

Rescue Management of Complication During LAD CTO Intervention

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Division of cardiology

China Medical University Hospital



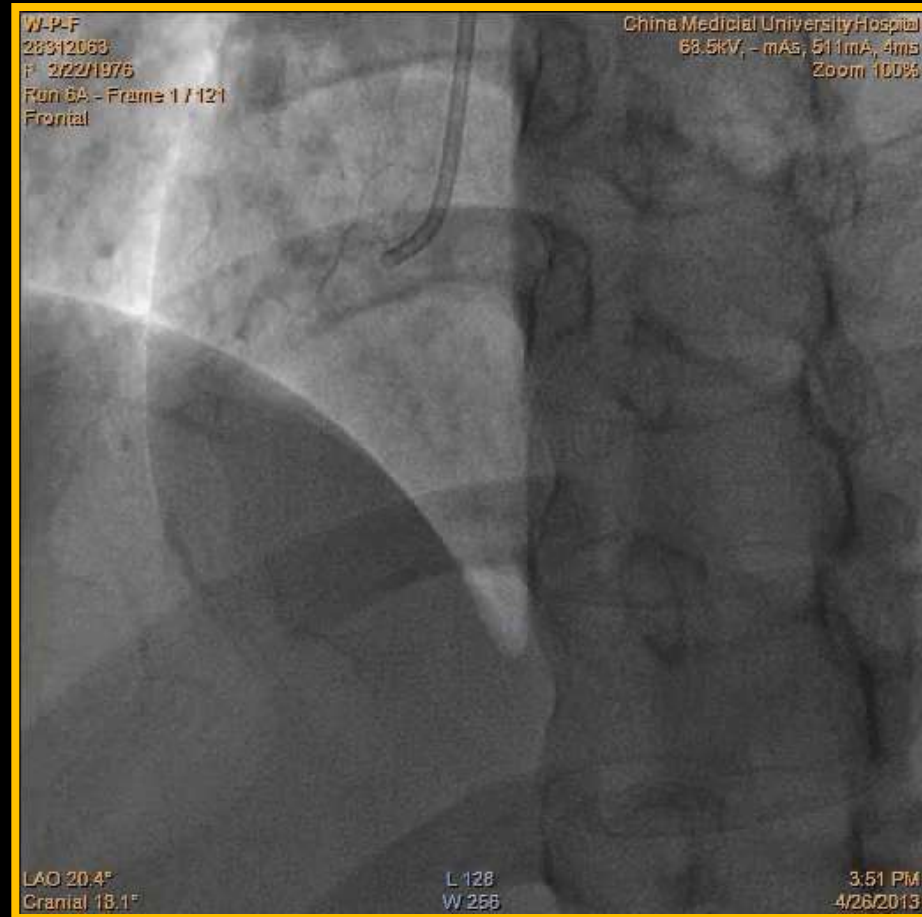
Brief History

- 38y/o female heavy smoker with SLE (Dx at 17y) & hyperlipidemia
- 2013 april, she suffered from acute chest pain with cold sweating. She visited CMUH
- Drug history: Cyclophosphamide, Methylprednisolone
- No remarkable family history
- Vital signs:
 - T/P/R 36/47/16 BP 101/68mmHg
- Lab:
 - Cr 0.55mg/dL
 - CPK 557IU/L, CKMB 52ng/mL, Tnl 6.1ng/mL
- Diagnosis: NSTEMI, Killip I

