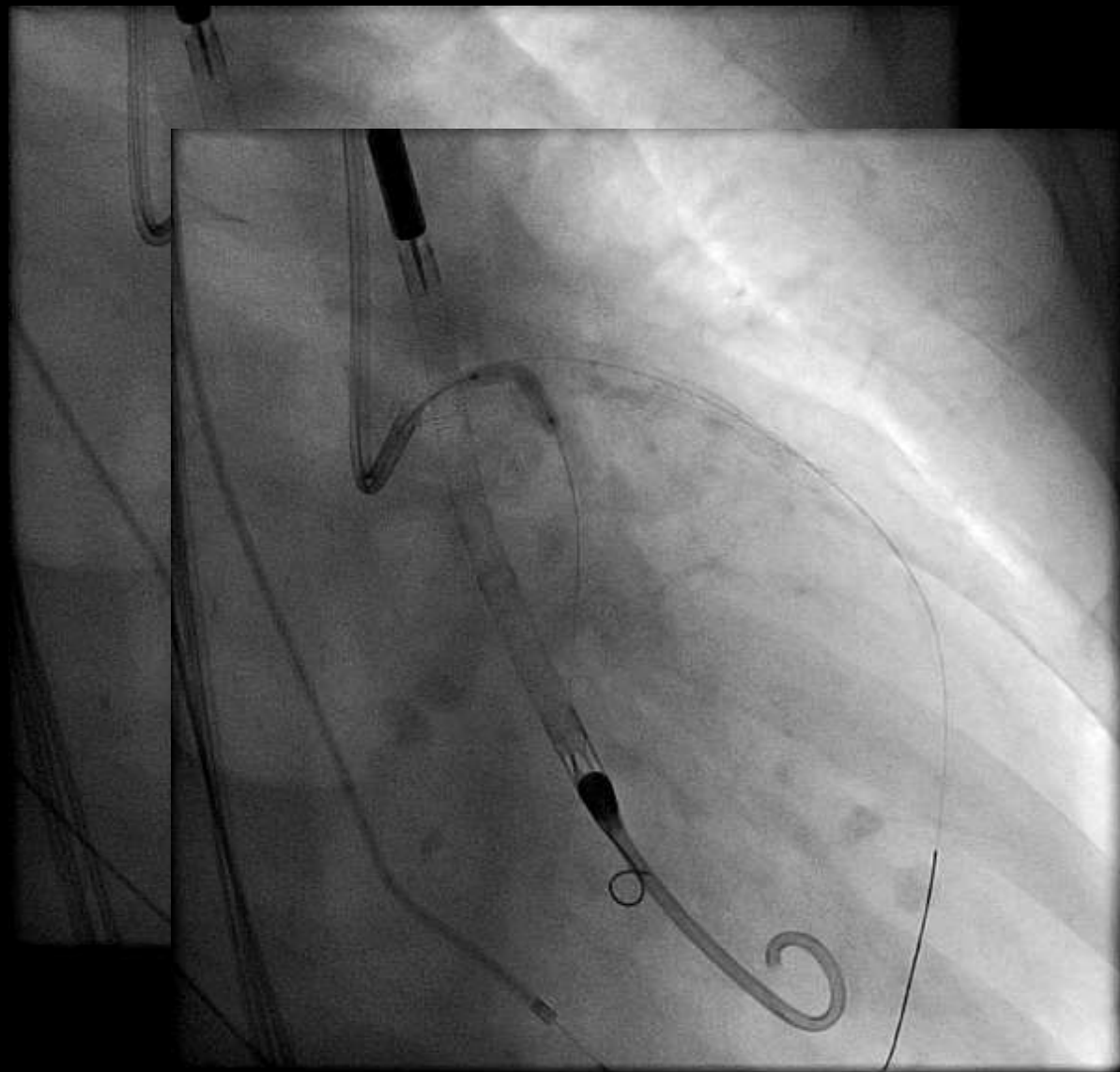
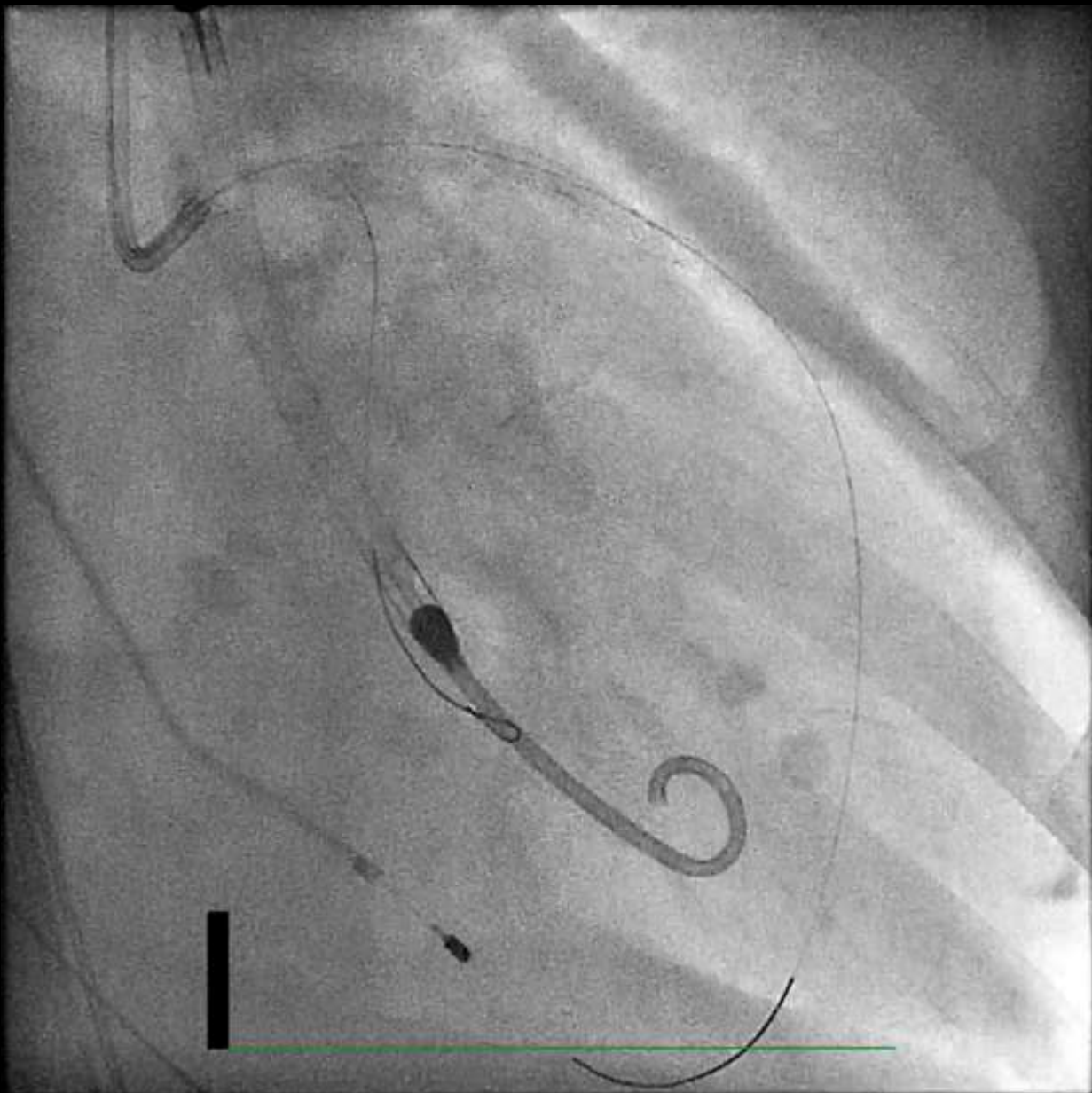
# Progress after PCI

- Initial improvement
  - Able to wean off ventilator and IABP over a few days
- Worsening of heart failure again