Coronary Angiogram

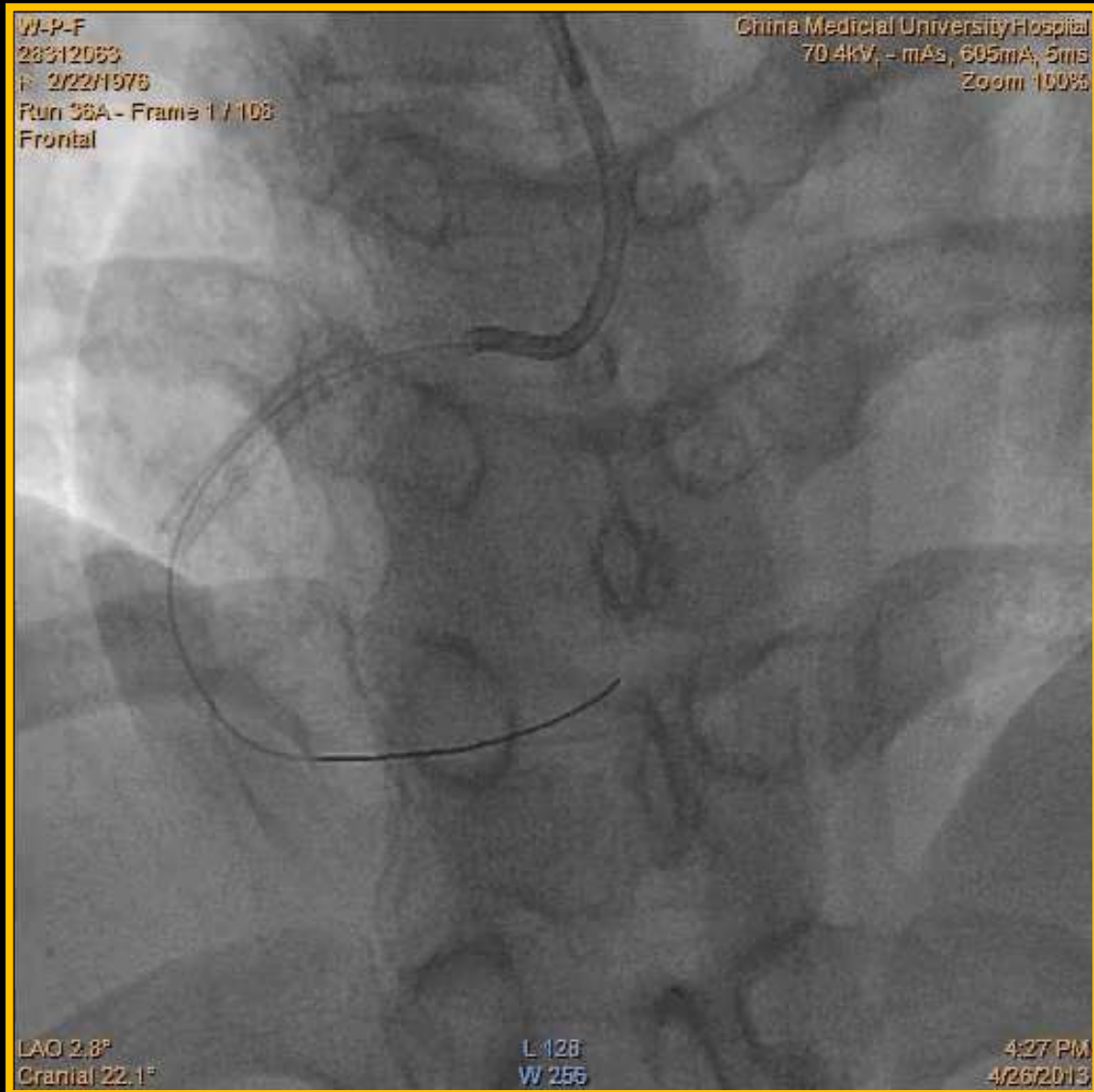


LAO Cranial



LAO Cranial

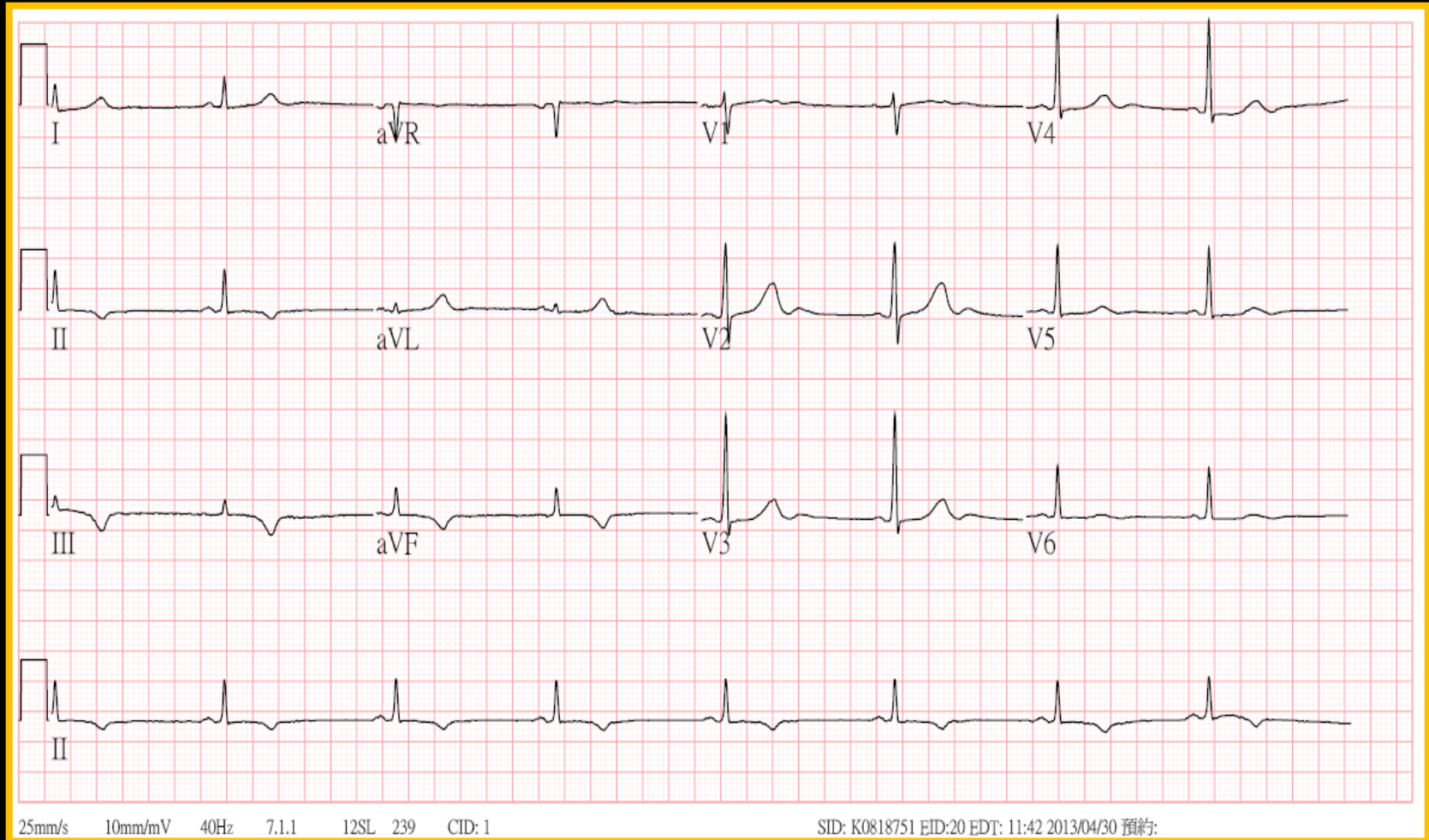
Final Angiogram



LAO Cranial

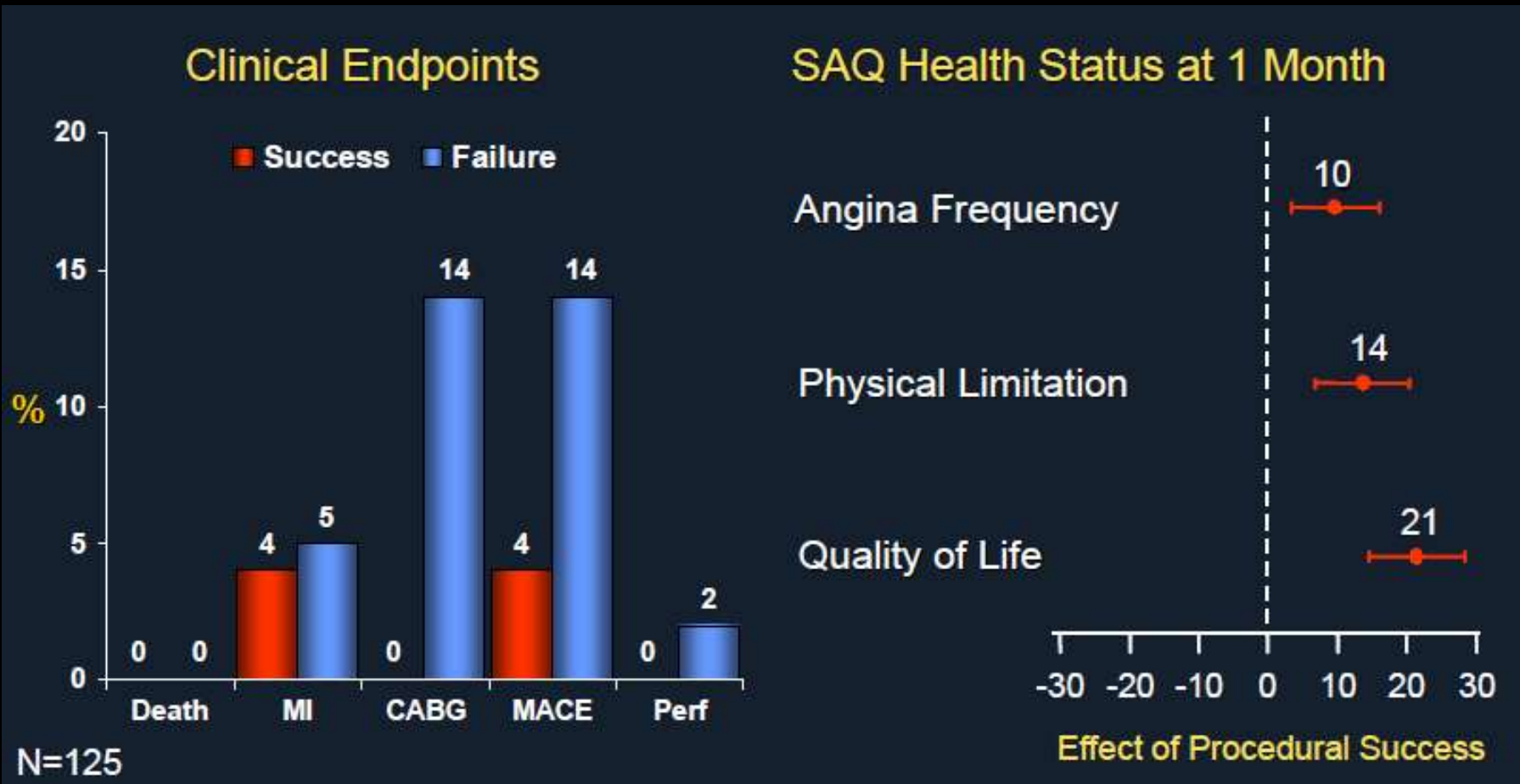
Brief History

- Post Cath EKG:



- **Medication:** Aspirin 100mg, Clopidogrel, Famotidine, Rosuvastatin, Sennosides

Health Status Benefits of Successful CTO Recanalization



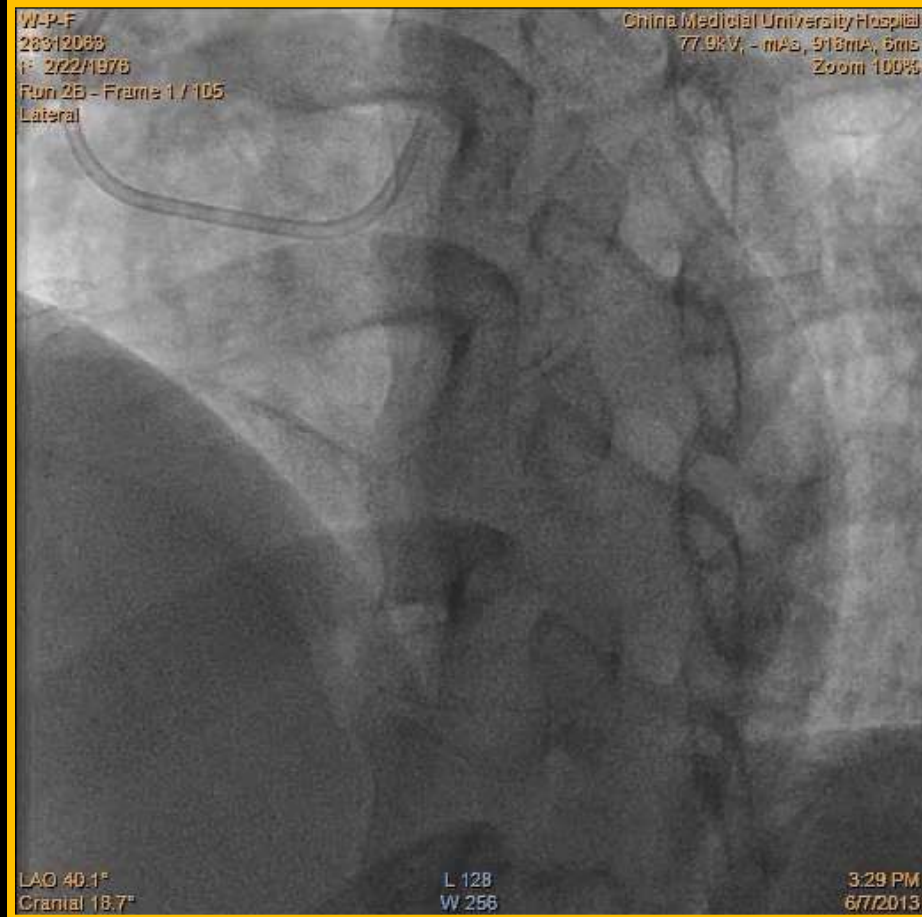
CABG or PCI?? Patient hesitated to receive operation!!

Coronary Angiogram

BP 149/82mmHg, HR 60/min



RAO Caudal



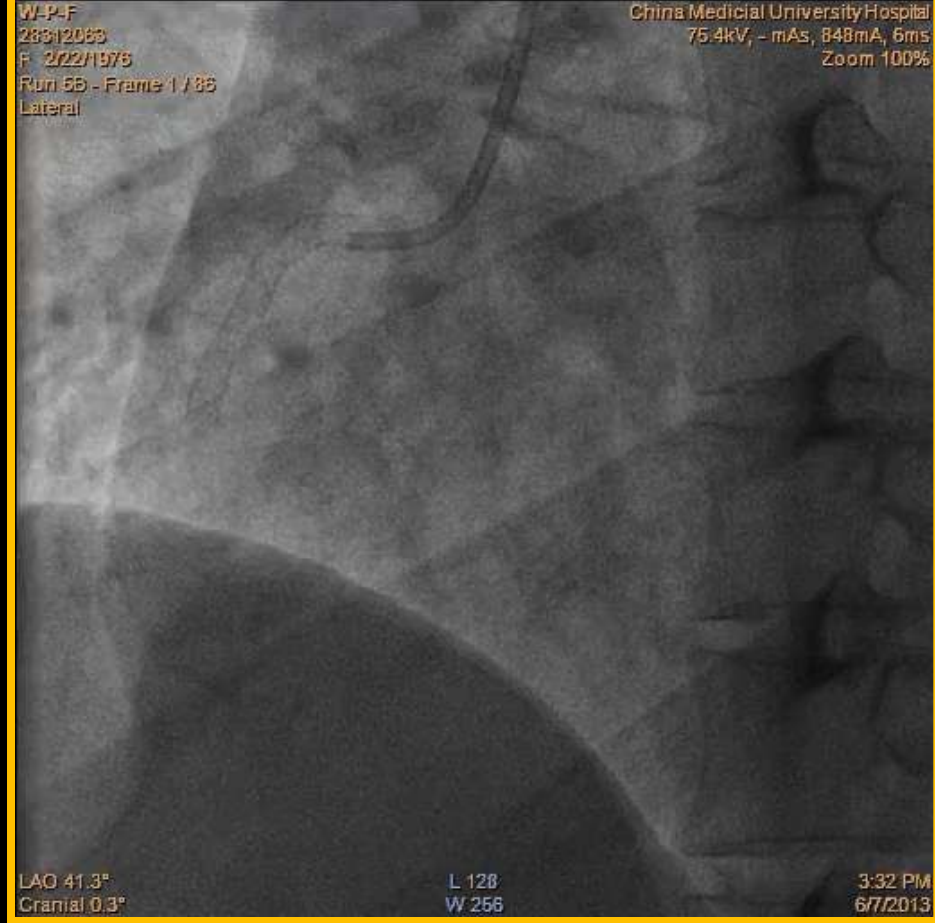
LAO Cranial

Coronary Angiogram

BP 149/82mmHg, HR 60/min

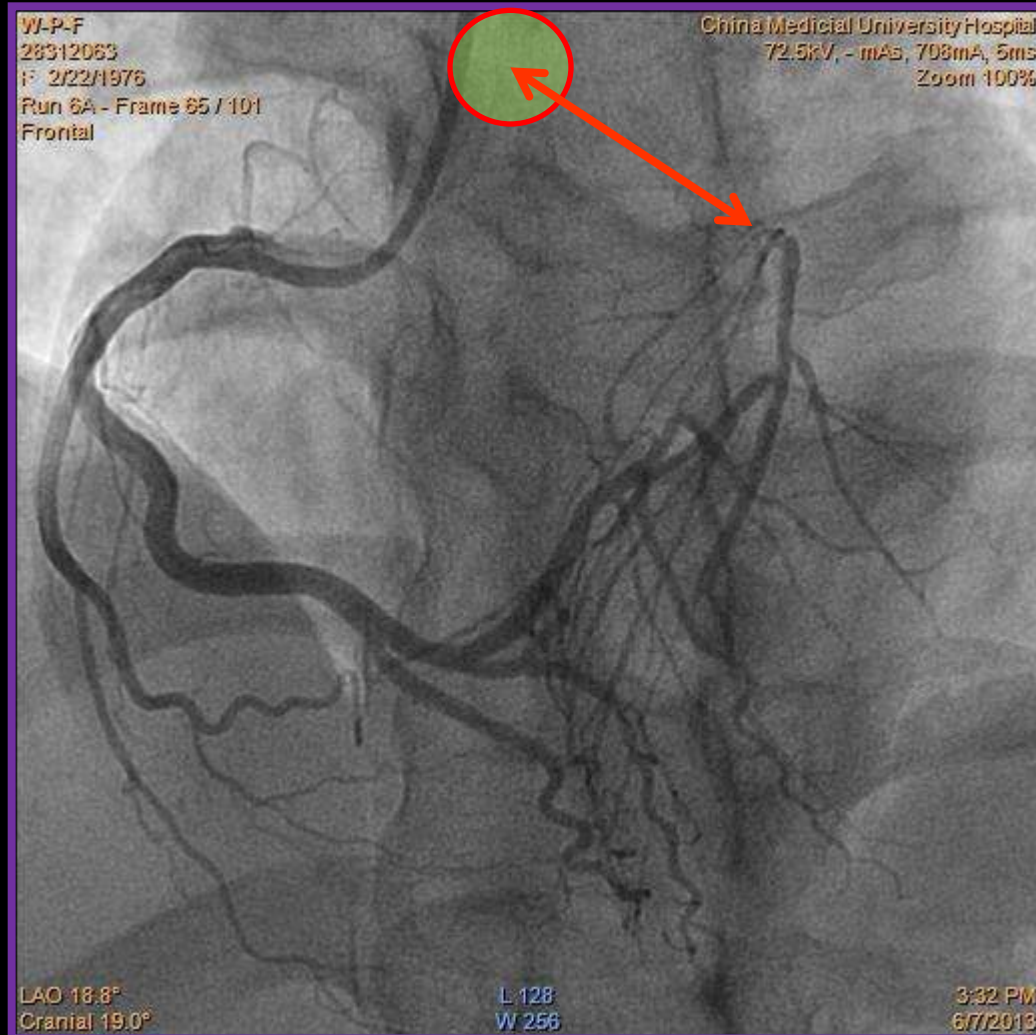


RAO



LAO

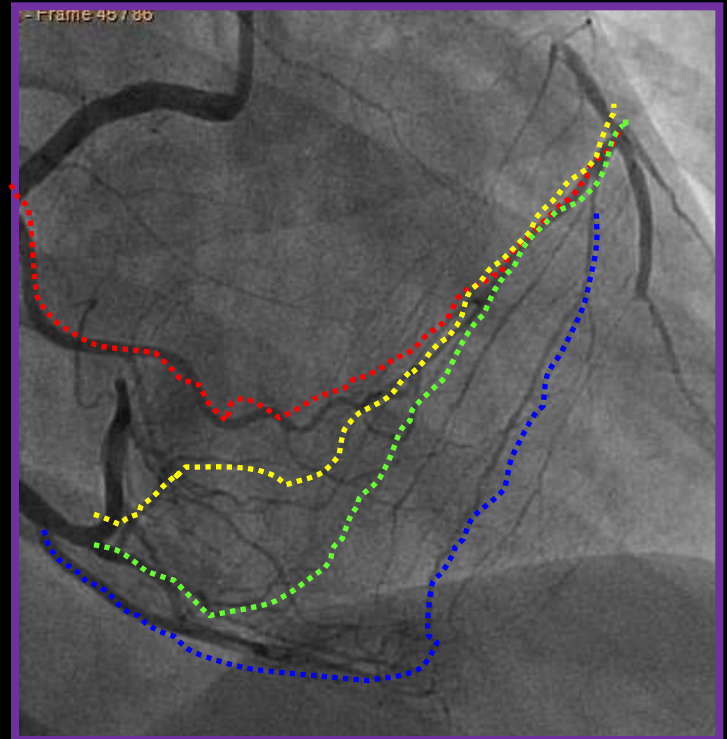
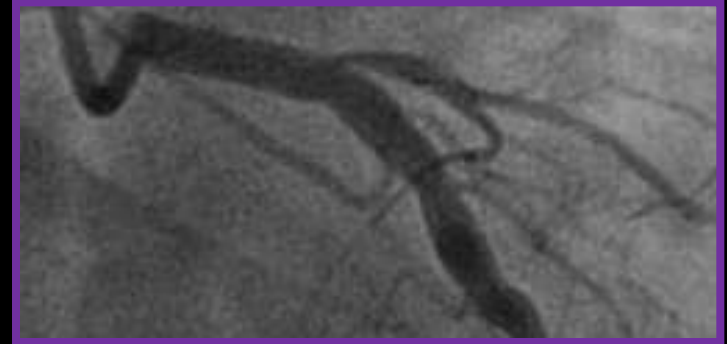
PCI Planning

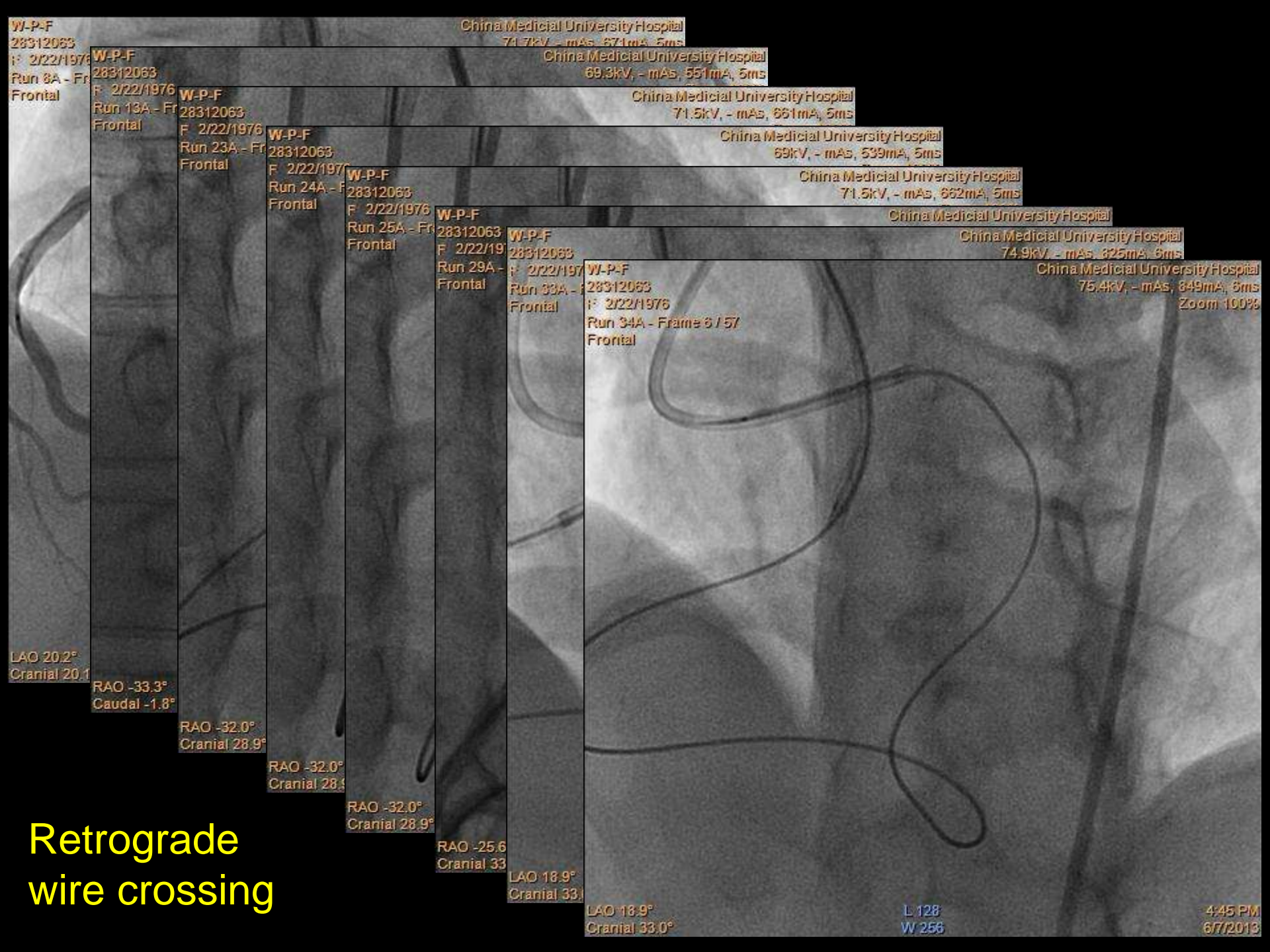


Long lesion?

PCI Planning

- **Strategy:** Retrograde approach
- **Access:**
 - Right Radial artery 6F sheath
 - Right Femoral artery 7F sheath
- **Guiding**
 - EBU 3.5 GC via Right femoral artery
 - SAL1 GC via Right radial artery
- **Wire**
 - SION wire with Corsair support
 - Fielder FC wire