  - Inotropic support
  - Acute kidney injury / metabolic acidosis
  - Ventricular standstill required temporary pacing
- Impella support for PCI to LM bifurcation









# Haemodynamic tracings



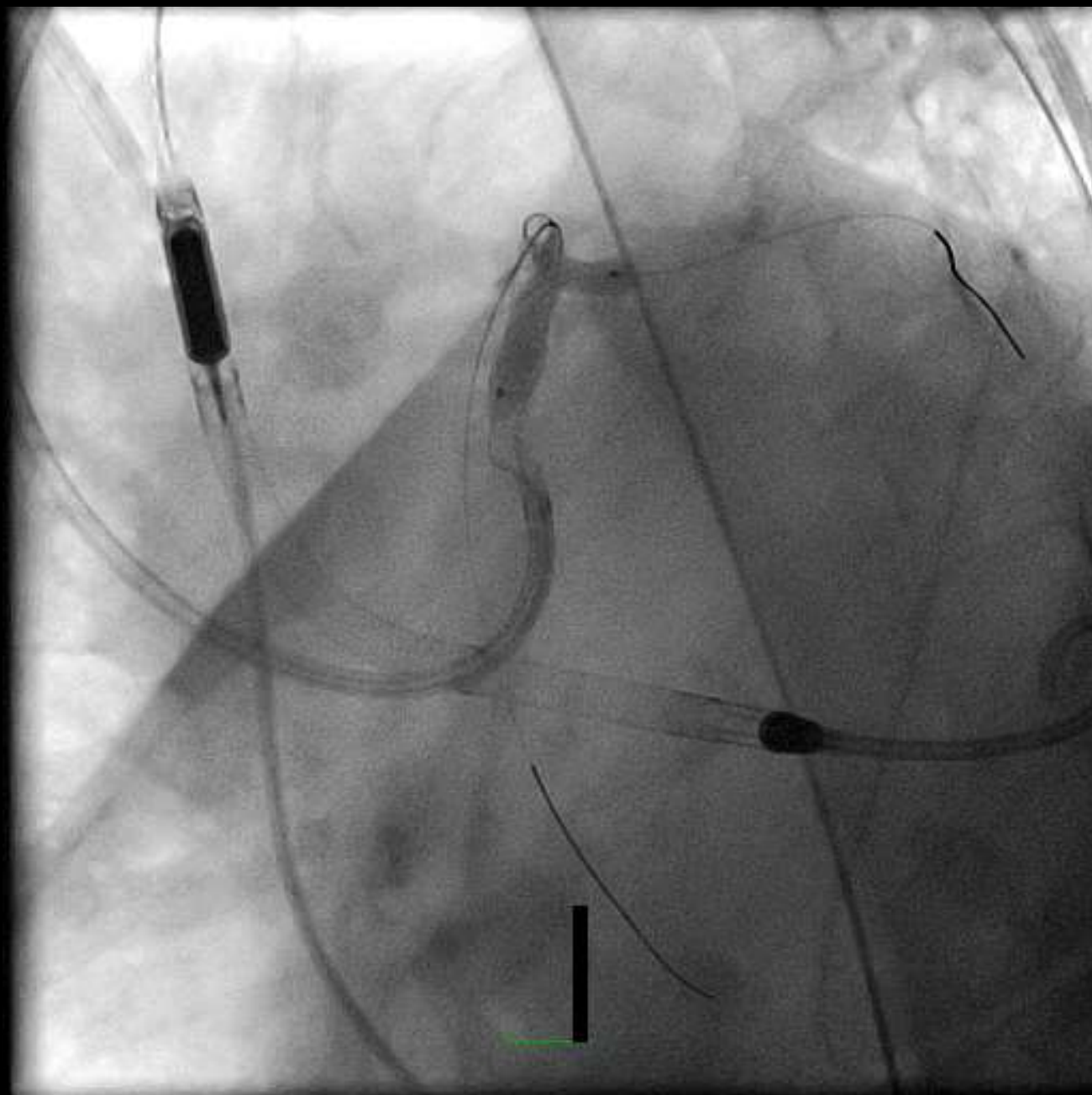