China Medical University Hospital
71.7kV, - mAs, 671mA, 5ms

China Medical University Hospital
69.3kV, - mAs, 551mA, 5ms

China Medical University Hospital
71.5kV, - mAs, 661mA, 5ms

China Medical University Hospital
69kV, - mAs, 539mA, 5ms

China Medical University Hospital
71.5kV, - mAs, 662mA, 5ms

China Medical University Hospital

China Medical University Hospital
74.9kV, - mAs, 625mA, 5ms

China Medical University Hospital
75.4kV, - mAs, 849mA, 5ms
Zoom 100%

W-P-F
28312063
F: 2/22/1976
Run 8A - Fr
Frontal

W-P-F
28312063
F: 2/22/1976
Run 13A - Fr
Frontal

W-P-F
28312063
F: 2/22/1976
Run 23A - Fr
Frontal

W-P-F
28312063
F: 2/22/1976
Run 24A - Fr
Frontal

W-P-F
28312063
F: 2/22/1976
Run 25A - Fr
Frontal

W-P-F
28312063
F: 2/22/1976
Run 29A - Fr
Frontal

W-P-F
28312063
F: 2/22/1976
Run 33A - Fr
Frontal

W-P-F
28312063
F: 2/22/1976
Run 34A - Frame 6 / 57
Frontal

LAO 20.2°
Cranial 20.1°

RAO -33.3°
Caudal -1.8°

RAO -32.0°
Cranial 28.9°

RAO -32.0°
Cranial 28.9°

RAO -32.0°
Cranial 28.9°

RAO -25.6°
Cranial 33°

LAO 18.9°
Cranial 33°

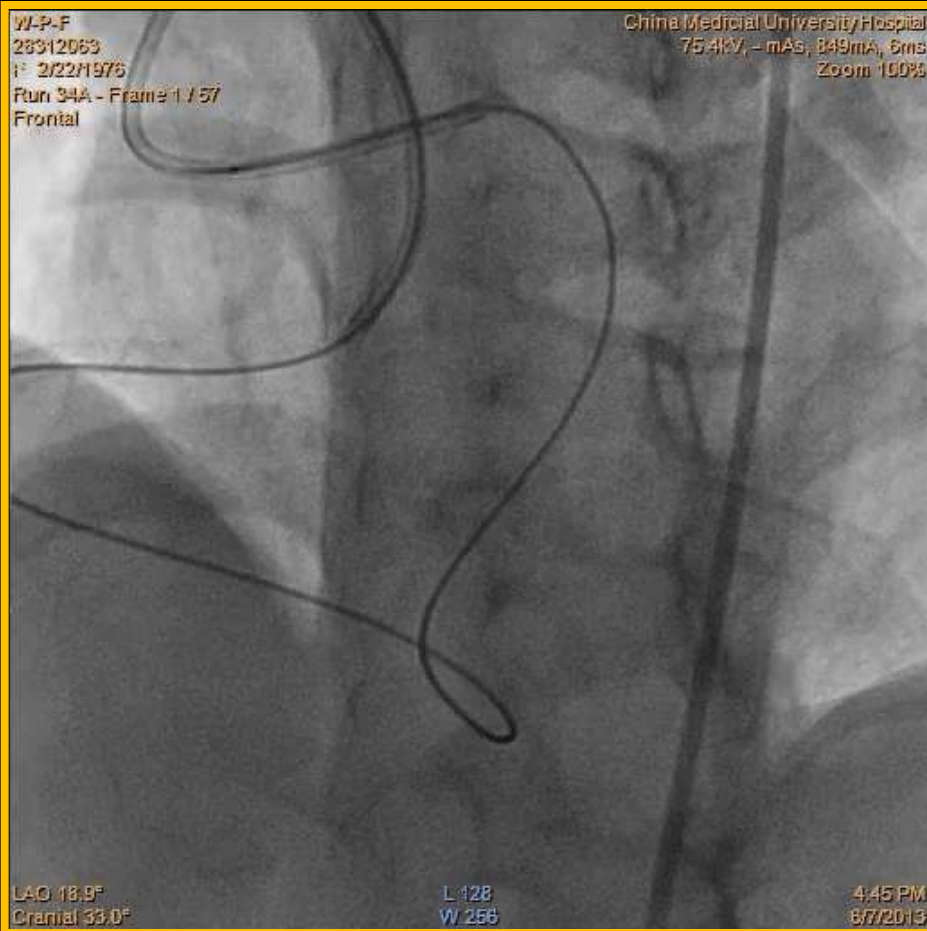
LAO 18.9°
Cranial 33.0°

L 128
W 256

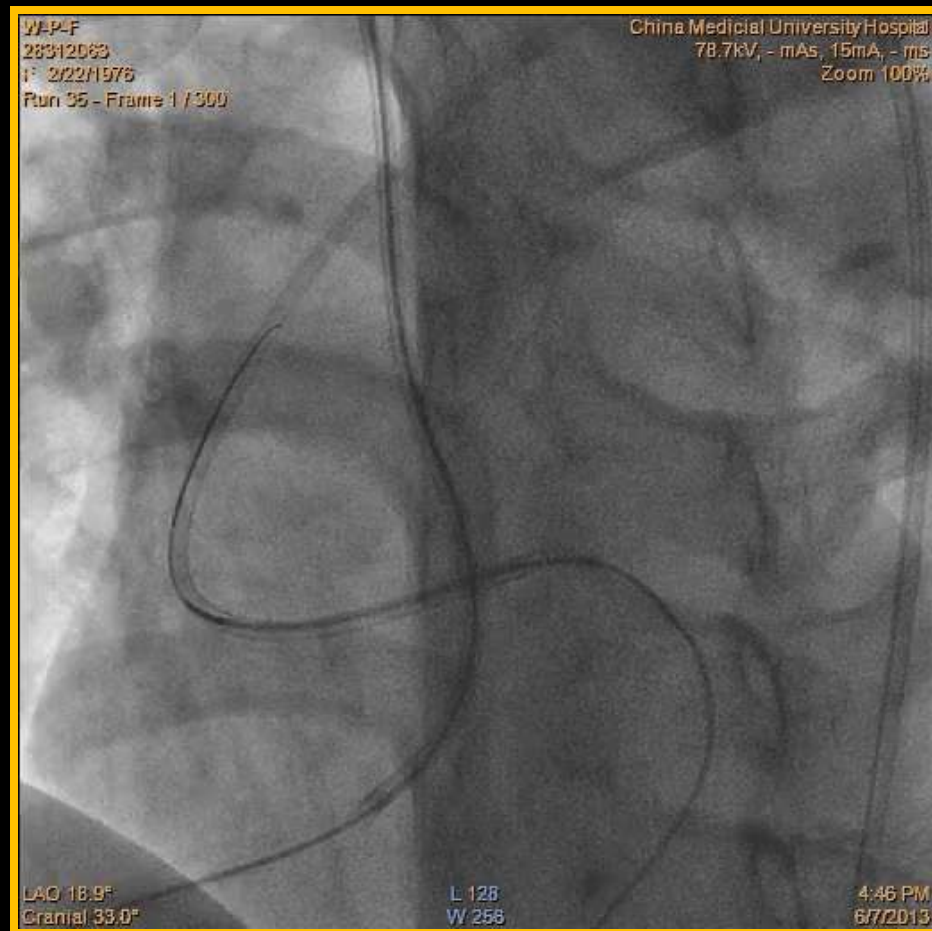
4:45 PM
6/7/2013

Retrograde
wire crossing

Rendezvous Technique

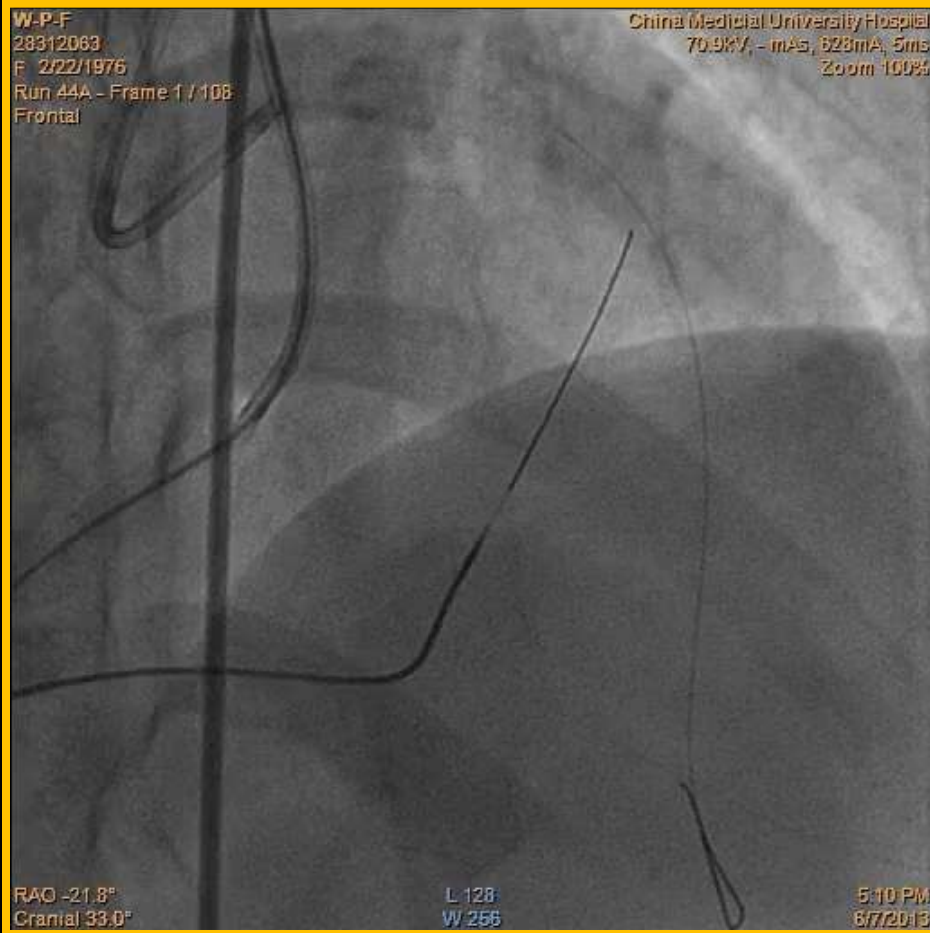


LAO Cranial

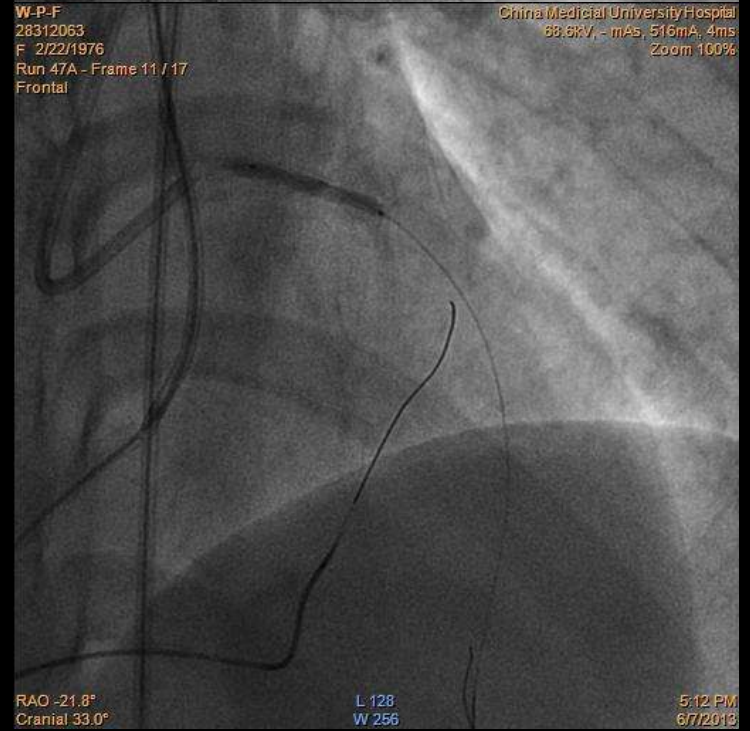
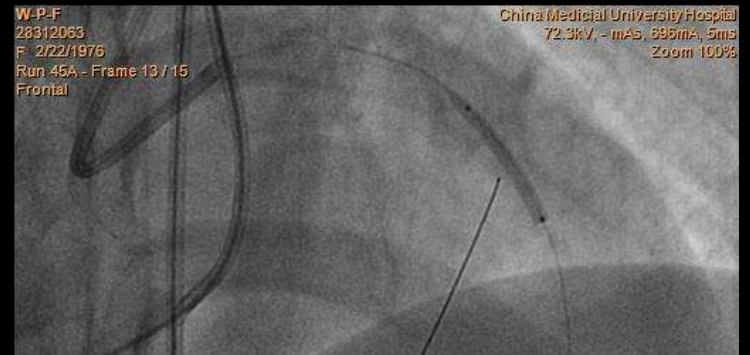


LAO Cranial

LAO Cranial



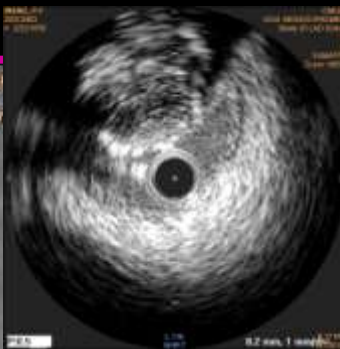
Sprinter Balloon 2.5/20
6 Bar



W-P-F
28312063
F 2/22/1976
Run. 48A - Frame 1 / 72
Frontal

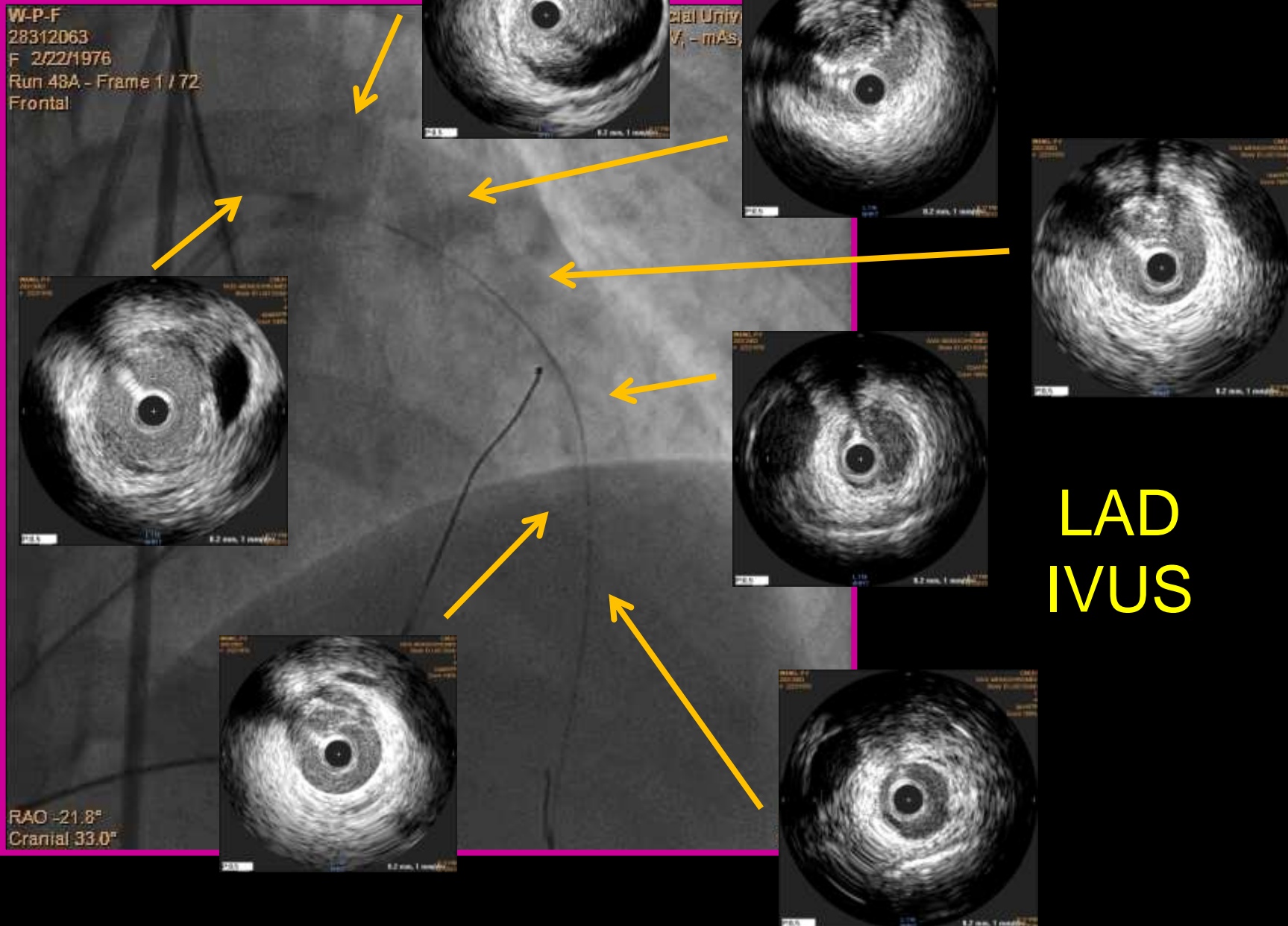


Distal Unity
V. - mAs



LAD
IVUS

RAO -21.8°
Cranial 33.0°



W-P-F
28312063
F 2/22/1976
Run 57A - Fr
Frontal

China Medical University Hospital
71.6kV, - mAs, 667mA, 5ms

W-P-F
28312063
F 2/22/1976
Run 62A - Frame
Frontal

China Medical University Hospital
69.8kV, - mAs, 576mA, 5ms

W-P-F
28312063
F 2/22/1976
Run 64A - Frame 1 / 53
Frontal

China Medical University Hospital
72.6kV, - mAs, 711mA, 5ms
Zoom 100%

RAO -21.8°
Cranial 33.0°

RAO -21.8°
Cranial 33.0°

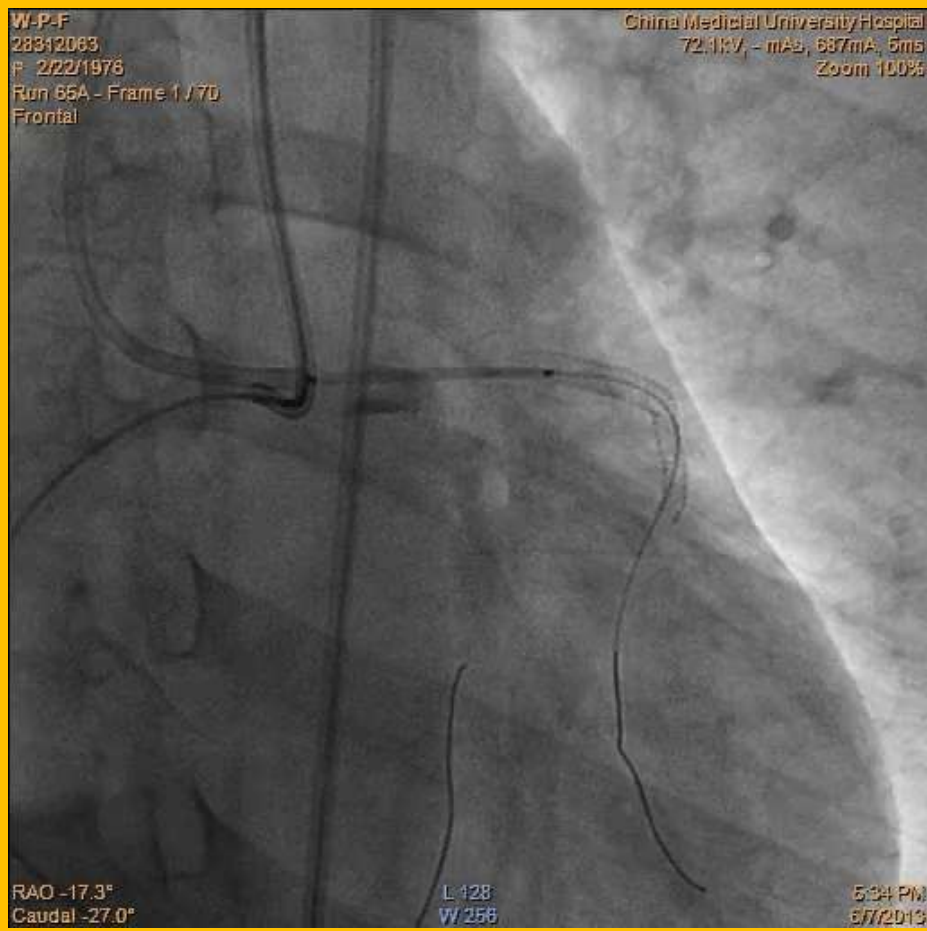
RAO -21.8°
Cranial 33.0°

L 128
W 256

5:31 PM
6/7/2013

Resolute 2.5/30
8 Bar
Resolute 3.0/24
10 Bar

Resolute 3.5/24



RAO Caudal



LAO Caudal

W-P-F
28312063
F: 2/22/1976
Run 66A - Frame 23 / 40
Frontal

China Medical University Hospital
72.9kV, - mAs, 728mA, 5ms
Zoom 100%

W-P-F
28312063
F: 2/22/1976
Run 66B - Frame 18 / 40
Lateral

China Medical University Hospital
85.3kV, - mAs, 837mA, 7ms
Zoom 100%

RAO -17.2°
Caudal -27.0°

W-P-F
28312063
F: 2/22/1976
Run 68A - Frame 4 / 8
Frontal

China Medical University Hospital
72.5kV, - mAs, 707mA, 5ms
Zoom 100%

5:37 PM
6/7/2013

Resolute 3.5/24
10 Bar

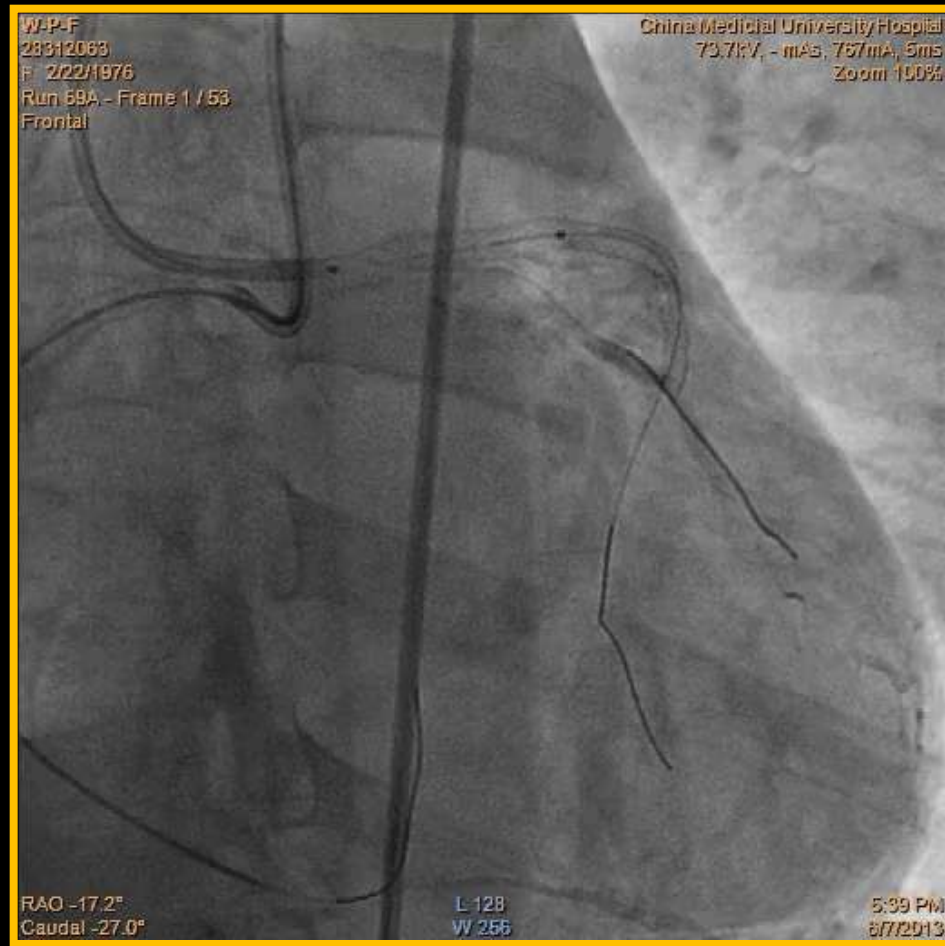
RAO -17.2°
Caudal -27.0°

L 128
W 256

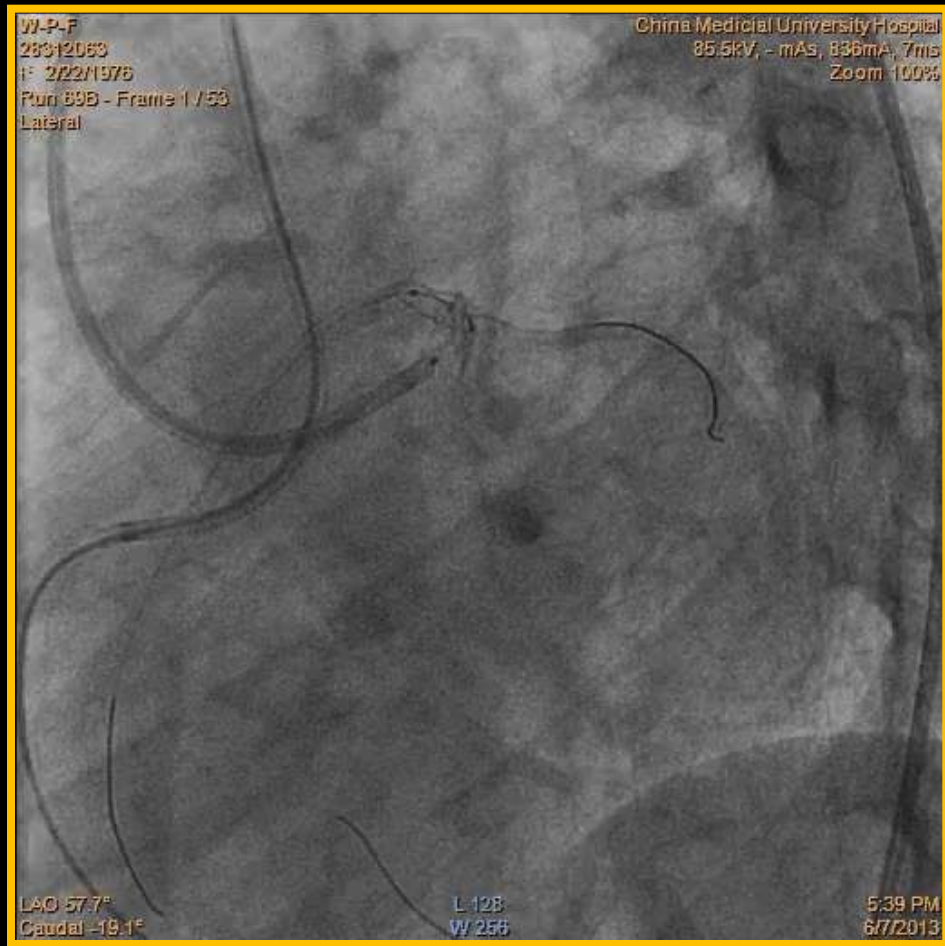
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Severe Chest Pain

BP 98/58mmHg HR 44/min



RAO Caudal

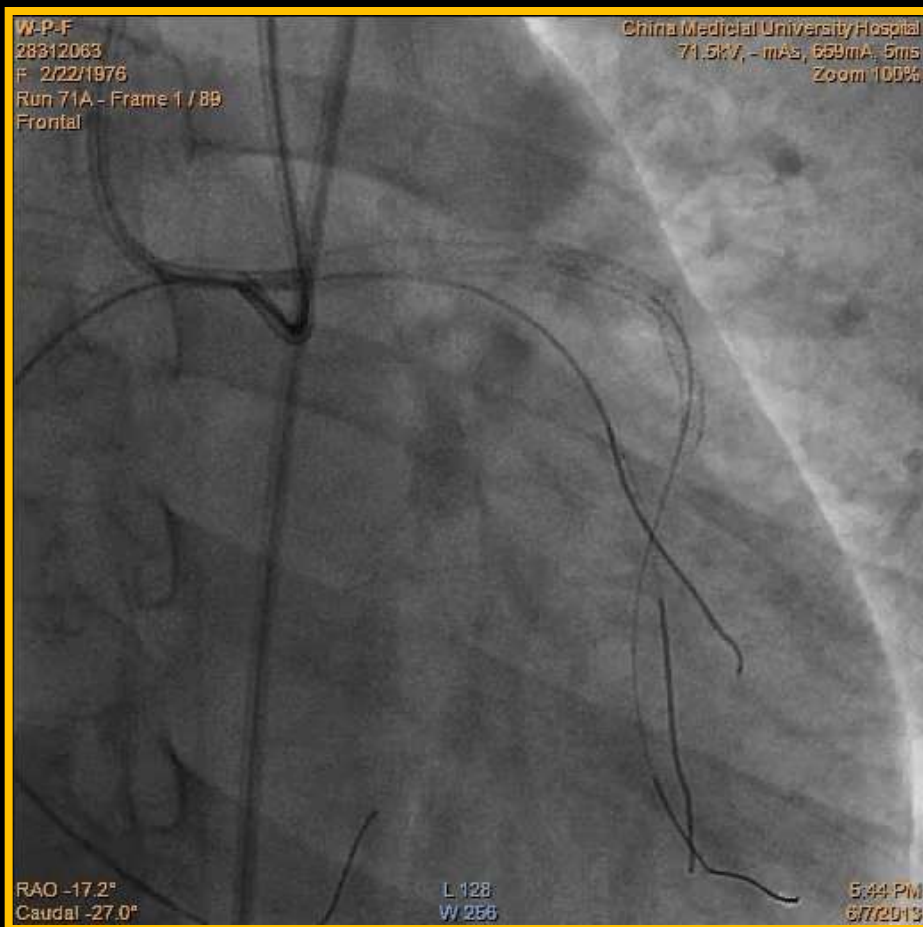


LAO Caudal

Rescue Strategy

- Symptoms control: morphine
- Hemodynamic stabilization: Atropine + IABP
- Method:
 - Rewire and crossover distal strut to LCX + Culotte technique – Failed
 - Kissing stent technique