Before PCI

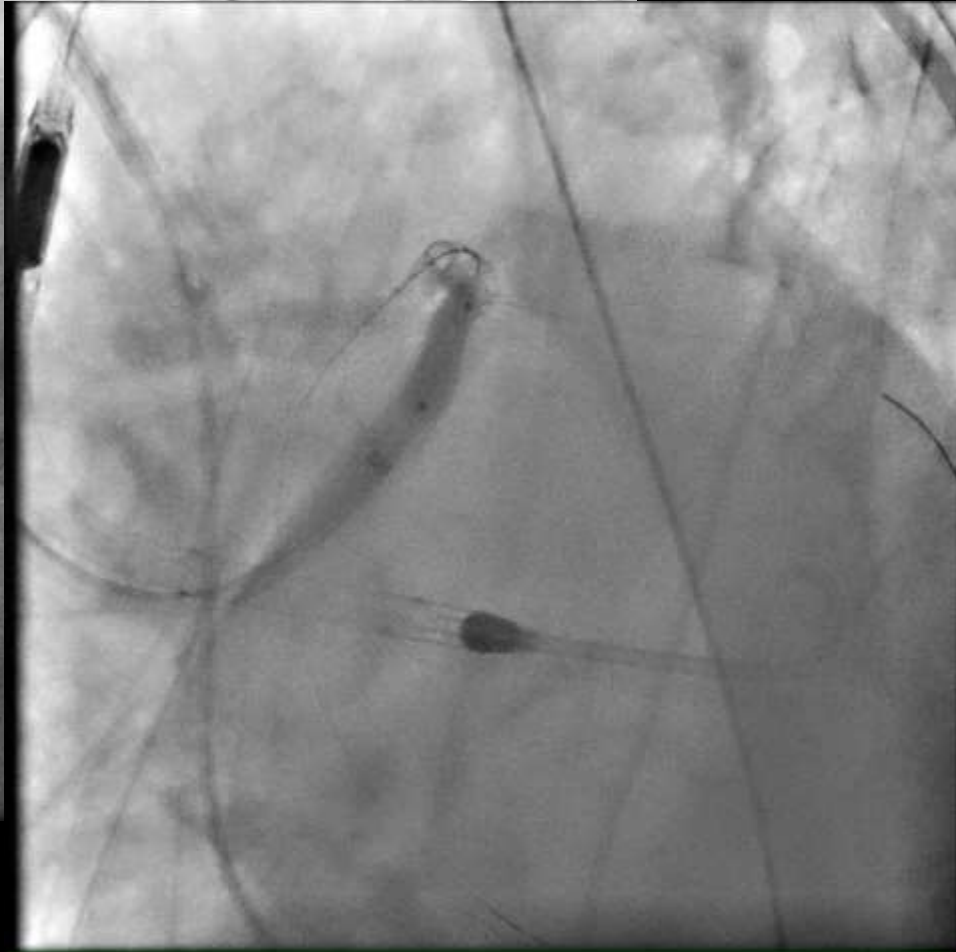
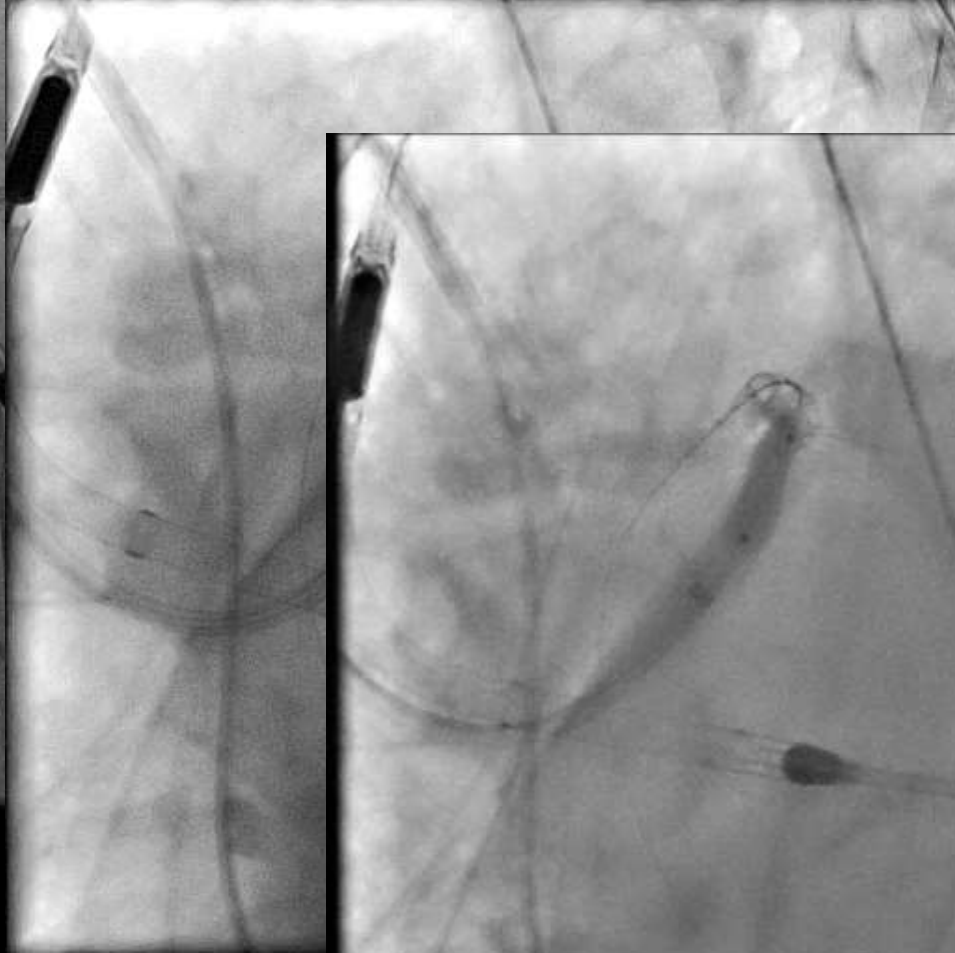
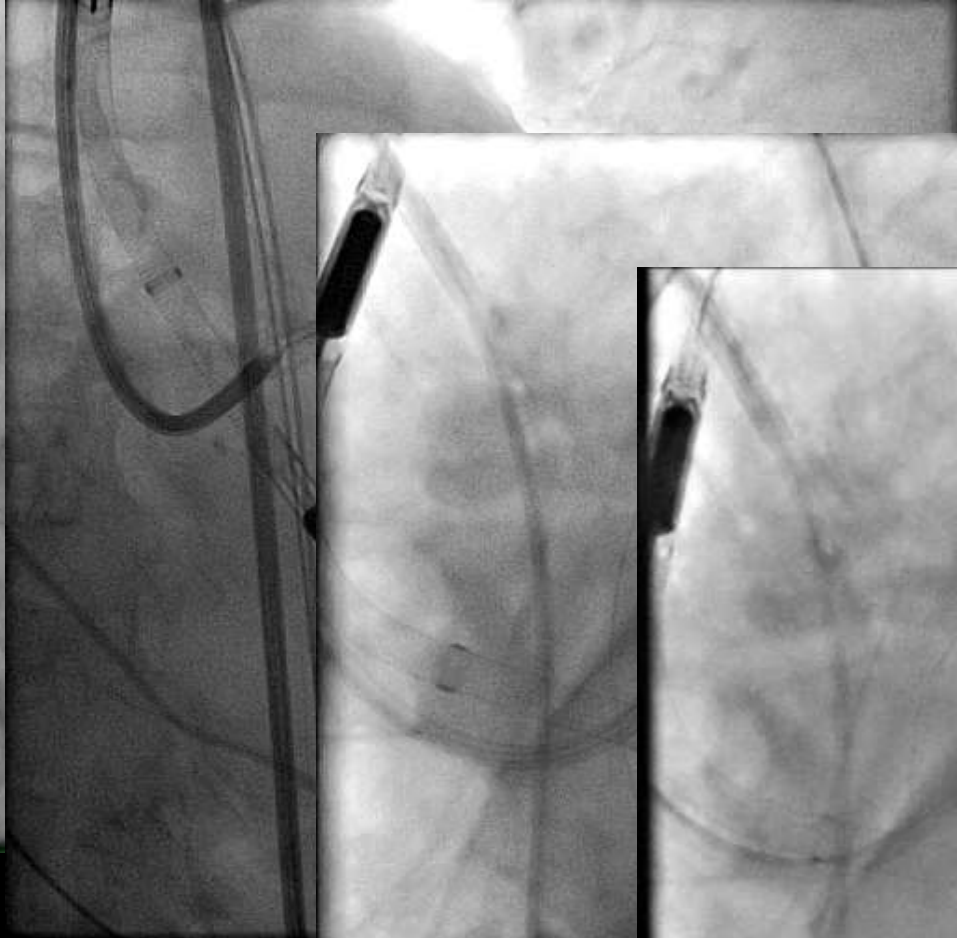
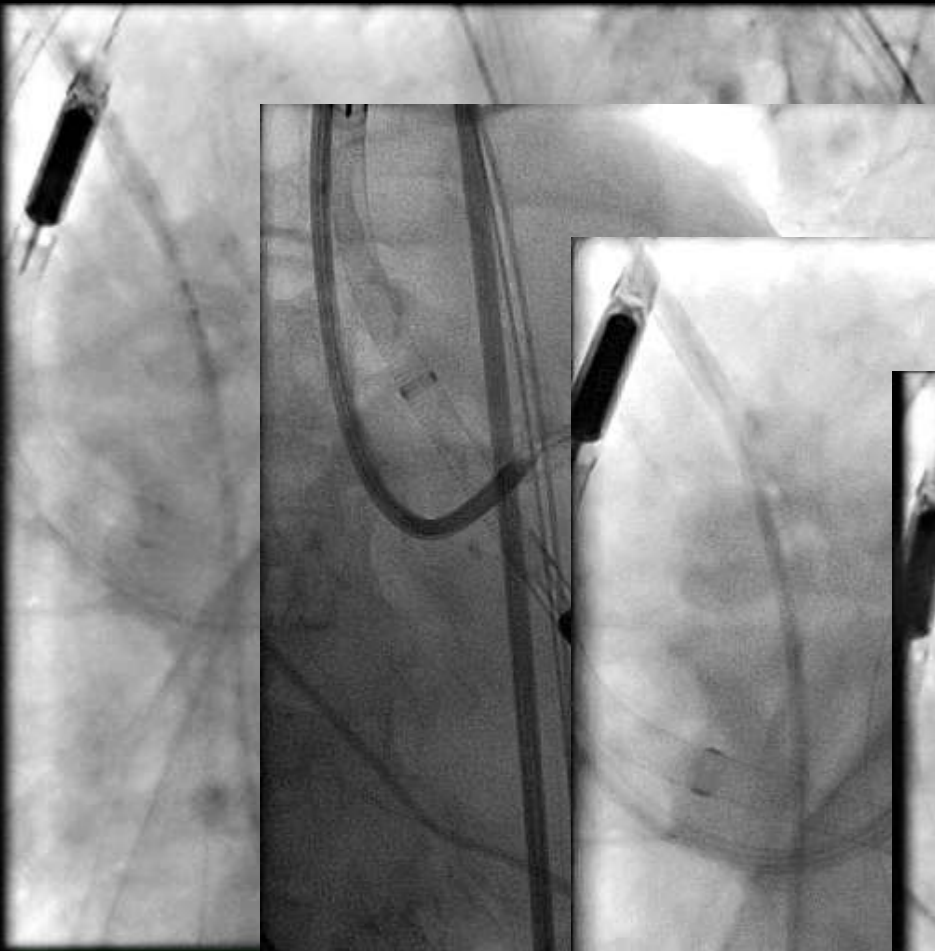


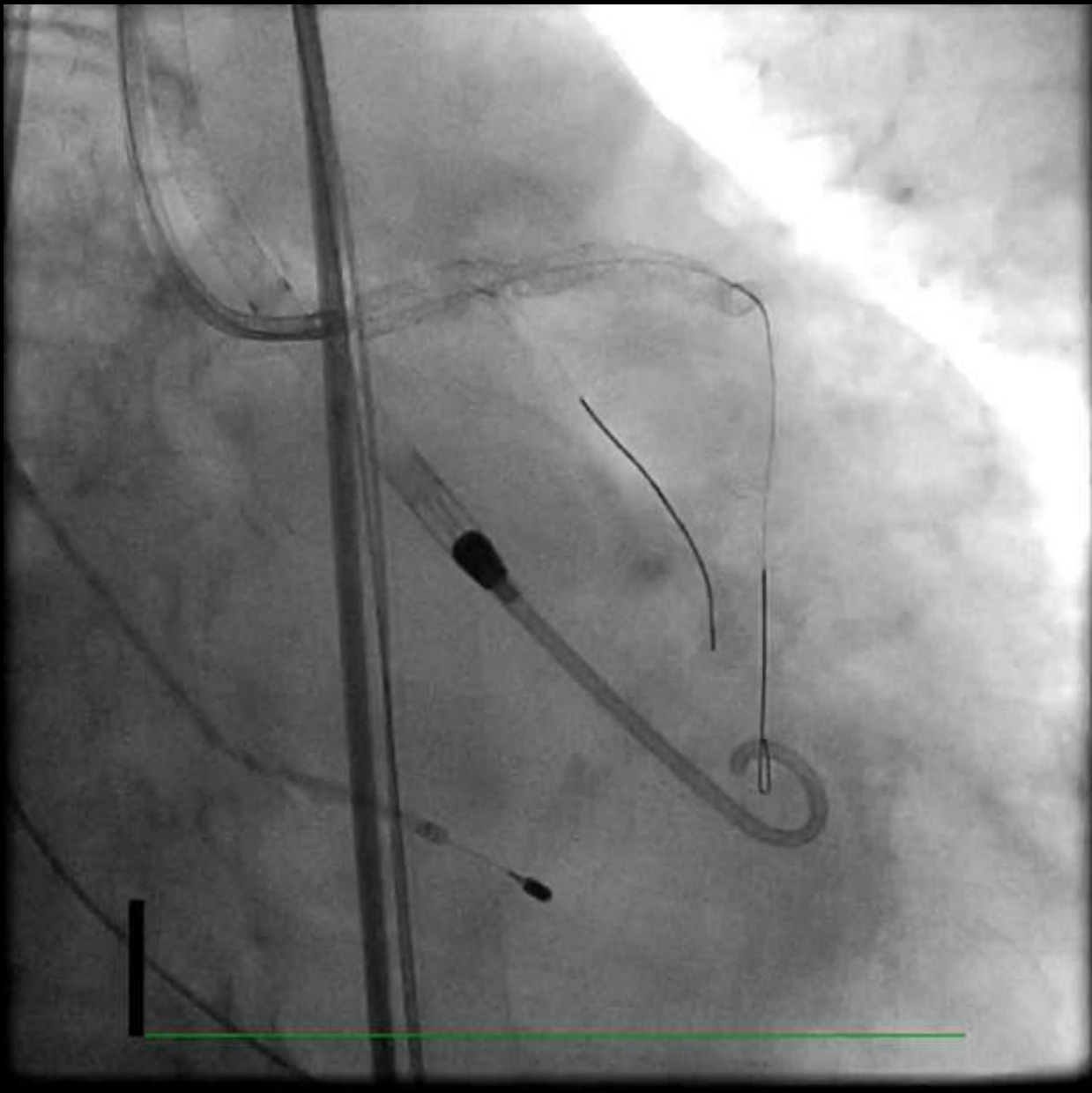