Rewire LCX



RAO Caudal



LAO Caudal

W-P-F
28312063
F 2/22/1976
Run 74A - Fra
Frontal

China Medical University Hospital
71.8kV, - mAs, 675mA, 5ms
Zoom 100%

W-P-F
28312063
F 2/22/1976
Run 76A - Fram
Frontal

China Medical University Hospital
71.9kV, - mAs, 680mA, 5ms

W-P-F
28312063
F 2/22/1976
Run 82A - Fran
Frontal

China Medical University Hospital
72.1kV, - mAs, 688mA, 5ms

W-P-F
28312063
F 2/22/1976
Run 84A - Frame 1 / 41
Frontal

China Medical University Hospital
72kV, - mAs, 682mA, 5ms
Zoom 100%

RAO -17.2°
Caudal -27.0°

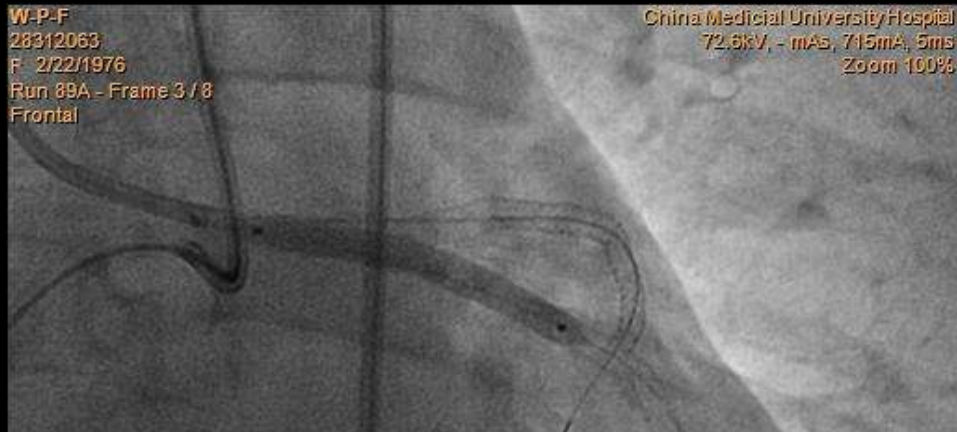
RAO -17.2°
Caudal -27.0°

RAO -17.2°
Caudal -27.0°

RAO -17.2°
Caudal -27.0°

L 128
W 256

6:01 PM
5/7/2013

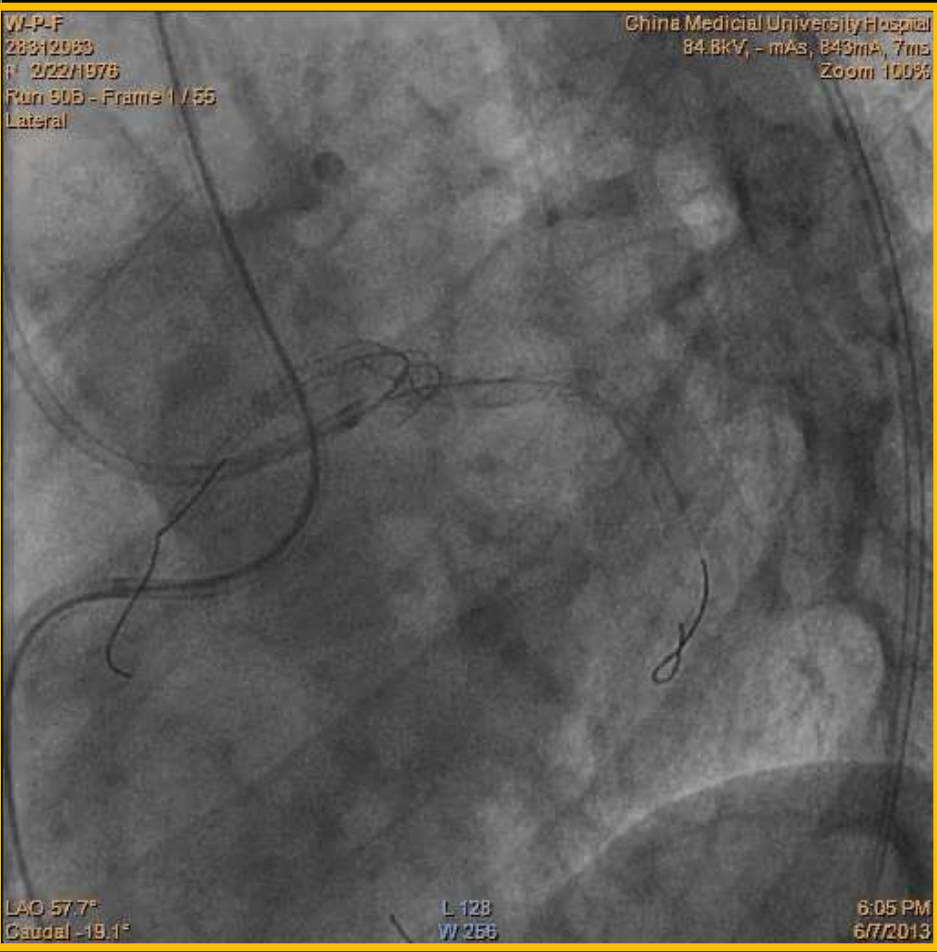


W-P-F
28312063
F 2/22/1976
Run 89A - Frame 3 / 8
Frontal
China Medical University Hospital
72.6kV, - mAs, 715mA, 5ms
Zoom 100%



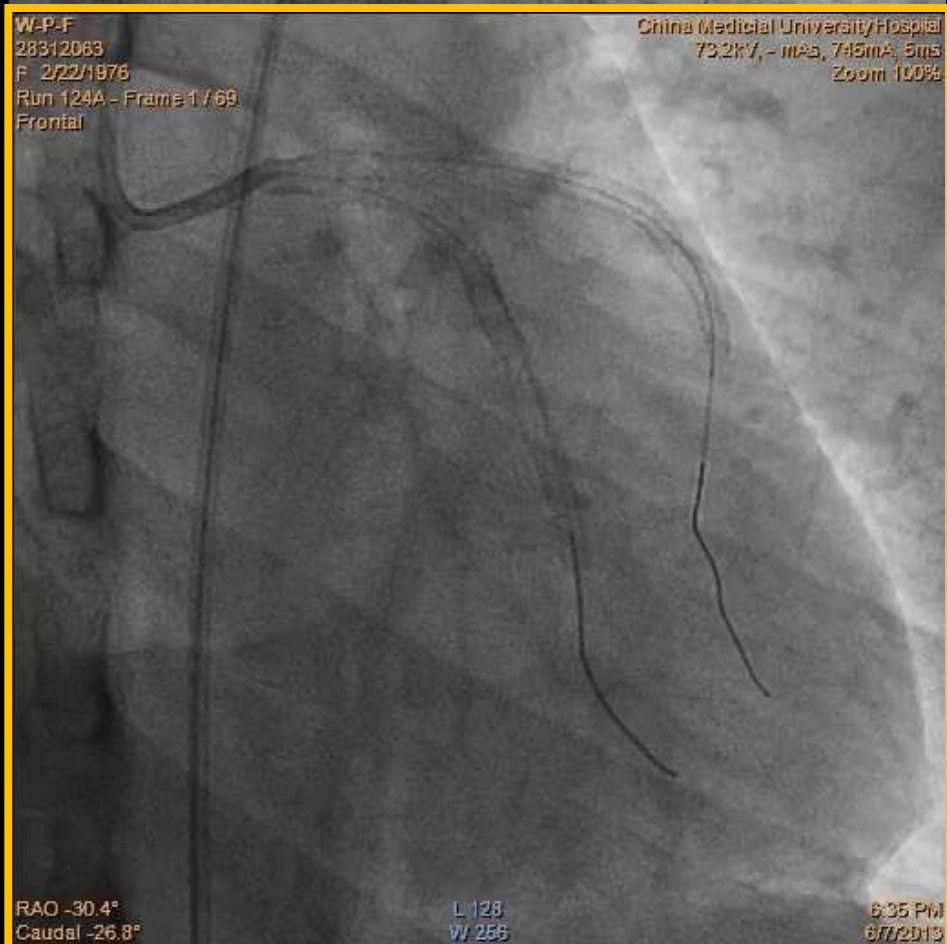
W-P-F
28312063
F 2/22/1976
Run 90A - Frame 1 / 55
Frontal
China Medical University Hospital
72.2kV, - mAs, 693mA, 5ms
Zoom 100%

RAO -17.2°
Caudal -27.0°
L 128
W 256
6:05 PM
6/7/2013



W-P-F
28312063
F 2/22/1976
Run 90B - Frame 1 / 55
Lateral
China Medical University Hospital
84.6kV, - mAs, 849mA, 7ms
Zoom 100%

LAO 57.7°
Caudal -19.1°
L 128
W 256
6:05 PM
6/7/2013



RAO -30.4°
Caudal -26.8°

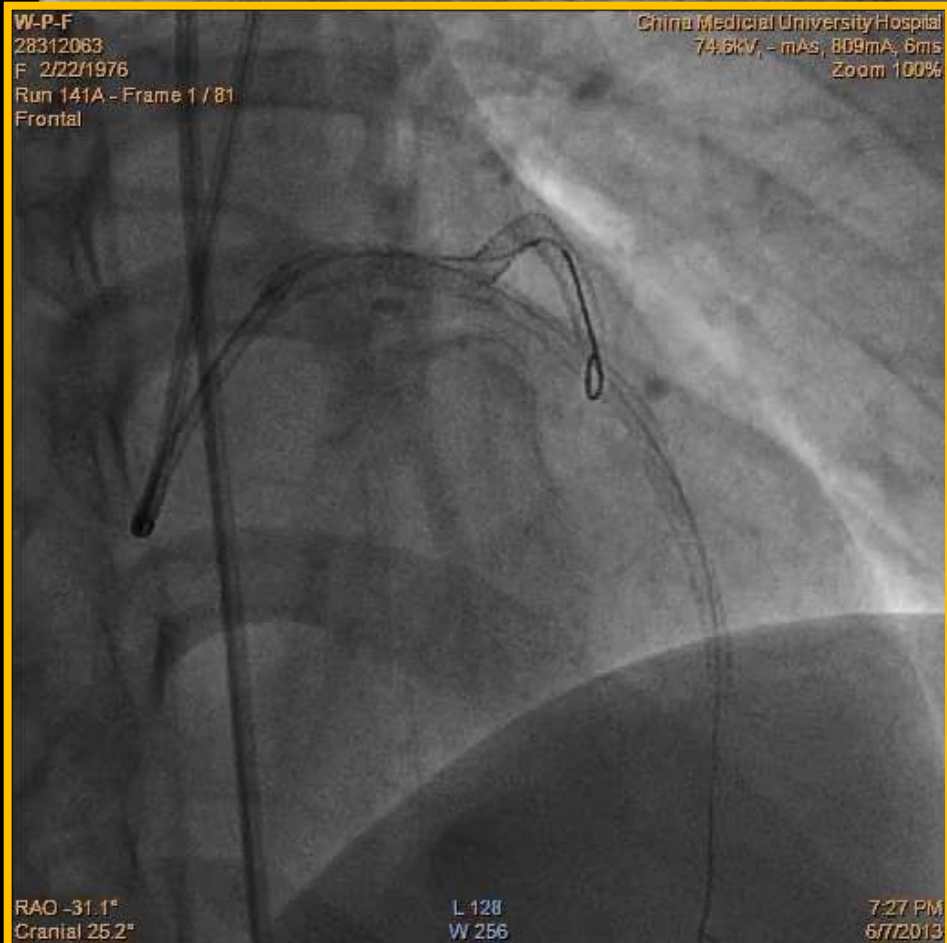
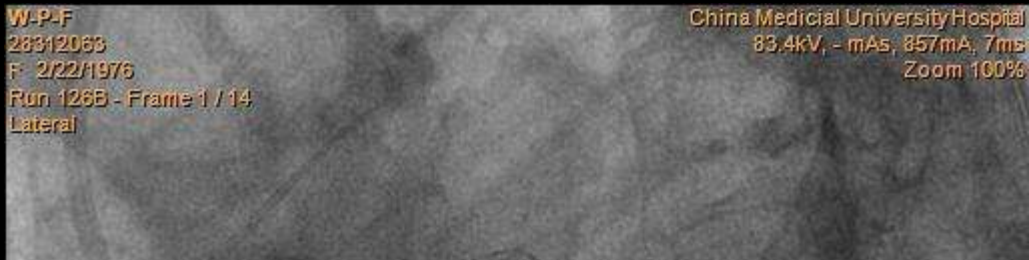
L 128
W 256