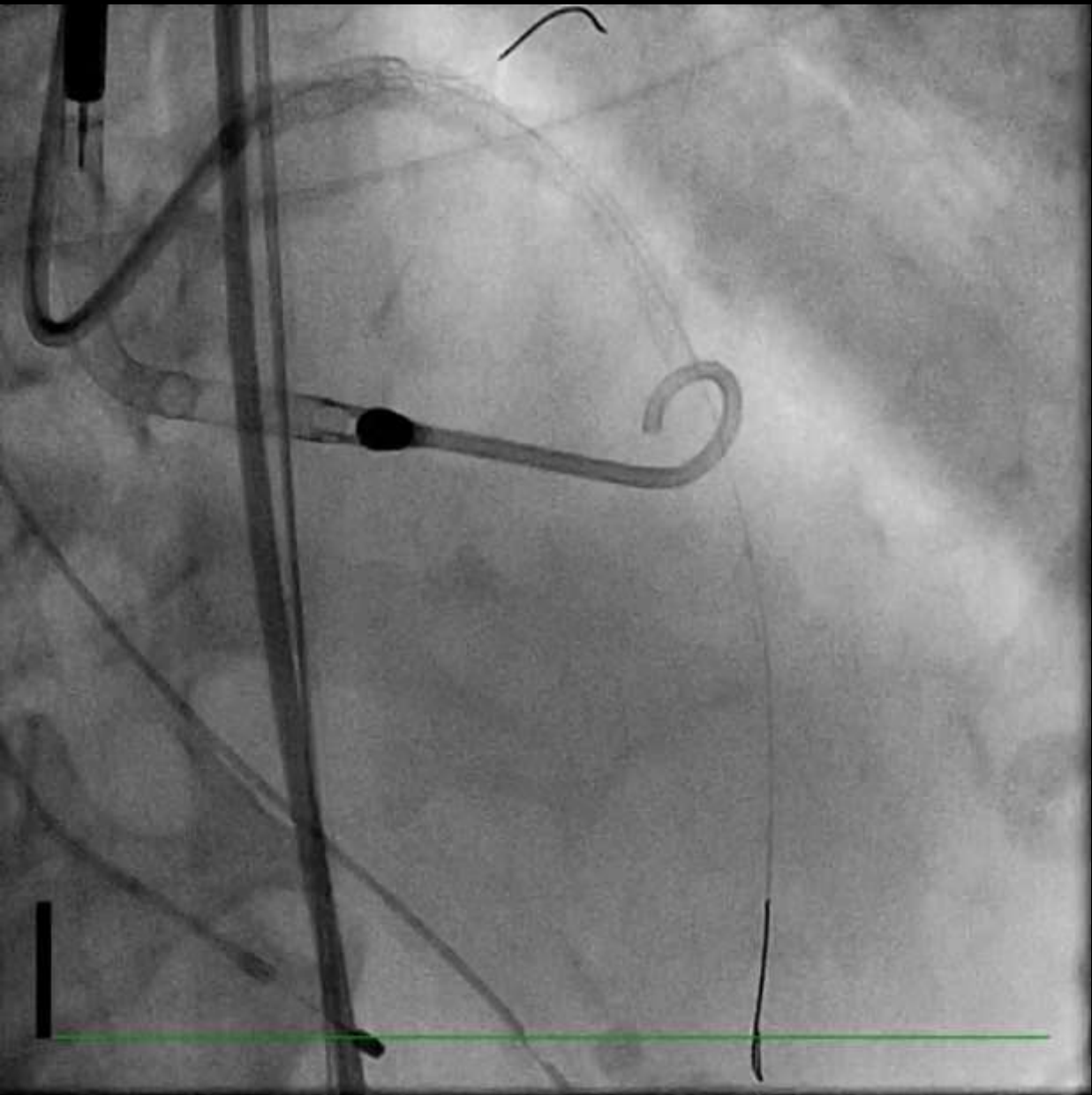
During POBA to LCx













# Outcome

- Wean off inotropic support / BiPAP / O2
- Wean off Impella on next day of PCI
- Out of heart failure
- Chest pain free
- Renal function normalized
- Cardiac rehab
- Transfer out of CCU to rehabilitation bed

# Discussion Points

- Culprit of the deterioration
  - Ostial LM and LAD lesions
  - Also supply the retrograde to RCA
- Aimed at restoring the LM / LAD blood flow during the 1<sup>st</sup> PCI
- Performing LM bifurcation stenting at that juncture
  - Too high risk
  - Hence decided to leave it to a 2<sup>nd</sup> stage

# Discussion Points

- 2 forms of mechanical support for cardiogenic shock
  - Intra-aortic balloon pump (IABP), and
  - Impella heart pump
- Pros and cons
  - IABP - readily available in our lab and could be inserted via a 7F sheath
  - Impella - better circulatory support when the patient develop cardiac arrest transiently during the procedure



# Conclusions

- A very high-risk case
  - severe LM and TVD
  - Cardiogenic shock and respiratory failure
- PCI in stages
- IABP vs Impella