6:35 PM
6/7/2013

LAO -57.7°
Caudal -19.1°

L 128
W 256

6:35 PM
6/7/2013

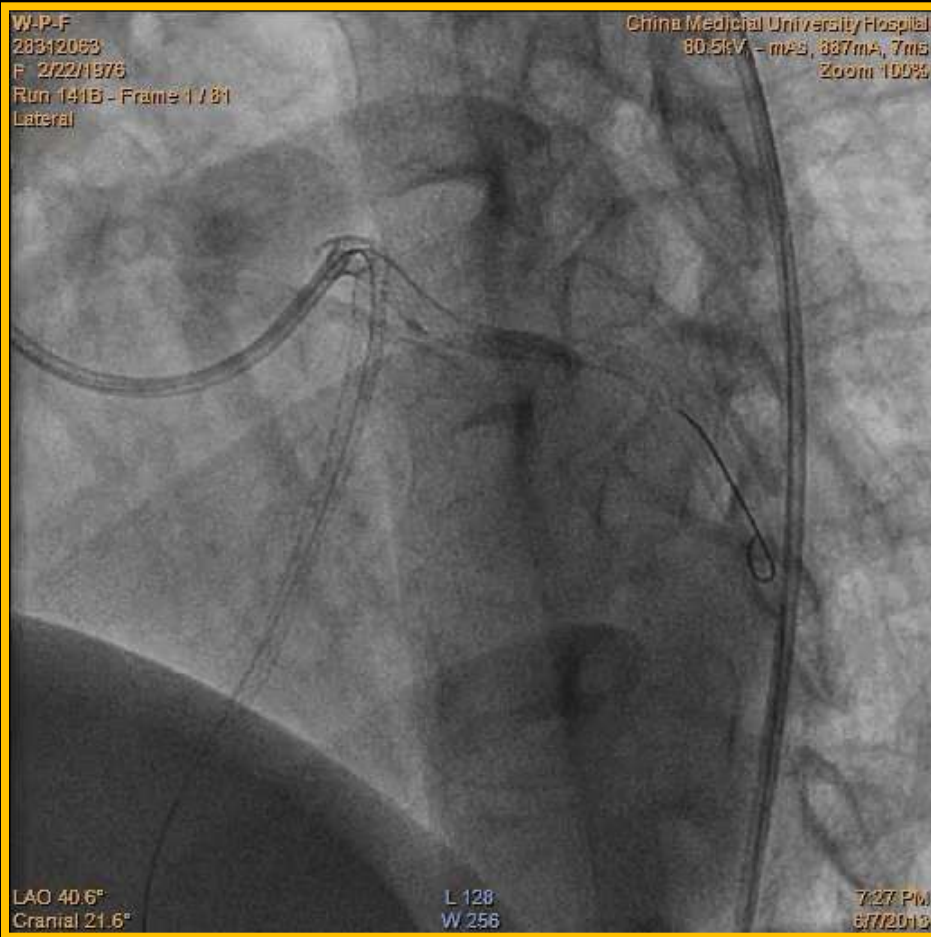


RAO Cranial



True Lateral

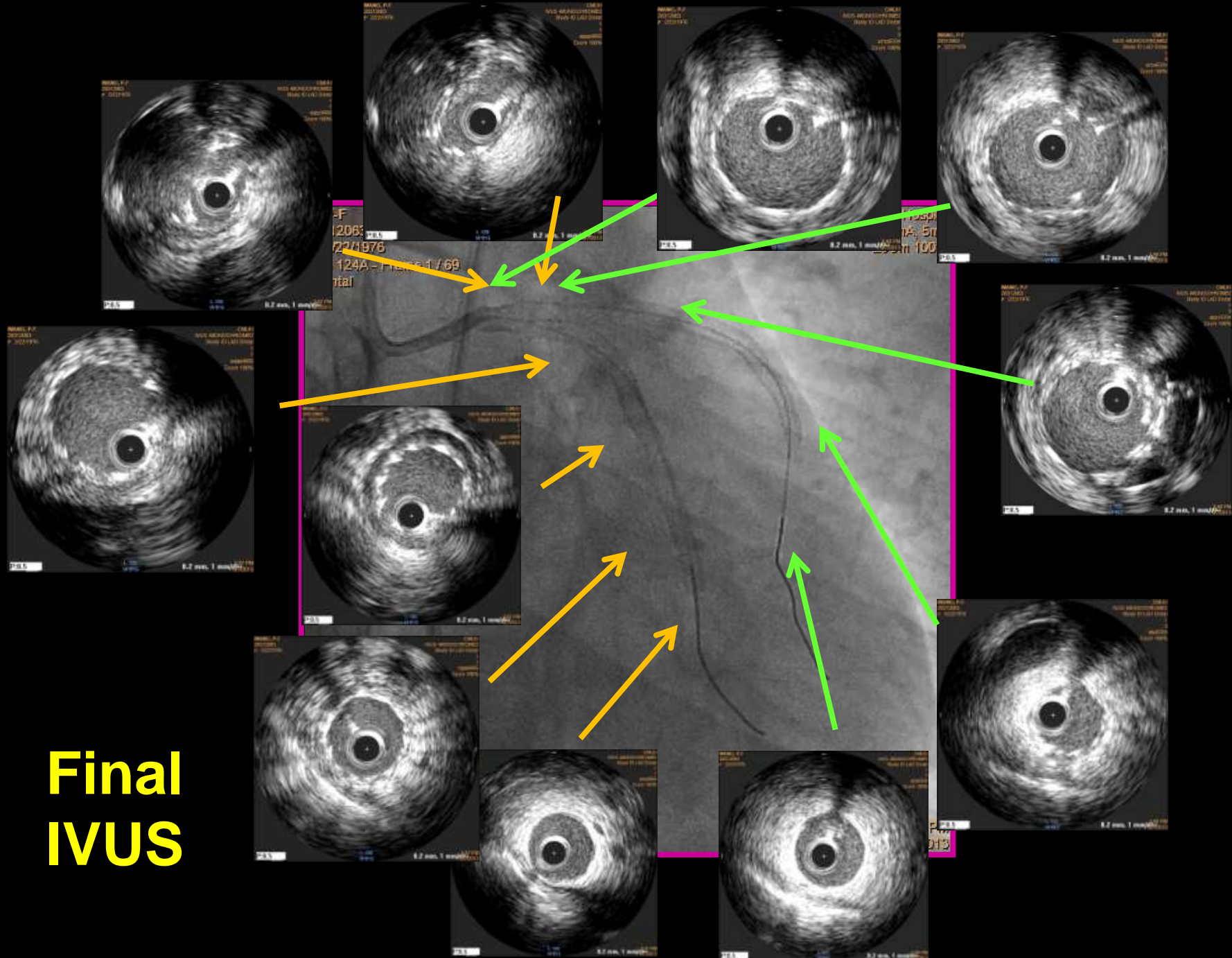
Final Result



LAO Caudal

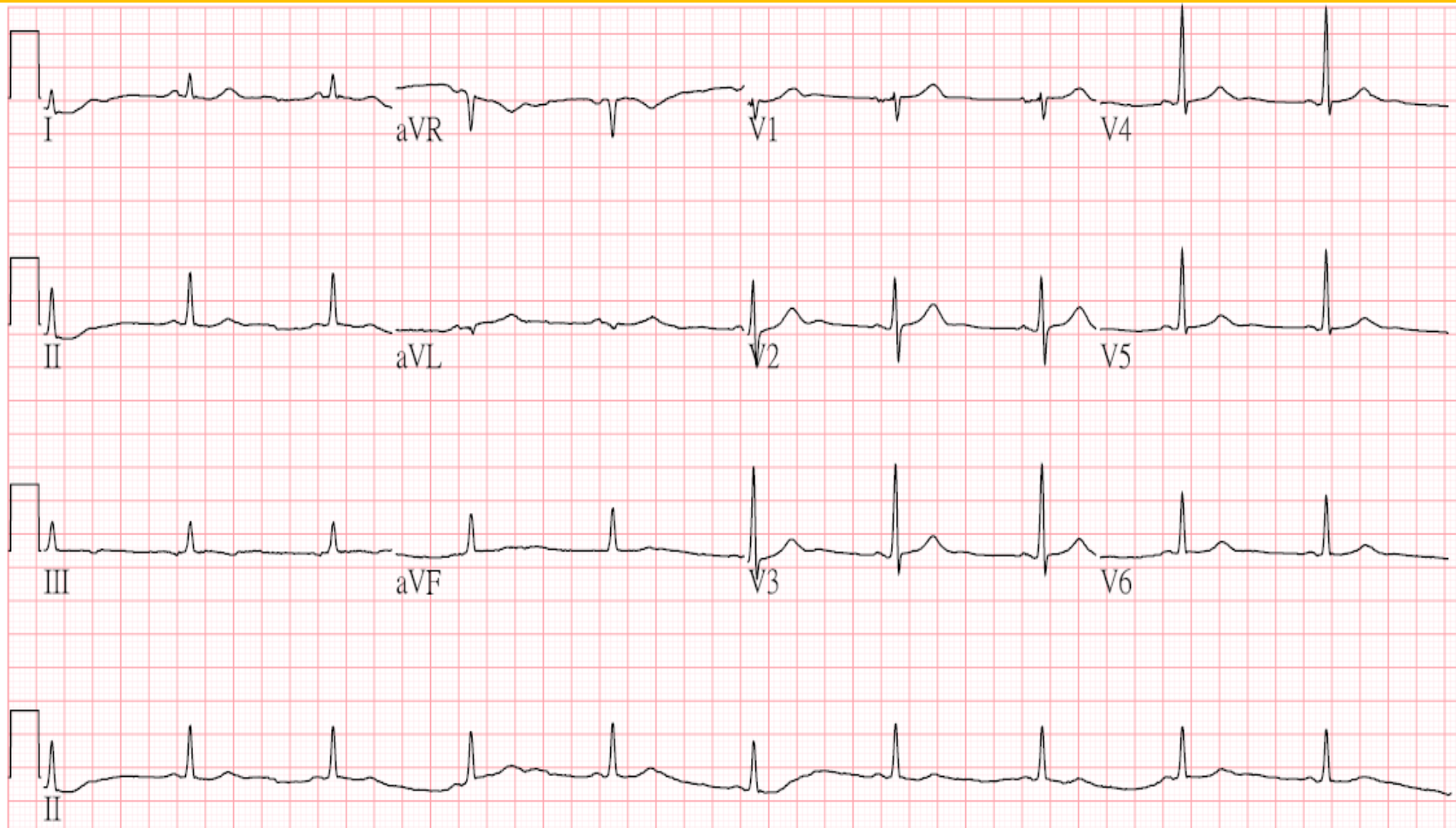


AP Caudal

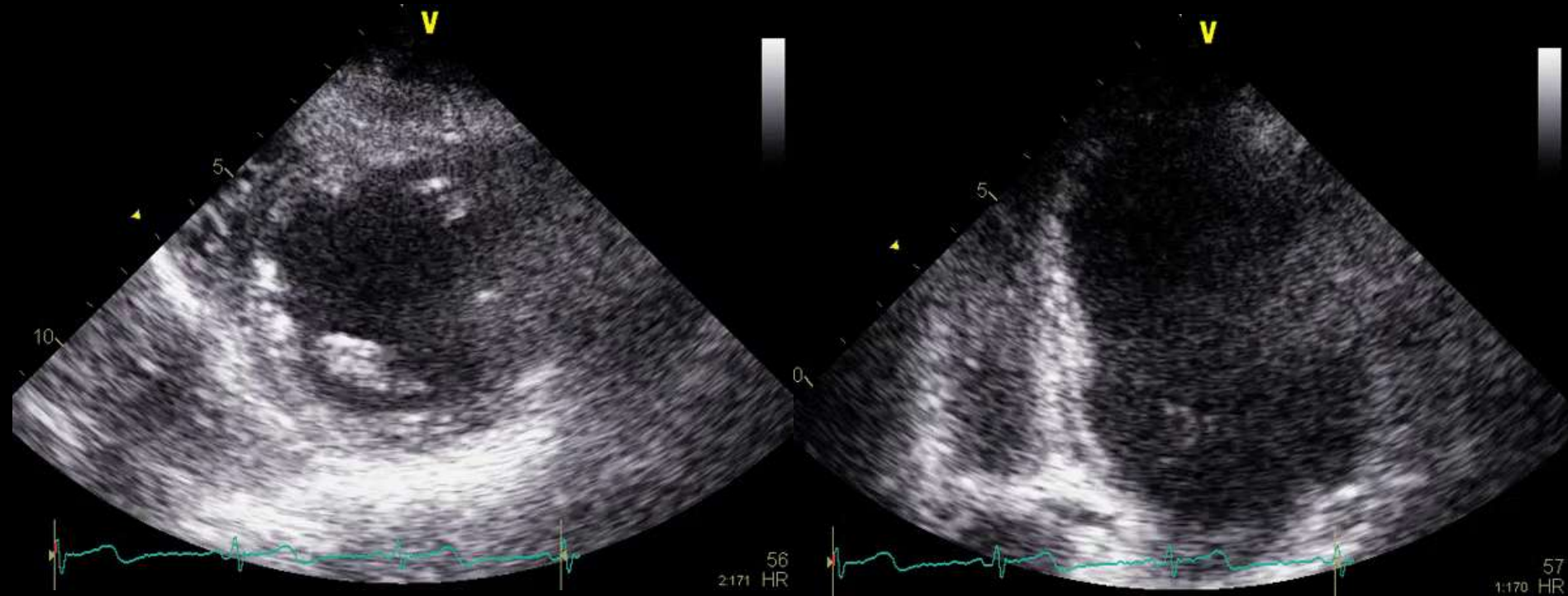


**Final
IVUS**

Post-Cath EKG



Echocardiography



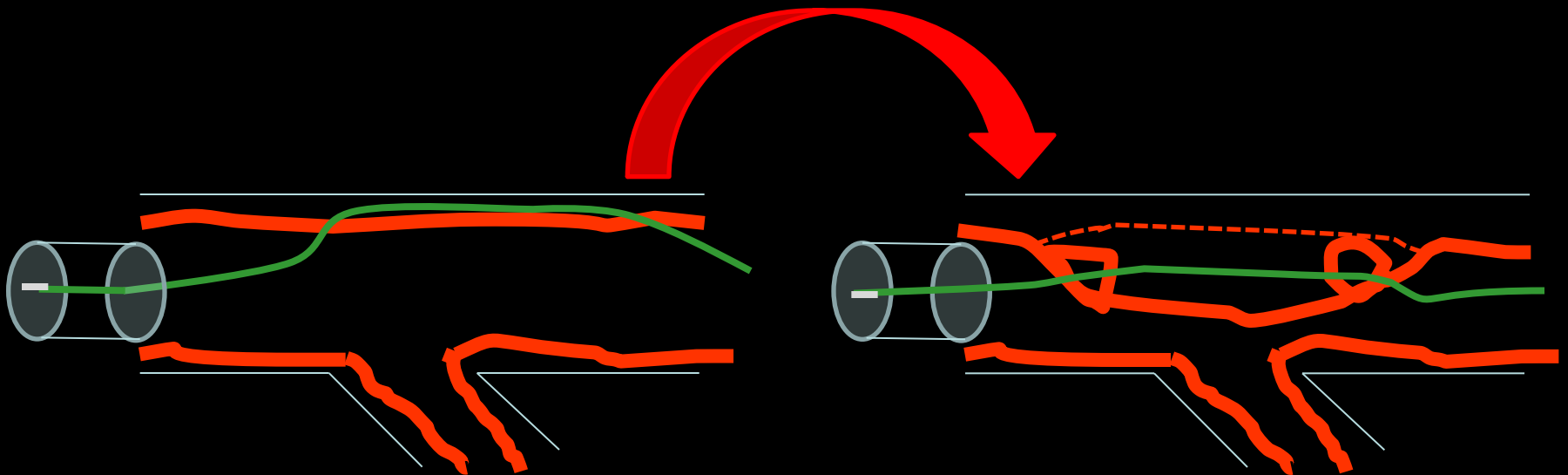
1. Adequate LV systolic function (EF 57.3%, WMSI =1).
2. Adequate LV diastolic function.
3. Trace PR and MR

Major Fault

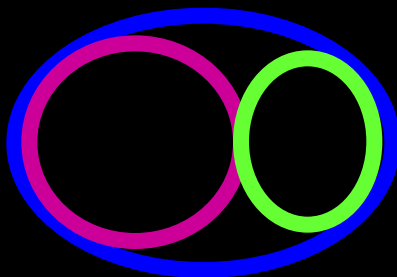
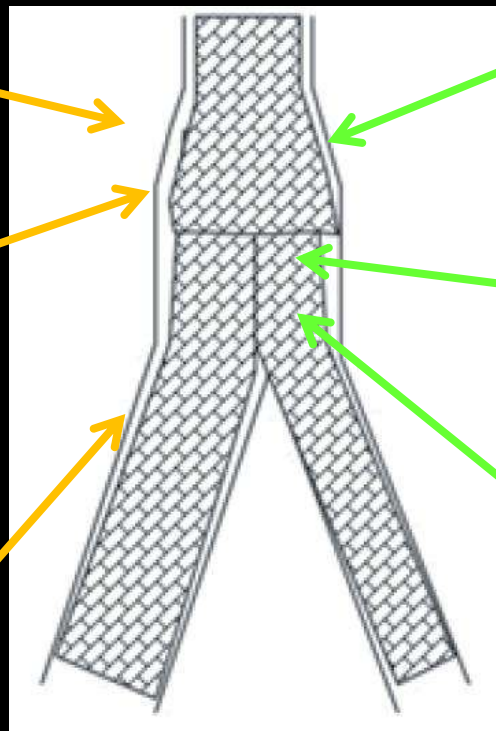
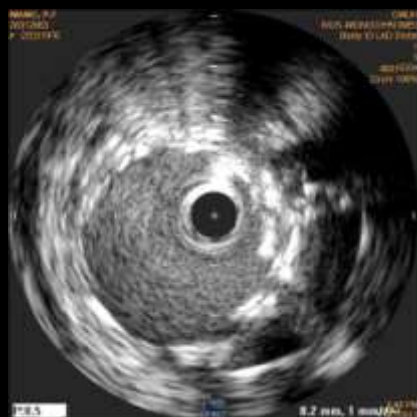
- Suboptimal entry point!!

- Connection of true & false lumen: should not be in LM!!

- Retrograde rewire again
- Switch as antegrade wiring

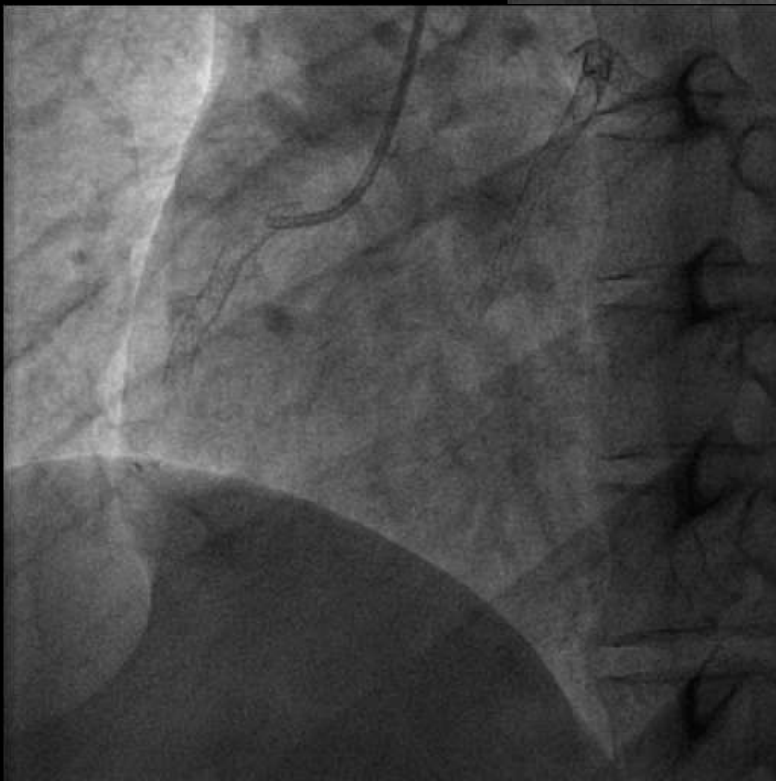
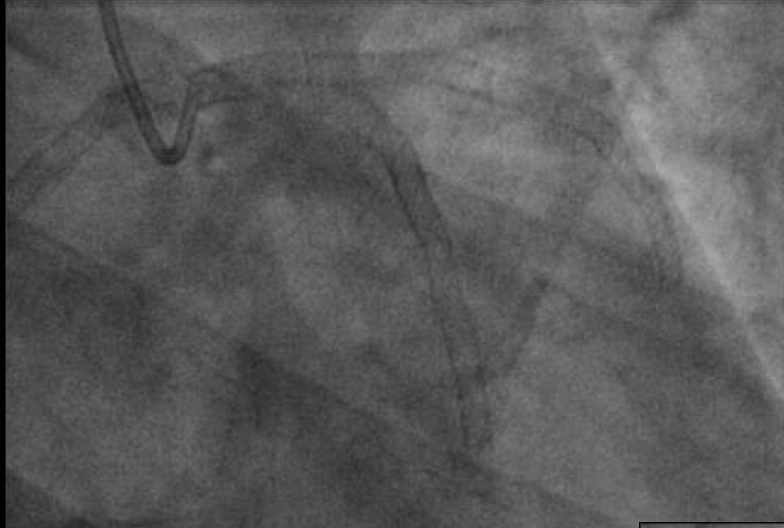


Stent Morphology



4.2mm²

Follow up angiogram 7 months



Take home message

- Optimal entry point.
- Careful dealing with LM lesion.
- Don't rush stenting!!
- IVUS is important.
- Underlying disease control is essential!!

Thanks for your attention!!